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A Researcher's Story of Assessing Motor Skills of Children with Autism Spectrum Disorder

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Abstract

The purpose of this study was to explore and interpret a researcher's experiences while conducting motor skill assessments of children with autism spectrum disorder (ASD). The first author and participant-researcher was, at the time of the study, a kinesiology doctoral candidate studying motor behavior. The second author, an associate professor of kinesiology, was the interviewer. Data were captured through interviews, transcribed, and analyzed by bracketing, constructing, and contextualizing (Denzin, 1989). The three major themes that emerged were Participant Emotions, Research Protocols, and Children's Behavior. The participant-researcher experienced enjoyment and frustration for the research process, and sympathized with the children. A second theme matched the three protocols in the dissertation: traditional-full sentences, picture schedule, and task cards. Finally, a third theme addressed her perceptions of children's behaviors.

A Researcher's Story of Assessing Motor Skills of Children with Autism Spectrum Disorder

The purpose of our study was to explore and interpret my experiences while conducting quantitative research examining motor skill assessments of children with ASD. This paper will examine my reflections and observations while conducting research to develop a better way to assess the motor skills of children with ASD using the Test of Gross Motor Development (Second Edition; TGMD-2) when picture task cards and picture activity schedules are and are not used.

Self-Study

There is a well-established body of research on self-study in the field of teacher education (Louie, Drevdahl, Purdy, & Stackman, 2003), as teacher educators explore ways to contribute to theory and to improve practice through reflection and study of their own teaching (e.g., Bullock & Ritter, 2011; Loughran, 2007; Lunenberg & Samaras, 2011; Zeichner, 2007). As teachers, we broaden the scope of self-study to include examination of one's own research with children with ASD. In other words, this is a study of the research process itself and how particular difficulties in research settings examining ASD can be overcome. Bullough and Pinnegar (2001) say the following regarding self-study:

It is the balance between the way in which private experience can provide insight and solution for public issues and troubles and the way in which public theory can provide insight and solution for private trial that forms the nexus of self-study... (p. 15).

Having another voice in research facilitates extending self-study beyond the personal alone. The participant-researcher is challenged to seek solutions and to impact the broader community of practice (Loughran, 2007). Similarly, Clandinin and Connelly (2004) maintain that self-study is not restricted to simply learning about the self. They state that such narrative scholarship is a means to learning about the context in which we are engaged. In doing so, we can construct ways to improve it. Ultimately, doing self-study research demands quality and accountability as practitioner-researchers produce and articulate knowledge for advancing practice in their respective communities (Lunenberg & Samaras, 2011).

The Interpretive Process

In their guidelines for self-study Bullough and Pinnegar (2001) caution that while “the label ‘self-study’ makes evident the centrality of the researcher self in the article and in the methodology, the standards of scholarship of the embraced tradition still must be met” (p. 15). In the present study, we employed an interpretive design (Denzin, 1989) using self-study (Bullough & Pinnegar, 2001) to examine the researcher’s perceptions of the research process while conducting motor skill assessments on children with ASD.

We conducted our research in a small city in the southeastern United States. The open-ended, semi-structured interviews utilized in this study were conducted with me as the participant-researcher and my co-author as the interviewer-researcher.

Participant

The participant-researcher. At the time of data collection, I was a doctoral candidate in the motor behavior program. I had taken classes in special education and applied behavioral analysis procedures for children with ASD. As a result, I viewed behaviors exhibited by children with ASD under the antecedent-behavior-consequence model, and I also believed visual supports served as a very powerful communicative aide for children with ASD. During this self-study, I was conducting dissertation research examining the effects of visual supports on the performance of the TGMD-2 (Ulrich, 2000).

A trusting relationship already existed between my co-author and me. She was my professor in a graduate class and a member of my dissertation committee. We were both affiliated with the same academic department at the university. Our relationship enabled me to feel comfortable sharing my experiences and perspectives in a supportive and nonthreatening environment.

The context of the original dissertation research. The children and their caregivers gave consent to participate in my quantitative dissertation research study examining the effectiveness of three different visual supports on children’s performance of the TGMD-2 (Breslin & Rudisill, 2011). However, they were not actual participants in this interpretive study. I was and thus all quotes in this paper are mine. That being said, the children about whom I talk in the interviews are the 22 children who participated in the dissertation research (with identities protected through the use of pseudonyms).

The Interviewer

My co-author served as the instrument of the research, for she conducted the interviews. She was the professor of the graduate adapted physical education course that I took to fulfil degree

requirements. She was known as the departmental “expert” in disability issues. She had been working with children with ASD and sitting in on classes taught by autism experts in the special education department. There was no “getting around” the hierarchical relationship between us as professor and student, but she did all she could to level the nature of it. Despite her general knowledge, my co-author claimed no expertise in ASD, and in fact deferred to me as more of an expert in the specific area of ASD. She had administered the TGMD-2, the assessment used for the quantitative dissertation study, to children with and without disabilities. While she was familiar with the TGMD-2, she had not used it as much or in as many contexts as I had. Thus, I was more of an expert than my co-author in ASD and in the TGMD-2, and the otherwise hierarchical nature of our relationship was somewhat balanced.

