Education Faculty Articles and Research   Attallah College of Educational Studies

2020

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Comments

This article was originally published in *Disability Studies Quarterly*, volume 40, issue 4, in 2020.
https://doi.org/10.18061/dsq.v40i4.6981

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The Voices of Typers: Examining the Educational Experiences of Individuals Who Use Facilitated Communication Aja McKee California State University, Fullerton Email: amckee@fullerton.edu Audri Sandoval Gomez Chapman University Email: agomez@chapman.edu

Abstract

As the number of students with autism grows, professionals must find ways to understand how to best educate this student population. Although current research addresses teaching students with autism, studies on educating autistic students with limited or unreliable verbal speech is nominal. In this qualitative study, interviews with eight autistics who type using the method facilitated communication are analyzed in relation to their educational experiences. The study resulted in a number of key findings that play significant roles in the participants' educational experiences, including (a) the notion of disability hierarchy and the presumption of competence, (b) the importance of building relationships and the perceptions of friendship, (c) developing a sensory friendly environment, and (d) understanding behavior and body movement. Results suggest that the educational needs of these students must be reexamined. Teachers must establish a deeper understanding of the disability and develop innovative practices to best meet the needs of autistic students with limited or unreliable verbal speech in their classrooms.

Oftentimes students with disabilities are limited in their educational opportunities. There are minimal firsthand accounts from autistics with limited or unreliable verbal speech, about their education (Ashby, 2011; Ashby & Causton-Theoharis, 2012; Biklen & Burke, 2006; Kasa-Hendrickson, Broderick, & Hanson, 2009). By asking autistics who type to communicate about their time in school, educators can better learn how to teach and support this student population. Individuals with autism who have limited or unreliable verbal speech are often considered low-functioning (Hartley & Allen, 2015; McGonigle-Chalmers, Alderson-Day, Fleming, & Monsen, 2013) and placed in special education self-contained classrooms, further marginalizing them from their able-bodied peers, as well as their speaking autistic counterparts. Over the past several decades, some educators have persisted in their belief that there are benefits to placing students with disabilities in segregated classrooms (Chesley & Calaluce, 1997; Fuchs & Fuchs, 1995; Kauffman, Bantz, & McCullough, 2002; Locke, Ishijima, Kasari, & London, 2010); however, self-contained classrooms may not deliver desired outcomes (Causton-Theoharis, Theoharis, Cosier, & Orsati, 2011; Danforth, 2014; Jones & Hensley, 2012). In addition to the dismal consequences of labeling and separating students based on perceived severity of disability, educators often do not ask students about their educational experiences. One way to do this is to

conduct research with individuals who use the controversial method of facilitated communication (FC) to communicate.

Facilitated communication is an aided communication system, as it utilizes the users' body and tools/equipment, such as a letter board, keyboard, or internetwork operating system (iOS). In the simplest terms, FC is an alternative approach to communication. This method involves providing physical, communicative, and emotional support to individuals with a developmental delay who have severe speech difficulties (Crossley, 1994). Individuals with a variety of disabilities have used FC, including individuals with cerebral palsy, autism, Down syndrome, and head injury. Facilitated communication is mediated communication, meaning that a tool (the facilitator in this case) is used between the individual with the communicative intent and the receiver (listener or conversational partner) (Stock, 2011). Stock (2011) provided examples of other forms of mediated communication such as writing utensils or a cell phone.

In FC, a trained facilitator provides varying levels of support to the individual with the disability so the individual can communicate via typing on a keyboard or letter board. Although the facilitator is able to stabilize the typers' movements, if needed, the facilitator should not lead the individual (Crossly, 1994; Cardinal & Falvey, 2015).

Originally known as facilitated communication training (Crossley, 1994), this method has also been referred to as supported communication (Whittier Area Parents' Association for the Developmentally Handicapped, n.d.), and supported typing (Cardinal & Falvey, 2015; Institute on Communication and Inclusion, 2000; Lilienfeld, Marshall, Todd, & Shane 2014). While the terminology of the method has varied throughout the years, the definition of the method has been relatively stable over time and is best captured by Crossley (1994). Further, the objective of FC has stayed the same. This communicative method aims to build the level of independence of the user with the intention that the user will be nearly or completely independent at some point in time (Crossley, 1994). Several accounts of FC have demonstrated independent typing (Ashby & Causton-Theoharis, 2012; Biklen & Burke, 2006; Kasa-Hendrickson, Broderick, and Hanson, 2009). Although independence is the intent, it does not necessarily happen in every situation.

Decades of debate examining whether FC truly represents the "voices" of the typers, or instead relays a message from the facilitator, demonstrate how divided the special education field is over this unique method of communication (Agran, 2014). As the debate over the authorship of messages (Ashby, 2011; Cabay, 1994; Schlosser et al., 2014; Stock, 2011; Von Tetzchner, 2012), abuse allegations (Boynton, 2012; Todd, 2012; Von Tetzchner, 2012), and the presumption of competence of individuals with disabilities (Biklen & Burke, 2006; Donnellan, 1984) persists, educators continue to deny this avenue of communication for individuals who may have tried other avenues unsuccessfully. Yet, the controversy behind FC has not completely halted its use (Ashby, 2011; Ashby & Causton-Theoharis, 2012; Kasa-Hendrickson et al., 2009).