However, my co-author was also a member of my dissertation committee. We agreed to do the interview process separate from the dissertation itself, and thus it would have no bearing on the quality of my dissertation research, nor on whether or not I passed my defense. In fact, the current manuscript was written after I graduated. Another way she tried to ameliorate the power differential between us as student and dissertation committee member was by inviting me into her home to conduct the interviews. The small audio recorder she used was fairly unobtrusive, and I did not give any attention to it once it was turned on.

Capturing the Data

My co-author and I met once a week for open-ended, semi-structured interviews to discuss dissertation data collection and examine my perceptions of working with children with ASD and my interpretations of the children’s preferences toward the three different visual support protocols used in the TGMD-2 assessments. Interviews were conducted three times over the course of a month, lasting approximately seventy-five to ninety minutes each, and each interview was recorded using a digital voice recorder. A student worker transcribed the interview data. Both authors were accessible to the student transcriber, who consulted us with questions as needed. Both of us retained transcripts of the interviews, and I had full access to read them and member check. When the transcriber or my co-author encountered something that they did not understand, I was asked to clarify my statement. In addition to the interviews, my co-author and I were in frequent contact with one another, including chance encounters in our department at the university. These chance encounters and journal entries documenting anything unusual or interesting that happened during each assessment provided additional information as needed. The journal entries were made by a research assistant after each assessment while the child was being returned to the classroom, and were reviewed each day to ensure nothing had been omitted.

Because we employed self-study as framework, the interview questions focused on me and my experiences during the process of collecting my dissertation data; that is, my experiences performing motor skill assessments of children with ASD. Loughran and Northfield (1998) note that because self-study is a participant study of his or her own experience, it has raised questions regarding its veracity as research. They go on to say:

....we contend that it is working with an important “other” that matters. Otherwise, self-study may simply be seen as rationalizing or justifying one’s actions or frames of reference. ...The experience of an individual is the focus of the study but the individual

need not be, and should not be, the sole participant in the process. (Loughran & Northfield, 1998, p. 8)

Thus, my co-author took the lead on bracketing the data.

Bracketing the Data

The data were first taken out of the context of the interview and broken into units of meaning and separated within the transcripts (Denzin, 1989; Lincoln & Guba, 1985). Then my co-author and a graduate assistant read the bracketed data, sorting them into tentative categories as we read. They re-read and re-sorted and came up with categorical themes. In the meantime I did a similar analysis and found six categories, all very similar to the ones found by the graduate assistant and my co-author. Independently we continued searching for repeated data, and coding data into categories that were evidence-based (Creswell, 2007). The last step of the process was done repeatedly until we agreed on finalized categories.

Construction

Three major themes emerged, with subthemes. The first major theme was Participant Emotions – enjoyment, frustration, and empathy. The second theme was Research Protocols from the Dissertation – traditional-full sentence, pithy language-picture schedule, and pithy language-task cards. The third major theme was Perceptions of Children’s Behavior – stereotypical movements, sensory issues, and distractions.

Participant’s Emotions

I had previous experience working with children with ASD as the supervisor of a physically active motor skills program at a preschool for children with ASD. I was excited for the opportunity to work with children with ASD on a daily basis during an extended school year program lasting three hours in duration each morning for one month. During this program, each student had an individualized education plan targeting social, communication, and academic goals. Participation in the research project examining the influence of visual supports on children’s performance on the TGMD-2 was optional; however, it was the children’s only opportunity for physical play during the educational program. I recruited stellar research assistants to help conduct a study that I believed would have positive effects for children with ASD. In noting my perspectives conducting this research, my emotions included enjoyment of the research process, but I also experienced frustration and sympathy for the children’s struggles.

Enjoyment. I was very grateful for the experience. As a researcher I understood the unique opportunity the extended school year programming represented. When asked how I felt about it, I said “... Yeah, it is such a cool research opportunity. Forty two kids with Autism ... every day for a month, awesome.” The children intrigued and challenged me, and I loved working with the children. I was excited to be a part of a group of teachers working in the extended school year program and I enjoyed a community of practice with them (Lave & Wenger, 1991; Lieberman, 2000). The director of the program was an associate professor of special education and member of my dissertation committee. The assistant directors and teachers were graduate students in special education with whom I had taken classes. These relationships created a supportive, collaborative environment in which I could conduct the assessments for my dissertation data

collection. The teachers in the program were excited about the research project and very cognizant of how their behavior might impact the research being conducted.

When I was in the process of assessing a child's motor skills, the teachers were careful to stay out of the assessment area. They did not want to impact the children's behavior. Even Mr. Dennis, the custodian where this summer program was being held, understood the importance of his staying out of sight for these children. He did his best to stay out of the way, but his office was adjacent to the targets on the wall that right handed children would use, and he would sometimes need to go into his office. Both the teachers and the custodian understood from their experiences working with children with ASD that a child could be distracted by seeing their teacher or a familiar adult in a new space. The collaborative and cooperative nature of the staff and faculty at the site helped me feel supported and excited to work each day.

Frustration. Although I was grateful and excited for this opportunity, I also had moments of frustration with the dissertation process. Part of the frustration came from the behaviors of the children I was assessing for my data collection.