Literature Review

The American Speech-Hearing-Language Association (ASHA) argues that all individuals have a right to communicate and should have access to augmentative and alternative communication (AAC) (Brady et al., 2016). Communicating to the fullest extent possible will be different for all

individuals, based upon need, therefore, AAC takes on various designs. In this way, FC is like other AAC in which the users' body and equipment is utilized. However, what makes FC unlike other AAC is the longstanding history and controversy surrounding the method (Agran, 2014; Cardinal & Falvey, 2015; Mostert, 2014).

Various forms of AAC include unaided and aided communication systems (Beukelman & Mirenda, 2013). Unaided communication systems include communication which solely relies on the users' body. Examples of this may include gestures or sign language. Aided communication systems include a combination of the users' body and tools. There is a spectrum of tools the user may require, ranging from pencil and paper, to a communication board where an individual points to a visual icon, to a device by which an individual types on a keyboard to spell words and the device generates voice output (Beukelman & Mirenda, 2013). The American Speech-Language-Hearing Association describes AAC as:

an area of clinical practice that addresses the needs of individuals with significant and complex communication disorders characterized by impairments in speech-language production and/or comprehension, including spoken and written modes of communication. AAC uses a variety of techniques and tools, including picture communication boards, line drawings, speech-generating devices (SGDs), tangible objects, manual signs, gestures, and finger spelling, to help the individual express thoughts, wants and needs, feelings, and ideas. AAC is augmentative when used to supplement existing speech, and alternative when used in place of speech that is absent or not functional. AAC may be temporary, as when used by patients postoperatively in intensive care, or permanent, as when used by an individual who will require the use of some form of AAC throughout his or her lifetime (American Speech-Hearing-Language Association, 1997-2020).

Light & McNaughton (2014) posited that the AAC field has changed over the past several decades and in order to meet the growing population of individuals with complex communication needs several issues must be addressed. While these issues are not unique to education specifically, they shed insight on the need for educational professionals to be well-versed in matters of AAC. Due to technological advances and access to AAC, along with the evidence-based benefits, more individuals are using AAC devices than ever before (Light & McNaughton, 2012). Educational professionals must (a) understand the changing demographics of the AAC using population, (b) discern AAC users' breadth of need, (c) address changes to AAC systems, and (d) recognize the transformation of AAC users' expectations (Light & McNaughton, 2014).

Downing and Chen (2015) discussed taking each students' unique needs into consideration when exploring AAC. Each individual has a current way of communicating whether that be an "identifiable and understandable form of communication" (Downing and Falvey, 2015, p. 5) or whether the communication is difficult for the receiver to ascertain. When that communicative attempt is unidentifiable to others, or misunderstood, a students' needs may go unmet. That is one reason that finding a way to effectively communicate is crucial.

In addition, ensuring that students have a responsive communication partner is necessary. "Promoting effective communication with a student who has severe disabilities requires that

communication partners interpret and identify the student's communication behaviors, create and identify opportunities for communication, and facilitates the student's interactions" (Downing & Chen, 2015, p. 108). Downing and Chen (2015) provided suggestions on how to be a responsive communication partner which include, (a) being physically close to the child, (b) using eye or physical contact, (c) setting the expectation of response and providing a wait time for the response, (d) accepting however the child can respond, and (e) expanding on the method or technique the child uses to communicate.

Further, the ability to effectively communicate opens the door to educational opportunities such as having access to the least restrictive environment (LRE) in school settings. Educators must comprehend law that sanctions LRE, as well as understand how to provide supports and services in that environment. IDEA states that

to the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are not disabled, and special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability of a child is such that education in the regular classes with the use of supplementary aids and services cannot be achieved satisfactorily. 20 U.S.C. '1412(a)(5)(A).

This mandate explaining LRE is significant because it sheds insight on the continuum of services that must be exhausted prior to making a more restrictive recommendation. When examining the continuum of services, the use of supplementary aids and services must be attempted prior to a move to a self-contained placement, and AAC is one type of supplementary aid. The recommendation for educators to be part of the AAC process for their students is supported throughout the literature (Binger et al., 2012; Costigan & Light, 2010; Downing, Hanreddy, & Peckham-Hardin, 2015; Light & Drager, 2007; Light & McNaughton, 2012; 2014; Soto & Zangari, 2009), from initial assessment, to staff training, to implementation across environments.

The purpose of this Institutional Review Board (IRB) approved study was to examine the educational experiences of eight autistic adults who use FC to communicate. These adults spent time in United States (U.S.) educational institutions and were considered to have limited or unreliable verbal speech sometime during their school career. Interviewing the participants provided insight into their educational experiences and helped the researchers discern if the use of FC contributed to or altered the individuals' experiences. The results aim to inform educators in several ways, including how to better understand the needs of their autistic students with limited or unreliable verbal speech, the impact that perceived severity of disability plays in placement and educational opportunities, and how the education field may move forward in including autistic students who type in general education settings (Allan & Slee, 2008; Danforth, 2014).

Methodology

This qualitative phenomenological study encompassed semi-structured interviews to examine the experience of individuals and their educational events (Van Manen, 1990). The process of phenomenology is not an examination of why something happened, but instead asks participants

to reconstruct past events and share these events in the context of their lives (Seidman, 2013; Van Manen, 1990). This study was informed by Seidman's (2006) three-phase interview process. The first of the three phases elicited information about the participant by asking about the *hows* of the experience. In the second phase, the participants concentrated on the details of these experiences. Finally, the third phase of the interview process focused on the meaning of the experience, and the participants reflected on their present situation (Seidman, 2006). This three-phase process was implemented in two stages. In Stage 1, participants were emailed questions devised from the first two of Seidman's three phases. This set of questions encompassed the participants' educational history about (special) education experiences and the details of those experiences. These questions also sought to elicit information on the individuals' use of FC. The third phase, Stage 2, involved a face-to-face interview. This interview focused on Seidman's (2006) reflection on the meaning phase. In this phase, the participants were asked follow-up questions to the first set of questions, along with additional questions, to examine how the factors in their life interacted to bring them to their present situation.

The following research questions were addressed in this study:

1. How do autistics who type to communicate feel about their experiences with special education?
2. What should educators know about educating autistics who type to communicate?
3. How, if at all, has facilitated communication changed the educational experiences of autistics who type to communicate?

Participants

Criteria

Purposeful sampling (Bailey, 2007) was used to identify participants who have autism, considered themselves to have limited or unreliable verbal speech, and used FC as their primary means of communication. The participants were over the age of 18 and attended an educational institution (i.e., elementary, middle or high school, adult education, college or university) in the U.S. prior to having found a way to communicate. Criteria for typing support level was established to include the following support or combination of supports: (a) no physical touch; (b) touch at the elbow, touch at the shoulder, or touch above the shoulder; (c) verbal encouragement; and (d) verbal prompting to stay focused on the communication interaction and/or to provide feedback on message content, such as clarifying unclear messages. All participants used either one of these supports or a combination of two or three supports while typing.

Recruitment and consent

The recruitment process spanned over six months and included multiple levels of individuals who provided access to the typers. All participants had individuals who took on a position of overseeing access to them. This means that there were people in positions which either enabled or denied access to the typer, depending on their perspective of the study (Nind, 2008).

Each participant had two levels of overseers: (a) Level 1 overseers worked at or were part of an organization or group of typers in which the participant belonged; and (b) Level 2 overseers included a parent, guardian, facilitator, or support staff who assisted the participant with everyday living needs. Once Level 1 overseers determined the research was safe, the Level 2 overseer was accessed. For example, initial contact would be made and trust would be built with the Level 1 overseer by explaining the research and answering questions related to the study. Level 1 overseers would then feel comfortable and provide an introduction to Level two overseers. The study was explained again and all questions asked by the Level 2 overseers were answered, building a level of trust with them. If the Level 1 individual did not feel comfortable with the study, the communication ceased and there were no further introductions.

In a handful of instances, a Level 1 overseer would not know anyone that fit the participant criteria and would make an introduction to a Level 1 overseer at a different organization. This was a time-consuming, yet necessary process in order to find participants fitting the outlined criteria. In this study, trust was developed because of the researchers' personal connections in the area of FC, which enabled the overseers and typers to be comfortable with engaging in the study. The FC community is a tight-knit community, and it is believed the controversy surrounding this method has contributed to this closeness.

Providing Level 1 and 2 overseers, and participants, with unlimited time to review and ask questions about the consent forms afforded them the ability to reach out to a trusted friend or family member and review together, if desired. All participants provided consent and those with a guardian provided guardian consent.

Participant demographics

Participants ranged in age from 19 to 48, and had varying levels of education and FC experience. In addition, participants worked with the facilitator they used during the interviews for different lengths of time. Participants were asked to choose their pseudonym for the study and their preference of person-first or identity-first language. A summary of participant characteristics is included in Table 1.

Table 1
Participant Demographics

Name	Age	Age FC Introduced	Sex	Ethnicity	Level of Physical Support Needed	Highest Level of Education	Length of Time With Interview Facilitator
Jacob	27	4	M	Caucasian	No touch	Bachelor's degree	Over 10 years
Simba	19	10	M	Caucasian	Touch at the elbow	Attending an adult transition program in the public school system	Unknown

Table 1
Participant Demographics

Name	Age	Age FC Introduced	Sex	Ethnicity	Level of Physical Support Needed	Highest Level of Education	Length of Time With Interview Facilitator
Kimm	37	13	F	Caucasian	Facilitator holds the keyboard	Bachelor's degree	8 years
Mike	22	13	M	Caucasian	Touch at the elbow	High school education as part of the special education system (autism specific school)	Several months
Jill	19	7	F	Caucasian	Hold of the shirt/touch at the shoulder	Currently homeschooled	3 years
Angie	19	17	F	Caucasian	Touch at the shoulder	In high school working toward a diploma in the public school system	1 year
George	48	20	M	Did not disclose	Touch at the shoulder for pacing	High school education as part of the special education system until age 22	Several years
Ninja	21	13	M	Indian	Touch at the shoulder	College student	Several years

Data Collection and Procedural Analysis

During the semi-structured interviews, participants used FC to communicate, with response times ranging between several seconds for one-word answers to a minute or longer for a sentence or multiple sentences. Nind (2008) addressed AAC within her literature review on conducting qualitative research with participants with disabilities. Nind argued that an AAC device can be viewed as a strategy for the researcher to conduct the interview. However, in this case, the participants used AAC in the form of FC as their everyday primary means of communication. Using AAC the participants were already familiar and comfortable with contributing to the authenticity of the interview process.