Glory was a three year old girl who had been diagnosed with ASD seven months prior to data collection and had attended the preschool where I taught the motor skills program. She had a beautiful personality, and would ham it up to get attention from the teachers and other students. She would get tired easily, and often when she became tired she would begin to cry. Because of our prior relationship, when I took her out of the classroom to assess her motor skills for the dissertation study she would excitedly run out of the classroom. Yet each day, approximately 17 minutes into the assessment, she would cross her arms and refuse to make eye contact with me:

“Glory, a girl who is adorable, was very excited. She would cry when I would go into her classroom to get another child, not her - because she wanted to play. Real sweet, , but it was the day that I had to speak to her in complete sentences, and she got so defiant by the end of the assessment that she threw herself on the floor and refused to look at me.”

It kind of hurt my feelings because she [Glory] has never been defiant before. That day was the first day that something like that had really happened. I wasn't quite ready for that feeling and I was upset about it.

Unfortunately, Lauren, a very challenging nine year old immediately followed Glory for her assessments.

“... after Glory left, we had this little girl named Lauren and I think she was heavily medicated. It was real depressing, she got an activity schedule that day, which I felt was the best condition. And she totally didn't respond to anything.”

Thus, I found myself dealing with crying or complete disinterest from my research participants. In the quantitative study examining the differences in performance when picture task cards and picture activity schedules were or were not used, I wanted to see distinct changes in the children's behavior on the quantitative assessment criteria. I was frustrated and afraid that the

girls' behavioral responses would not enable me to see differences on the quantitative criteria. When we were finally done that day, Dr. Elizabeth [my advisor] had to remind me that it was going to be okay, because I was really cranky.

Sympathy. Although I cannot truly understand what it means to have ASD, I can be sympathetic to the frustration and pain a child with ASD may experience when having difficulty communicating with others. The feeling of sympathy I had for the children with ASD is best illustrated by my reference to an eight and a half year old boy named Taylor: "The thing is...there are kids with autism that strike me as happy kids, and then there are tormented kids with autism. He is definitely a tormented kid with autism."

I met Taylor earlier in the summer at a two day long respite care camp for families of children with ASD. I spent a day as Taylor's counselor, and I came to realize that he whimpered and cried often or requested his mother and father using a whiny voice. While I worked with him to assess his motor skills later that summer, he seemed very lethargic and would drool on himself. When he would speak during these assessments, it was often to cry or to ask for his mother. One day, his behavior was markedly different during the assessments, and he bit himself repeatedly while crying constantly. Taylor did not seem happy, but rather constantly battling his emotions and the environment. It was hard for his despondency not to affect my own emotions. Watching him bite himself, and cry out repeatedly, as if in pain, stirred a sense of compassion in me. No child should ever feel that upset! It was rare for me to see children upset while given the opportunity to engage in movement settings. My heart really broke for him as he seemed unable to express his feelings in a way that was clearly understood by others. I wanted nothing more than to understand his pain, and try to remove it.

Research Protocols

There were 3 research protocols used in the dissertation study. These protocols were methods in which the students were assessed as to their motor skills. The three protocols were traditional-full sentences, picture schedule-pithy language, and task cards-pithy language.

Traditional-full sentences. My prior experiences teaching children with ASD caused me to feel both dread and delight when looking ahead at my dissertation schedule. I delighted in the opportunity to assess the children using pithy language and visual supports, but I dreaded any day where I would be using complete sentences. From my experiences in the classroom, using complete, conversational sentences was a very unnerving process for the children. During one of the interviews, I mentioned the upcoming schedule for data collection to my co-author: "Tomorrow I am finishing up with C.D.; he is getting his last condition tomorrow. I hate ending on this but I have to talk to him in conversational sentences." C.D. is ordinarily a pleasure to work with, joyful and compliant, but I hated having to end my experience with him with what may be a negative experience for him.

A similar experience happened with Zach. Zach was a very happy nine year old boy with pervasive development disorder, not otherwise specified (PDD-NOS). He usually was very compliant and would perform the skills upon request. During the day that he received the traditional protocol he seemed distracted and less interested in the assessment.

“I talked to Zach in complete sentences. He is usually pretty interested in it. He was not interested in the assessment and didn’t really listen to anything I was saying.”

Greg’s behavior provides another example of the effect that using conversational speech can have on a child with ASD. Greg was an almost nine year old boy diagnosed with both autistic disorder and PDD-NOS. He had limited functional verbal communication skills, although he could greet people and count in several languages. Greg’s limited communication skills made him challenging to work with regardless of conditions, but he seemed to become even more challenging on the traditional protocol day. On previous days, he seemed to be engaged with the equipment being used in the assessment. On the traditional protocol day, when he engaged in a light filtering behavior, he was no longer engaging with the assessment equipment.

“After Jacob yesterday, we assessed Greg using complete sentences, and he light filtered with his hands... he kept doing it during the assessment. He did it a little bit today, but he did it a lot yesterday. He was really off task for most of the assessment. He kept not following directions, but complete sentences for an individual with severe autism...”

I can see myself shaking my head as I trailed off the last sentence. Remembering how the children responded to the conversation settings frustrates me. Although I had a professional obligation to administer assessments utilizing the different protocols in my dissertation, I was exhausted by the personal and moral burdens this obligation caused. It was difficult for me to do something with the children in which I did not believe.

Pithy language-picture schedule. Using the picture activity schedule, in which the pictures were arranged vertically and the verbal instructions were limited to short, two word commands, I saw behaviors indicating a preference from the children.