There are barriers that individuals with disabilities may have as research participants (Nind, 2008). These perceived barriers are significant in themselves and deserve further investigation. Aligning with the notion that although individuals with disabilities may have unique challenges that able-bodied participants may not have, unique needs or challenges do not equate to the inability to participate and provide important feedback. Therefore, the competence of all participants in this study was presumed (Biklen & Burke, 2006; Donnellan, 1984).

Member checks (Bailey, 2007) were implemented throughout the study and after the interviews concluded. Once audio recordings were transcribed, the transcriptions were sent to the participants as part of the member checks. During the face-to-face interviews, all words and sentences were read aloud by the facilitator or by the text-to-speech software and were audio recorded. Separated into words, the terminology of the participants could be misconstrued; however, in context, the words sometimes took on different meanings. Context is important to explore when working with FC users. The way in which this was approached was by asking for clarification, or asking follow-up questions if the response was unclear. One example of this is when a participant (Kimm) was discussing social experiences and commented that she had "unpaid friends in college." A follow-up question was asked to clarify what she meant. She shared that she felt her friends in high school had to be her friends, while in college it was their choice. College was the first setting in which she felt like she had real friendships. Typers are often criticized for word choice, and opponents of the method have claimed facilitators influenced typers because of their unique word selection. Audio recordings were then transcribed and coded. Codes were established through open coding and data-driven coding, which involved establishing codes organically as they arose (Gibbs, 2007; Strauss & Corbin, 1990).

Results

Through the data analysis process, four themes emerged, including (a) educational opportunities, (b) building relationships, (c) sensory needs, and (d) examining behavior through a different lens. These four themes are presented in this section.

Educational Opportunities

The theme educational opportunities encompassed a focus on educators' perceptions of the participants. This included the notion of perceived ability and educational opportunities that correlated with believed ability. Participants discussed how school staff made them feel, noting the difference between before and after they typed to communicate. One participant, Angie, shared that once she typed and proved her intelligence, she was provided real teaching experiences. This implied the teaching/curriculum provided prior to her typing was not meaningful to her. Angie shared:

Only until I began to type all my thoughts did really the educational system believe I was capable of a real teaching experience. I had terrible experiences in special classes. [Teachers] could have presumed competence because nonverbal people are not dumb.

I was quickly put into self-contained classes…. Long time was lost mistaken as unintelligent. Kept good hope quietly they would see all my abilities. Deathly was afraid the teachers would say to my mother that I deserved institutionalization and that she would believe them.

Inability to verbally communicate or have a form of functional communication led participants to feel educators did not treat them like their typically developing peers. Jacob shared those without verbal expression were often viewed as "unable" and described the issue that arose from these presumptions. He explained, "Certainly students like me struggle at times, but when we struggle, so many times I see the lowering of expectations." He further elaborated by sharing that when

autistics with limited or unreliable verbal speech struggle, expectations are lowered because it is believed they do not understand the presented material or lesson.

Once educators believed the participants were competent, the users' educational experiences began to change. Jill shared that, once she was viewed as competent, "[I was] treated better by everyone. They could know my thoughts and feelings. I can tell people what I want at school, and I can work on assignments with facilitators. I feel better with FC." Along the same lines, Ninja typed:

In the second and third years the number of my general education classes were increased and I was attending four fully inclusive general education classes…. My finding a voice through FC set me to the path of rightful instruction; I got access to knowledge that did not come my way before…. In high school I took art lessons, algebra, geometry, English, global studies, living environment, earth science, American history, and government…. I want all persons without a voice, be able to get a means to communicate, like I did, and are set free from their prison of silence.

Angie conveyed similar feelings, "It is a lot different now. I will greatly graduate. I will actually get a real diploma to go to college. My current grade point average is 3.8. I am on the school newspaper staff." The participants felt that before they were able to type, educators did not think of them as being smart, resulting in a loss of educational opportunities, and, in Angie's case, a fear her teachers may tell her mother to institutionalize her. Once the participants learned to type, the door of opportunity opened, and participants reported they were treated better by teachers, included in general education, and in multiple cases, obtained a diploma and college degree.

Building Relationships

The theme building relationships touched on the participants' desire and challenges that came with developing relationships with teachers and peers. Participants also discussed what made their relationships with certain people unique. In some cases, facilitators were the first person in their lives to believe in them, and regardless of limited education opportunities in school, several participants had good relationships with teachers. Simba expressed his emotional attachment to his teachers: "I love my teachers. They deal with a lot and don't get mad … they are helpful and care about me. They are good people." Mike stated, "Play basketball I like them." Mike's relationship with his teachers showcased them engaging with him on his terms. His teachers were willing to play basketball with him, and this showed him they cared. However, school days were also filled with relationships with individuals other than teachers. When discussing the importance of establishing relationships, the participants also shared about building relationships with peers and what this meant to them.

All the participants expressed their aspiration to build relationships with peers. Users enjoyed typing with others and spending time together engaging in fun activities. The conversations surrounding these interactions revolved around how the users communicated or desired to communicate with peers.

The participants expressed their eagerness to have friends and also shared the challenges they faced developing these friendships. Jill expressed difficulty feeling like she fit in, and she shared her desire to partake in the common teenage experience of dating, "Really been hard. Hard to not fit in and feel different … really want a boyfriend and teenage friends." When asked about his social life during his educational experiences, Simba replied that he had speaking friends, but it was hard to have conversations with them. He thought if they typed, it may have been easier. Jacob shared these same feelings: "It's challenging when one is a typer and the other not, but these life connections formulate an opportunity for growth." Jacob also shared that his participation in a club on his high school campus significantly impacted his ability to connect to his peers and enhance his social experiences. The social club, loosely modeled after an acceptance coalition for the LGBTQ (lesbian, gay, bisexual, transgender, and queer or questioning) community, was devised around food and conversation. Friends would get together and eat, or cook, or do other activities and communicate with each other. Although the club was primarily comprised of speaking members, Jacob found the club to be a place where he developed "vital friends." Other participants also reflected on the impact that typing had on their social life. Angie expressed:

I had no real social reality until typing. I easily was my only friend. I creatively hid inside and pretended I had friends, but I did not. Long I prayed for friends. Long would run into people hoping they would notice me, but they only always saw my autism.

When Kimm was asked about her social experiences she commented, "Unpaid friends in college." She explained what this meant was that she felt like her friends in high school had to be her friends, while her college peers befriended her by choice. Kimm was then asked if her social experiences had changed since learning to type, and she responded, "Yes and I have great friends in the classes I attend…. My social life emerged in high school. Quite good friendships were made at that time. Awesome time in college."

Peer relationships are part of every individuals' educational journey. The development and sustainability of relationships vary from person to person. In the case of the participants, development of these relationships was challenging because of the communication difference between themselves and their peers; however, this difference in communicative method did not halt participants' desire to have relationships and enjoy social interactions. Additionally, once the typers found a way to communicate, social opportunities arose.

Participants also shared about their difficulty with environmental stimuli and their sensory needs. Due to each individual's specific needs, sensory input had an impact on their ability to participate in daily life activities and their ability to communicate.

Sensory Needs

Individuals with autism can be sensitive to sensory input such as sight, sound, and smell, and this held true for several participants. Jacob discussed his sensory needs in great detail and what helped him be successful: "My public school gave me opportunities to access these [therapies] during my day. Those helped me to sit in class and absorb information easier and to better manage my environment and to accommodate classroom difficulties." Jacob also expressed his

emotions and how they were affected by sensory issues. He shared that, in middle school, the smells in the cafeteria were difficult to be around. To avoid standing in line and being exposed to the sight and smell of various foods, his teacher arranged for him to choose and pay for his lunch ahead of time. Preparation such as this offered him the opportunity to pick up his lunch at the entrance to the cafeteria, therefore providing him relief from an overwhelming sensory experience. This accommodation also allowed him to keep his anxiety at bay. Jacob discussed that when the sensory system is overloaded, one's anxiety can rise. Ninja commented on his sensory-related needs by discussing the environment and how facilitators or others can support users with their unique needs:

Headphones help me and also moving to a quiet area would also help. The facilitator should think what the fc user needs by asking the reason, through typing, whenever there is an angry outburst. Maybe he requires more movement like jumping, running or going on the gym cycle.

Ninja also described the accommodations he requested for college courses as "sensory breaks and double time in testing." Jacob confirmed a need for sensory breaks by sharing that he would meet with teachers or professors prior to starting class to discuss his needs. He added that he still needed to engage in repetitive movements in class, even as an adult in college. Jacob believed that engaging in these movements helped him absorb information. He also shared that he needed to tell his professor about his anxiety, explaining, "My anxiety can be a direct block for word retrieval for me, and it can be a block to the strength of the process to listen." In addition, Jacob expressed the difficulty of typing when he is anxious, and challenges with "the speed of the professor speaking and the strength of voice pitch." Jacob's needs are notable because they provide insight into how to best accommodate him. With challenges in filtering out environmental stimuli and particular needs that are sometimes difficult to communicate, it is critical to understand that each individual will have unique needs, and providing time to meet and communicate about these needs makes the difference in the success of the students.

In addition to sensory needs, the discussion of body movement arose when interviewing the participants. When examining body movement, several participants shared their desire to control their bodies and the challenges their lack of control posed to their education.

Examining Behavior through a Different Lens

The theme of examining behavior through a different lens derived from the participants' body movement and the understanding educators have of body movement difference. Mike discussed his body movement by stating, "My body doesn't let my mind one, go for everything I want to like a voice." Simba expressed his inability to make his body do what he desired it to do: "I have trouble getting my body to talk."

George discussed body movement in regard to the level of physical support needed and how his support levels impacted how others, such as educators, may have viewed him:

I would describe it having a huge impact on how people see me. In the days when I was given more support I think my intelligence was questioned more and people were wondering if these

were my thoughts. I am at a place where I will continue fading support and hope to get a handle on some of my impulsive movements.