Peter was a very verbal four and a half year old boy diagnosed with autism. The summer educational program was his first time in an intensive educational setting designed for children with ASD. He was assessed during the second week of the program, and therefore had only been exposed to a picture activity schedule for six days prior to the start of his assessments. In spite of this, I believe he immediately understood the meaning conveyed by the “schedule” (or “squares”) and expressed his desire to have them when working with me.

“Peter worked his way through the schedule and when he got to the end he was all done, and he said ‘can I have more squares please?’ He wanted more task cards! Another time he was getting the traditional protocol when he immediately asked ‘where is the black schedule?’ He really wanted a schedule...”

I felt his inquiries regarding the location of these objects indicated that his anxiety was assuaged when provided with the picture activity schedule or picture task cards.

Another student, Sally, a ten and a half year old girl with autism, indicated her preference by refraining from a contextually inappropriate behavior. Sally was self-abusive in the traditional protocol, and would frequently bite herself with such force that she would draw blood and

develop scars on her hands. Her classroom teacher informed me that this behavior seemed to manifest when she was anxious, as it would happen more often when other students cried or expressed frustration verbally. To promote continuity, her teachers requested that if I believed Sally was about to bite her hands during the assessments, I should encourage Sally to “be sweet to her hands” and kiss them instead. Sally “kissed her hands” at least once on every day that I worked with her and bit herself several times during the traditional protocol. However, on the picture activity schedule day, she never bit herself. I recalled, “She [Sally] came in on Tuesday for the picture activity schedule condition and she’s not bitten herself at all during the assessment.” Perhaps the picture activity schedule gave her the information needed to understand the structure of the assessment environment.

Cara was an extremely quiet three and a half year old girl with autistic disorder. Often, she would get upset when it was time to transition from one activity to the next (for instance to leave the classroom to come complete assessments), but she calmed down quickly once the new activity started. In spite of this, Cara calmed down immediately after seeing the picture activity schedule and we had previously only worked together once. On all other days we worked together, pictures activity schedules were not utilized, and Cara remained upset until the second trial of the first skill on the assessment. “Cara came in next, and she is a real sweet little girl, and she did real well. She got the picture activity schedule, and she was totally on task, and she got real excited to play.”

Kelly was by far the most skilled child that participated in my dissertation. Not only did she know all of her skills without a demonstration, but she performed them well. As a nine year old girl with Asperger’s syndrome, Kelly was extremely articulate and excited to play.

Recalling my experience with Kelly, I said:

“Kelly kept looking at me. She would pull the picture off the schedule I would hold my hand out so she could give it to me, and she goes “I’ll hold it so you can show me what to do!” I know! She would hold it for me while I showed her what she was supposed to do. Even though she was like, ‘I don’t need you to show it to me, I know what to do!’”

It was a pleasure to assess her, as she was so easygoing and confident, but her comments and behaviors made it clear to me that she did not need the level of visual detail that the picture activity schedule provided.

Pithy language-task cards. Amber was an intriguing case. She was extremely difficult during traditional protocol day, but I believed her behavior changed dramatically when I used the other protocols:

“Amber’s first day of assessment was kind of a frustrating day [with regard to the other participants’ behaviors, too]. She was not compliant; she ran away, she threw equipment under and over the curtain.... But that [behavior] stopped because she was getting task cards that day. Amber stopped crying and emoting sadness on the day that she was getting task cards.”

Amber had been noncompliant during our other meetings. She would cry, run away from assessments, and spit on my research assistant. Additionally, when Amber was spoken to using complete sentences on the traditional protocol day, she pulled her pants down and exposed herself. However, on the day that she received the task card protocol in which verbal language was minimized and a picture of the task at hand was displayed, Amber was much more compliant. Although she did throw equipment over and under the curtain used to divide the assessment space into a manageable size and attempted to run away from the area once, she smiled while engaging in these behaviors indicating playfulness. Furthermore, she was not crying or exhibiting sadness in her facial expressions. Even though she was still noncompliant for parts of the assessment, I saw this as a comparative improvement. I felt that she preferred this pithy language approach using picture task cards to the other approaches.

Sally's self-stimulatory behavior of biting her hands was mentioned earlier, but it is interesting that she did not bite herself and seemed more willing to engage when provided the picture task cards. It is almost as if by studying the cards, she became more comfortable with the assessment environment. This may have lessened her anxiety, and in turn made her not feel compelled to engage in self-injurious behaviors. While discussing the Sally's response to the picture task card day, I stated "Sally also seemed really interested in the cards; we got to the next day which was also a picture card day and she didn't bite herself again and she stayed on task."

While C.D.'s prior school experience was characterized by difficult behavior, he had never seemed so excited and interested in a task as he did during the assessments on the picture activity schedule day. His occupational therapist (OT), who had known him for years, had never seen him engage in an activity as long as the 12 minutes she watched C.D.'s assessment. I reported to my co-author, "On Wednesday, the occupational therapist was observing C.D. during the assessment, and she commented to Dr. Elizabeth that she (the OT) could not believe how on task he was. She said she had never seen him like that."

Some of the more verbal children commented on the absence of a picture schedule. Every child was exposed to an acclimation day in which the picture activity schedule was displayed on the wall, and the picture task cards were worn on my wrist. This was done to ensure that no child would be surprised by the existence of these objects on an assessment day. That being said, I believed that the children noticed the presence (and in turn, the absence) of the pictures on other days.