George's quote signifies he is aware of his body movement and how others may perceive these body movements; the quote further reflects the amount of support he needed. George also shared details on how his movement impacts him and what he does to control the movement and meet his needs:

There are times when I can be stuck on what I am seeing in this very room. There are words on the door, and I can't stop my eyes from reading them a dozen times … I try to control it but sometimes I need help interrupting it like a quick cue can make a big difference. It is a constant daily battle organizing my body to handle the noisy world for me. My hearing is very sensitive. I have a hard time blocking things out.

Angie identified her issues with movement and recognized that music and rhythm provided her a path to better control her body. She shared that movement practice, such as eye training games, using the iPad, and music and rhythm activities, helped her learn to predict how to motor plan. Similarly, Ninja commented on rhythm as an important part of mastering movement and the communicative method:

It was very tough to find my rhythm and go out by myself. But I felt the urgent need doing it by myself [independent typing]. I was trying with a persistent attitude to succeed in my goal; I worked very hard to reach the winning great all out independence.

Participants shared an ability to identify and communicate their needs. This is important because when autistics do not have a way to communicate, sharing their needs and providing strategies to meet those needs is left by the wayside. Speaking students may tell educators that something is too loud or if they need to take a break, but students who have limited or unreliable verbal speech, who have not yet found a way to effectively communicate, leave educators guessing how to help them. This can make for a frustrating experience for students and the educators who teach them.

In the same vein, oftentimes the participants' behavior was misunderstood, subsequently leading to behavioral intervention during their academic years. When Jacob was asked about behavioral needs and if he had any behavioral intervention when he was younger, he replied, "No never needed it." Similarly, Ninja shared the same thought: "My behavior is as my frustration of not being able to talk as my typing is slow." Simba noted that typing helped him because he could discuss his feelings, which he had been unable to communicate prior. When asked if typing changed his behavior, he added:

It helped me not be upset all the time. I can talk about my feelings. I knew that things I could tell my family after school. I could let them in my mind. I think the typing is a good way to get my frustration out.

It is important to note that Simba participated in applied behavioral analysis (ABA) therapy during his younger years. Although many individuals in the disability community are speaking

out against ABA, it remains a primary intervention, especially for students with autism in the education system. In addition, it was noted that Simba may have gained specific skills during his time in ABA that contributed to his ability to type.

Kimm also mentioned how behavior impacted her life: "I spent majority of my school life sadly in segregated classrooms up until high school. Really lousy behaviors got me ejected from class making my quite awesome aides angry." Kimm shared that her early education was ABA focused. Likewise, Angie typed about the anxiousness caused by discussing behavioral challenges, and she explained that she has obsessive compulsive disorder (OCD) and posttraumatic stress disorder (PTSD). She argued:

I have met many people along my educational path that misinterpret my anxiety as noncompliance. Learning great creative coping skills do help so much. Like family involvement. Teaching anxiety coping is essential. Having loving support and understanding needs to be present.

George too shared his struggle with behavioral challenges and how his behavior led to segregation during his time in the education system:

For most of my days I was taken out of the class and my teachers did not know how to handle my energy and I used my behavior a lot to get my needs met. When I was older and making my way out of the education prison, I was grouped together with others who had disabilities, and this was isolation in the worst way…. I always felt like they did not really understand my behavior and it felt like my behavior determined who I was back then. I did not have another way to communicate.

It is not uncommon for students to be referred to special education for behavioral challenges, though not a qualifying factor for special education. Educators often do not know how to address the needs of autistic students who have body movement differences or behavioral difficulties. In fact, there is a growing number of school districts that hire and train personnel focused on providing behavioral support (i.e., ABA) to students in special education with behavioral challenges, leaving the question: With the increase of behavioral supports, why are students and educators still struggling?

When asked if George participated in any type of behavioral therapy growing up, he replied, "Yes but it was not the root of my problem. What was lacking was communication training. But I could not tell them and so my behavior was my ticket to communication."

The needs of the participants impacted their ability to make educational progress. It is important to help individuals recognize and share those needs with educators so educators can plan for these needs from the beginning of programming for autistic students who have limited or unreliable verbal speech, and so the students can be successfully accommodated throughout their educational journey.

Limitations and Discussion

The significance of this study highlights that autistic students who have limited or unreliable verbal speech have specific needs educators must address to help these students be successful. Although some of these needs contribute to existing bodies of literature, others are less commonly found throughout scholarship related to the education field. While this study has demonstrated ways in which educators can work toward better serving autistic students who type to communicate, there are limitations to this research. Participant recruitment posed a challenge because FC users are a small portion of the population and their physical support levels may change often depending on need or skill level. Additionally, typers may fear being criticized for the communicative method they use. Generalization to other countries may be difficult due to differences in the education system. Further, special education programming can look different from state to state and even from district to district.

In addition, variance of human difference, as well as difference within the disability makes generalization of results difficult. Beyond the uniqueness of being human and autistic, each participant had used FC for a distinct amount of time, needed various levels of support, and was taught FC by different trainers (though several trainers did overlap between participants).

Discussion

The importance of educators presuming competence of all students cannot be understated. There is also a need for educators to develop a sensory-friendly environment for individuals who have unique sensory needs. When examining peer relationships, it was found to be essential to provide opportunities and support autistic students so they can build natural peer relationships. Further, understanding body movement and behavior is critical for educators so that they can begin to turn away from the behaviorist approach of trying to control or modify behavior, and instead recognize autism and body movement in a way that relates the movement to that of an individual with Parkinson's or Tourette's (Donnellan, Hill, & Leary, 2010). This could have a compelling impact on the way individuals with autism are perceived and the approaches by which they are educated.

Educators presuming competence of all students

The structure of special education makes students with disabilities who may already be struggling due to lack of accessibility, work harder to overcome the challenge of being disabled (Davis, 1997). The idea of overcoming sends a negative message about disability and implies that the student is less worthy than able-bodied peers. By forcing students to prove their worthiness of specific educational opportunities, educators are abusing their position of power. Further, when educators base decisions of intellect on existing knowledge and beliefs, students' educational careers and lives are affected. An educator's job is to teach, not to determine the worthiness of students.

Several participants discussed their frustration of denied access to general education and meaningful curriculum. One participant shared that once she learned to type and proved her intelligence, only then was she was provided real teaching experiences. Another typer shared that expectations should be high for all students, regardless of whether they struggle. This is notable because the design of the special education system stems from the medical model of disability (Deal, 2003; Linton, 1998). The perpetuation of viewing disability from this model bolsters a

continuation of tired stereotypes of individuals with autism, such as verbal ability equating intelligence, a lack of desire to develop relationships, and body movement identified as conscious behavioral choices. For educators, the introduction of new information, which does not align with existing autism ideology that may have been unquestioned prior (i.e., verbal ability equals intelligence, lack of desire to develop relationships, undervalued ability to communicate, and body movement identified as conscious behavioral choices), may support a process of change affecting how teachers think about and educate their students.

Educators' mindsets need to change to presume competence of those they serve. Those in the profession must recognize and be willing to admit their own limitations when it comes to disability. Because special educators focus on deficits and help students overcome these deficits, educators are caught in the troubling space of searching for inabilities and teaching to deficit areas. This capacity in which special educators function, is perpetuating problems for autistic students, especially those with limited or unreliable verbal speech. As some of the participants shared, these problems include boredom when curriculum is needlessly modified, frustration when their ability is questioned, and limited educational opportunities. Segregation into self-contained classrooms, as well as separation among the disability itself (i.e., low functioning [sic] vs. high functioning [sic]), should be critically examined and shown for what it is—a disability hierarchy that leads to lower expectations of students based on their perceived abilities. No other students, regardless of race, gender, or cultural background, must prove their way into general education; only disabled students are shackled by the system built to serve them.

Developing a sensory friendly environment

Participants expressed that their sensory needs were often misunderstood or underrecognized (Donellan et al., 2010; Goldman, Wang, Salgado, Greene, & Rapin, 2009; Hill & Leary, 1993). The definition of autism has changed over the past several decades, and it has expanded to reflect the impact of sensory stimuli. Stimuli such as noise and light were cited as being troublesome for some participants.

Although most able-bodied individuals' sensory systems have the ability to monitor the environment, adjust to surroundings, and screen out excess stimuli, individuals with autism may have greater difficulty doing this (Donnellan et al., 2010; Leary & Donnellan, 2012). Often, self-contained classrooms are said to provide less distracting environments for students with autism; however, research suggests this is not the case (Causton-Theoharis et al., 2011). With an increased number of staff and students with varying body movements, auditory and visual distractions may be greater in self-contained rooms. Students who are sensitive to sensory stimuli must adjust to the context of the room and its frequent changes (Donnellan et al., 2010). This may add an additional barrier for students as they attempt to gain academic skills.

Kluth (2004) evaluated autobiographies of individuals with autism, which resulted in the recommendation of adaptations that could be reframed for autistic students in school settings. These adaptations included: (a) classroom lighting, sounds, smells, and space; (b) instructional strategies: and (c) assessments. When establishing a classroom environment that is conducive to learning, it is important to realize many students may benefit from adaptations in the environment (Causton & Tracy-Bronson, 2015). One way in which educators can be sensitive to

the classroom environment is to evaluate the sounds and lighting in the classroom (Grandin, 2011; Kluth, 2004), which was mentioned by several participants in this study.

Smells may also impact a student's comfort level (Kluth, 2010). One participant (Jacob) discussed his difficulty with the smell in the cafeteria, which made it challenging for him to wait in line, pay, and then retrieve his food. The school staff arranged for Jacob's meal to be chosen, loaded onto the tray, and paid for prior to his pickup at lunch time. Although some individuals may have believed that, since Jacob was fully included in general education since preschool, he should be able to navigate the lunchroom by high school, it did not mean that he was able to "overcome" his sensitivity to smell, nor did the staff expect him to do so. Through a behaviorist lens, staff may have made an effort to habituate Jacob to lunchroom stimuli; however, in this case, he was accommodated because of his needs. This accommodation helped him eat lunch with friends, focusing his energy on building relationships and communicating.