"But it has been really entertaining because Matt, when he came in on Thursday, the first thing he said was "where is the schedule?" That day was a picture task card day so I had the pictures on my wrists on a ring. But he immediately asked where the schedule was."

Matt wanted to know where the schedule was after only seeing the schedule on the wall during the acclimation day. On the final day of data collection with him, he received no pictures of any form and conversational sentences. At the beginning of the assessment on this traditional protocol day, he asked repeatedly where the schedule was and engaged in a spinning behavior throughout the assessment. Matt's inquiries as to the location of the picture activity schedule and his spinning behavior led me to believe he preferred the picture activity schedule to other

assessment protocols. I reported a similar experience with another child, Robert, who was also very concerned with the presence of the picture activity schedule.

“Robert did the same thing today [asking where the schedule was] when he came in. Then he saw them on my wrists, and he said ‘oh you don’t have them on a schedule, so I can see it. You have it right there. ‘It is going to be interesting on Monday to see what Robert says when he has no picture task cards to look at.’”

Robert talked incessantly during all three assessments and his acclimation day. Sometimes it was about the assessment, but usually it was about how a vacuum cleaner worked. When he entered the assessment space for his second day of assessments, he asked where the schedule was, but noticed that I was wearing the picture task cards on my wrist. He indicated that he understood that’s where the “schedule” was, even though it was not visually displayed for him to see all the assessment items at a glance. On his final assessment (the Monday referenced in the quote above), he received the traditional protocol. In the field notes recorded at the conclusion of each day of assessments, a research assistant recorded that Robert asked repeatedly where the schedule was during the assessment, and that he “seemed lost without the schedule”.

Perceptions of Children’s Behaviors

Stereotypical movements. Some children with ASD engage in stereotyped movements or repetitive and restrictive behaviors containing sensory stimulation but do not serve a functional purpose (Leekam, Prior, & Uljarevic, 2011). Jared was a five year old boy with autistic disorder who used an alternating double skip pattern to move through the hallways in the classroom. Upon entry into a new room, Jared would spin in a circle. In between trials Jared would again spin in a circle. While he was doing this he would look up at the ceiling. Jared had very limited ability to speak, but he was able to communicate using gestures and the Picture Exchange Communication System (Frost & Bondy, 2002).

One of Jared’s favorite things to do was to engage in a jumping activity. “He [Jared] spins, and he likes to jump.” Jared would jump and an adult supporting him at his waist would help pull him off the ground so that he “jumped” higher than he could on his own. While conducting the TGMD-2 assessments Jared would sometimes position my hands around his waist and assume his knee bend position. I would usually oblige this request because he would refuse to participate in the intended activity without first “jumping”. Upon completion of a “jump” Jared would then engage in the intended activity.

With some children the stereotypical behaviors were harmful to the child, the other children, or the researchers. For example, some children were “biters”, either of their own hands or others’ hands. Self-injurious behaviors are not uncommon in individuals with ASD (Minshawi, 2008), nor was it uncommon among the children participating in my dissertation research. Taylor would sometimes cry and often be despondent. I had prior experience with him, and during that time I came to realize that he expressed his displeasure in the events around him by biting others or himself. Thinking about my experiences with Taylor during the dissertation research, I said:

“Today is the first day that he [Taylor] bit me, which is pretty good because it is the third day together. He has bitten himself three times yesterday, and he bit himself once the day before. He is always biting himself, but he doesn’t break the skin.”

It was painful to see Taylor bite himself, but you could also see his face relax after he would bite himself. As a student of behaviorism, I took Taylor’s visible relaxation to mean that the biting behavior on some level was positively reinforced. That feeling of “relaxation” must have been the reason for that behavior. I knew a causal relationship between self-injurious behaviors and anxiety has been suggested by psychologists and others working with children with ASD (Guess & Carr, 1999).

Sensory issues. A common symptom amongst individuals with ASD is difficulties with perceptual and sensory processing (Pfeiffer et al., 2011). An individual with ASD might exhibit a heightened or reduced response to sensory stimulation. In this study, many of the children with ASD exhibited issues related to sensory processing. Many of the children participating in the dissertation study were found to either seek additional sensory input or seek to restrict sensory input while having their motor skills assessed. For example, I noticed:

“...he [Peter] would drag his feet along the carpet, as if he wanted extra sensory. When he was running he would drag his feet, and he was barefoot the whole time we did assessment because he wore Crocs™ all week.”

Peter, a four year old boy, arrived to the summer program each day wearing Crocs™ sandals. As such, when the child entered the assessment space, he removed his Crocs™ and set them outside of the assessment area. While running, he would take the first few running steps with proper running form, but then he would drag his feet along the floor for the remainder of the trial. This behavior persisted on all three days of data collection, even following an additional demonstration. As this behavior perplexed me, I allowed Peter to return to his classroom barefoot one day, because I wanted to see if he would drag his feet while walking down the hallway. He dragged his feet while barefoot, but when shod, he did not drag his feet. This observation led me to believe it was the sensory stimulation that Peter sought while locomoting from one place to another without shoes.

Distractions. When working with individuals with ASD, it can be very challenging to keep them on task and engaged in contextually appropriate activities (Schneider & Goldstein, 2010). Teachers are encouraged to minimize extraneous information and provide calm, focused workspace by arranging the physical environment to maximize student learning and participation (Fittipaldi-Wert & Mowling, 2009). In spite of the teachers’ best intentions to do so, they cannot always control the environment.

To minimize distractions during the assessments my research assistants and I wore plain, undecorated neutral colored outfits. I created a very large white curtain to divide the large multipurpose room. This curtain extended across the entire room, from wall to wall, allowing only a six foot opening to access the space where the assessments were conducted. I covered the windows looking outside. On the walls just outside of the assessment space, signs were posted stating “Quiet please-Assessments in Progress”. Within the space, nothing was displayed on the

walls except a target for children to aim at while performing the assessments. In spite of these efforts, I was not able to control for everything that could be distracting.

One of the biggest distractions was the sound of children crying. Sometimes a child would become so upset that he or she would disrupt other students in the classroom by having a tantrum involving loud crying or yelling. When this happened, the upset child would exit the classroom with an assistant teacher and be provided an opportunity to calm down in the hallway. Thus, some of the children could hear this while they were being assessed and made facial expressions indicating sympathy or empathy for the upset child. I believed Amber, a five year old girl with autism, found the crying to be very distracting.

“Amber she would hear other children cry and she would shut down. You could see that she’d be upset about other people. When that would happen I would hug her and tell her it would be okay because it is okay to be sad when other people are sad too. Because it was obvious that her shutting down was in response to other people crying. She would look around to see if she could locate the source of the crying.”

When Amber could not locate the source of the crying she seemed more withdrawn and less cooperative. It was almost as if she was retreating into her own mind to escape from the source of suffering, even though she was not crying. Recalling that other children were influenced by physical objects in the environment, such as bugs, data collection equipment, or lighting, I said:

“Jared does NOT like the sky light. We assess him now in the dark. We turn the lights off for him, because one day he came in covering his eyes and ears. ...Because there were bugs in the lights, so we just flipped the lights off. That made it a little better.”

Jared directed his attention to the overhead lights in the ceiling rather than the relevant stimuli in the environment. When the lights were shut off Jared was able to direct his attention more to the research. He was distracted by the lights, and that distraction interfered with his ability to perform.

Some of the trials used tennis balls, and one boy, Greg seemed to be enchanted with the fuzz on the tennis ball. I remembered “...he was playing with it, walking around holding the ball by the fuzz. And he is running away from me, and playing with the tennis ball fuzz.” To me a tennis ball is a boring, everyday item, but Greg seemed enthralled. Greg played with the fuzz of the tennis ball for three or four minutes between each trial, which was very frustrating. Therefore, we tried a different ball, the same size and color, but it was a soft, rubber ball. Unfortunately, I do not believe this solved the problem, as I said:

“Now he was fascinated by the squishy aspect. So again, three to four minutes between trials, I am standing there just silently praying, ‘Please, let Greg throw the ball! Please let him throw the ball so we can move on.’”

Thus, changing balls did not help the situation. Greg was distracted by whatever equipment we tried. I was glad that he was interested in the equipment used to complete the assessment, since other participants were interested in items in the environment completely irrelevant to

completing the task including the video camera used to record the children's behaviors. Thinking about those types of distractions, I said "Then Jacob was really distracted by the camera...he was right up in her [the camera operator's] face... He would push it and he would look for people in the little view finder. He was fascinated by it."

Lindsay, the research assistant responsible for the camera did not speak to the children or engage with the children during the dissertation data collection. She pulled her hair back and wore plain navy clothing and simple make up each day. As a result, most children did not pay any attention to her or the tripod she stood behind. However, Jacob was fascinated with the camera. He would stand directly at Lindsay's toes and look up at her until she would step away from the camera. Then he would play with the camera, pushing buttons and looking for movement on the camera screen. Although this behavior was contextually inappropriate, it was a welcome change to the tantrums he often threw when he was asked to perform skills on the assessments.

My experiences may not be the same others have had working with children with ASD, but there are some similarities. Celebrating the little milestones and feeling frustration and empathy for the children when observing some of the difficulties in communication and social interaction were part of my experiences, and they are universal experiences for special educators working with children with ASD. That being said, there is variability in how these experiences may be interpreted. As motor development experts, we acknowledge the paradox of universality and variability in every human's developmental trajectory (Haywood & Getchell, 2008). Observing the individual differences in my perceptions of the children's behavior was part of the project, while sharing my experiences contributes to the universality of the experience working with children with ASD.

Contextualization

We present this research as a self-study (Bullough & Pinnegar, 2001); an interpretation of my experience through my voice as informant, researcher, and writer. Self-studies are typically conducted by individuals, pairs of collaborators, or small teams of researchers (Gallagher et al, 2011). This paper tells the story of my emotionally charged experience conducting quantitative research exploring motor skill assessments with children with ASD. My co-author served as co-researcher. She facilitated the interpretation through asking questions and engaging in the research process. We did not dwell on the fact that I was doing a dissertation, which is another body of literature in its own right. We focused on the process of working with a group of children that many consider to be very challenging. Throughout this process, my co-author and I continuously communicated to ensure collaboration. In this collaboration, we co-constructed a story of my experiences during my dissertation research process. We captured the data, constructed the themes, and conceptualized the story. Our results yielded three major themes: Participant Emotions; Protocols from the Dissertation; and Perceptions of Children's Behavior. Through the lens of self-study, we further contextualize the findings by exploring how visual supports and communication, and communities of practice impacted my experience.

The self-study presented here allows the findings of my "private" research endeavor become a resource for teachers and other clinicians working with individuals with ASD. Likewise, as this work is made public it also facilitates greater understanding and awareness, and thus solution, to

those who feel isolated in their “private trial(s)” (Bullough & Pinnegar, 2001, p. 15). Such is the cyclical nature of self-study.

Similarly, our findings are interrelated on many levels. For example, the “Participant Emotions” rose and fell as the “Children’s Behavior” changed. The “Research Protocol” impacted the “Children’s Behavior.” Just anticipating the child’s reaction to the traditional protocol often filled me with sadness at having to use it, thus evoking compassion and other emotions. Because of such interrelatedness, we will discuss the findings in the context of visual supports and communication, and communities of practice.

Visual Supports and Communication

The use of visual supports is firmly endorsed by those who work with individuals with ASD (Tissot & Evans, 2003), and this study resoundingly upholds the notion. I learned from my prior research that children with ASD have preferences, and that my experiences may provide valuable insights into preferences and behavioral tendencies of the children. Communication and language is fundamental to our humanity; our environment revolves around speech production. I remarked to my co-author regarding the traditional protocol: “I just feel really guilty to be the first adult to speak to him in a language he does not understand.” I liken it to my experience traveling in non-English speaking countries. The difference between being an individual with ASD and me taking that trip is that I know that I will be home again with people who speak my language. Looking at our communicative differences that way, it is difficult for me to imagine being anything but compassionate. Throughout the process, I would communicate with a child using a picture and the child would perform the task. If I communicated with the child without a picture, the child would exhibit a contextually inappropriate behavior (e.g., spitting, crying, and running away). For example, Amber’s noncompliance escalated to her dropping her pants when presented with the traditional protocol. Sally’s willingness to refrain from biting her hand exemplified her preference for visual supports and her frustration with the traditional protocol.

Knowing what I knew about the importance of visual supports as a communication device, I felt frustrated when I was unable to use them due to the dissertation research design. My frustration was due to the children engaging in contextually inappropriate behavior. Tissot and Evans (2003) state that communication problems may be an underlying reason for disruptive behavior in children with ASD. As communication can be both verbal and nonverbal, lack of speech does not necessarily mean that a child with ASD is not able to communicate. As the dissertation design required intermittent use of conversational speech and visual supports, I often experienced frustration, and further sympathized with the children as they struggled to understand my instructions.

Communities of Practice

The data collection site was an extended school year program for children with ASD and behavior disorders, as well as a training opportunity for graduate students in special education. As a result, after the kids left school each day, a brief meeting was held for all members of the staff to discuss what worked and what did not. This “community of practice” helped me to cope with my frustration, by providing a supportive group of listeners and learners interested to know how things were proceeding in each other’s experiences with the children with ASD.

Lave and Wenger (1991) describe a community of practice as a group of people with a common passion, and that often find themselves coming together to learn as they engage in the matter of interest. Such coming together may or may not be intentional, and is often incidental, yet the social aspect of it makes the learning more meaningful. In the present case I – a graduate student in kinesiology – found myself incidentally engaged in a community of practice with graduate students in special education due to our shared interest in learning about and improving the lives of children with ASD. We all had a responsibility at the program, and as we encountered one another on a daily basis I formed a tacit understanding of the value of having like-minded people with whom to interact. This understanding became more evident through the process of writing this self-study, as I came to realize the importance of my empathetic peers.

Many of us worked with the same children, and we would share the same small victories (“Jacob FINALLY used the toilet by himself!” or “Beckett yelled ‘I NEED A TIMEOUT’ and walked out of the classroom before beginning his temper tantrum”). We all worked for the same goal, and that was to help children with autism. They were excited about the opportunity of assisting in important “research” as many of them failed to recognize that the data they collected each day regarding the individualized education plans was also research. They supported me, and I was excited to help them.

A community of practice is an important support mechanism for a practitioner working with children with ASD. The community of practice provides a safe place to celebrate the small victories, cry over the major defeats, and laugh over the unusual interactions one may have while working with children with ASD. The emotions I experienced throughout the dissertation data collection process were varied and extreme, often fluctuating widely throughout the day. As a result other practitioners working with children with ASD should prepare for these emotions by having a series of healthy coping strategies in place. Engaging in a community of practice is one healthy coping strategy recommended to special educators in particular (Elledge Cook & Leffingwell, 1982). Other coping strategies include self-care activities such as and taking good physical care through adequate medical screenings, adequate diet and exercise, and adequate rest (Merluzzi, Philip, Vachon, & Heitzmann, 2011).

Conclusion

The importance and usefulness of visual supports is highly accepted and is not a new notion. However, the impact on the individual communicating with the person with ASD has not been studied. An act of compliance that replaces a tantrum may go a long way in quelling burnout in teachers, parents, and other caregivers. As burnout is a common occurrence amongst individuals working with special needs populations, future research should study the role of visual supports on the stress levels of the practitioner working with children with ASD. Until that research is undertaken, it is important for practitioners to recognize the range of emotions as a normal response to the experience of working with children with ASD. Additionally, it is important for practitioners to cope with their stress in healthy ways by finding a community of practice with whom to discuss these emotions, and to engage in a routine of self-care.

References

- Breslin, C.M., & Rudisill, M.E. (2011). The effect of visual supports on performance of the TGMD-2 for children with autism spectrum disorder. *Adapted Physical Activity Quarterly*, 28, 342-353.
- Bullock, S., M., & Ritter, J., K. (2011). Exploring the transition into academia through collaborative self-study. *Studying Teacher Education: A Journal of Self-Study of Teacher Education Practices*, 7(2), 171-181. doi: 10.1080/17425964.2011.591173
- Bullough, R. V., & Pinnegar, S. (2001). Guidelines for quality in autobiographical forms of self-study research. *Educational Researcher*, 30, 13-21. doi: 10.3102/0013189X030003013
- Clandinin, D. J., & Connelly, F.M. (2004). Knowledge, narrative, and self-study. In J. J. Loughran, M. L. Hamilton, V. K. LaBoskey, & T. Russell (Eds.), *International handbook of self-study of teaching and teacher education practices* (pp. 575–600). Dordrecht, The Netherlands: Kluwer.
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage Publications.
- Denzin, N. K. (1989). *Interpretive interactionism*. Newbury Park, NJ: Sage Publications.
- Elledge Cook, J.M. & Leffingwell, R.J. (1982). Stressors and remediation techniques for special educators. *Exceptional Children*, 49, 54-59
- Fittipaldi-Wert, J., & Mowling, C.M. (2009). Using visual supports for children with autism in physical education. *Journal of Physical Education, Recreation, and Dance*, 80(2), 39-43.
- Frost, L., & Bondy, A. (2002). *The Picture Exchange Communication System: Training Manual (Second Edition)*. Newark, DE: Pyramid Educational Products.
- Gallagher, T., Griffin, S., Parker, D. C., Kitchen, J., & Figg, C. (2011). Establishing and sustaining teacher educator professional development in a self-study community of practice: Pre-tenure teacher educators developing professionally. *Teaching and Teacher Education*, 27, 880-890. doi:10.1016/j.tate.2011.02.003
- Guess, D., & Carr, E. (1991). Emergence and maintenance of stereotypy and self-injury. *American Journal of Mental Retardation*, 96, 299–319.
- Lave, J., & Wenger, E.(1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press. ISBN 0-521-42374-0.
- Leekam, S. R., Prior, M. R., & Uljarevic, M. (2011). Restricted and repetitive behaviors in autism spectrum disorders: A review of research in the last decade. *Psychological Bulletin*, 137(4), 562-593. doi: 10.1037/a0023341
- Lieberman, A. (2000). Networks as learning communities: Shaping the future of teacher development. *Journal of Teacher Education*, 51, 221-227. doi: 10.1177/0022487100051003010
- Loprinzi, P.D., & Cardinal, B.J. (2011). Measuring children’s physical activity and sedentary behaviors. *Journal of Exercise Science & Fitness*, 9, 15-23. doi: 10.1016/S1728-869X(11)60002-6.
- Loughran, J. (2007). Researching teacher education practices: Responding to the challenges, demands, and expectations of self-study. *Journal of Teacher Education*, 58, 12-20. doi: 10.1177/0022487106296217
- Loughran, J., & Northfield, J. (1998). A framework for the development of self-study practice. In M. L. Hamilton (Ed.) *Reconceptualizing Teaching Practice: Self-Study in Teacher Education*. Bristol, PA: USA Falmer Press.

- Louie, B., Drevdahl, D., Purdy, J., & Stackman, R. (2003). Advancing the scholarship of teaching through collaborative self-study. *Journal of Higher Education*, 74(2), 150-171.
- Lunenberg, M., & Samaras, A. P. (2011). Developing a pedagogy for teaching self-study research: Lessons learned across the Atlantic. *Teaching and Teacher Education*, 27(5), 841-850.
- Merluzzi, T.V., Philip, E.J., Vachon, D.O., & Heitzmann, C.A. (2011). Assessment of self-efficacy for caregiving: The critical role of self-care in caregiver stress and burden. *Palliative and Supportive Care*, 9, 15–24. doi:10.1017/S1478951510000507
- Minshawi, N.F. (2008). Behavioral assessment and treatment of self-injurious behavior in autism. *Child and Adolescent Psychiatric Clinics of North America*, 17, 875-886. doi:10.1016/j.chc.2008.06.012
- Pfeiffer, B., Koenig, K., Sheppard, M., Henderson, L., & Kinnealey, M. (2011). The effectiveness of sensory integration interventions in children with autism spectrum disorders: A pilot study. *American Journal of Occupational Therapy*, 65, 76-85.
- Schneider, N., & Goldstein, H. (2010). Using social stories and visual schedules to improve socially appropriate behaviors in children with autism. *Journal of Positive Behavior Interventions*, 12, 149–160.
- Tissot, C., & Evans, R. (2003). Visual teaching strategies for children with autism. *Early Child Development and Care*, 173(4), 425–433.
- Ulrich, D. (2000). *Test of Gross Motor Development (2nd ed.) Examiner's Manual*. Austin, TX: Pro-Ed.
- Zeichner, K., (2007). Accumulating knowledge across self-studies in teacher education. *Journal of Teacher Education*, 58, 36-46. doi: 10.1177/0022487106296219

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