However, it is important to note that just because an object or person has a strong or unique smell does not necessarily mean an individual with autism will have an adverse reaction to the smell. Reaction to smells will depend on the person, in the same way in which other sensory sensitivities, such lighting and sound, are unique to each individual (Kluth, 2010). In fact, Leary and Donnellan (2012) argued that smell can also support students with autism. Sometimes smelling an object can help an individual identify the object, and smelling something specific, such as a meal being cooked, may prompt an individual to sit down at the dinner table when they realize it is time to eat (Leary & Donnellan, 2012).

A more restrictive environment can be a common route schools take when there is not a greater understanding and/or push to implement needed adaptations for individuals with autism and other disabilities. Consistent with some of the participants' feedback in this study, Kluth (2004) suggested allowing students with autism a quiet space they can use when needed. Various participants took breaks in other rooms during the interviews. If students need a break or an environment with different or decreased stimuli, having an area in which to provide this is important. The space should be safe, and students should be allowed to access the space when they feel they need to regroup.

Building natural peer relationships

Educators should analyze how friendships of students with autism are currently developed. Often, students with autism are encouraged and instructed to overcome their deficits by adhering to accepted social norms. If educators begin to look at autism differently and respect students for who they are, educators can begin to reflect on the best way to cultivate friendships instead of contriving them.

Participants' valued their friendships, and those who did not identify themselves as having friends shared that they wished they did. Bondy (1988) discussed social interaction at length, stating that individuals with autism need to be trained and reinforced to interact with others. One might ask if this is the attitude educators should adopt. This attitude assumes those with autism do not desire relationships and further perpetuates damaging stereotypes of individuals with autism. Similarly, special educators often push socially constructed ideas of friendship onto students (Baglieri, Valle, Connor, & Gallagher, 2011). When these students do not develop peer

relationships in a way that is obvious or adult approved (Locke et al., 2010), educators often think the friendships do not exist and design programs or practices specifically devised to target "deficits" in the area of social skills. What this looks like is adult-created situations where able-bodied peers are placed in the helper role, and activities are introduced with goals in mind so skills can be taught to overcome perceived deficits. Further, educators strive for students with autism to generalize these skills outside of the lessons.

Unfortunately, educators rarely see these skills generalize outside of the contrived social experience (McIntosh & MacKay, 2008). After several years of interventions like this, educators, service providers, and parents may find themselves in the individualized education program (IEP) meeting where the team attempts to understand why the targeted skills do not carry over into other situations (Danforth, 2014; McIntosh & MacKay, 2008). Jacob's interview shed insight into why students oftentimes do not generalize these skills in other situations; educators contrive false social experiences, using peers as helpers (establishing that peers with disabilities are not really peers at all but rather students who need help), and teach discrete skills based on perceived abilities of the student for the student to fit within the socially constructed idea of friendship. Educators expect that fabricated situations will enable students to do real things, such as develop meaningful relationships.

Jacob discussed his development of friendships and his experience in a social club at his high school. Providing fun and quality real-life experiences for all students can support the students in cultivating friendships. The social club revolved around food and communicating. Anyone was welcome to join, and the club members would cook, eat, and participate in activities such as field trips. This club was modeled after an acceptance coalition for the LGBTQ community. The purpose of this group was to provide opportunities to socialize in a relaxing environment that was grounded in acceptance and diversity as opposed to a deficit-driven model. The point is that, according to Jacob, educators push their ideas of friendship, perceived need, and intervention onto students, and he believed there is a better way.

Danforth (2014) explored the notion of building a classroom on a foundation of acceptance. This supports the idea of educators using a framework for social groups, such as one developed by the LGBTQ community, to provide an arena for all individuals to be together and enjoy one another's company. As educators begin to appreciate difference, students will gain the message that all individuals are appreciated. Danforth (2014) posited that educators can begin this journey by asking

not how can we fix the deficit ridden disabled students so they can participate in relationships at school?, [but rather] how can we create a school culture that supports the development of positive, supporting, and nurturing interpersonal relationships across the many lines of human diversity? (p. 114)

Understanding body movement

Consistent with the literature, participants discussed body movement. The idea of viewing autism as a movement difference (Leary & Hill, 1996) continues to challenge existing theories of the disability (Biklen, 1990), which have relied heavily on a behaviorist perspective. Additionally, behaviorists argue that body movements are meaningful, and an antecedent precludes these

movements (Donnellan et al., 2010). Although it is true that some body movements are significant, it does not necessarily follow that all body movements serve the same purpose or derive from the same place. Some users expressed that they participated in behavioral therapy, while others argued they did not because behavior was not the problem; rather, inability to communicate was the issue. Additionally, prior to the time some users learned to type, they suggested they were not necessarily always using their behavior as a way to communicate. This notion of body movement being an oftentimes involuntary action aligned with the participants' interviews. Movement in autism is not a new idea. As the definition of autism has shifted over the past several decades (American Psychiatric Association [APA], 1980, 1994, 2013), the recognition of movement has turned to be categorized as a pattern of behavior (APA, 2013), as opposed to deriving from a neurological difference that individuals cannot control. Multiple participants reported difficulty with body control; some stated the ability to make their body move when they wanted it to was demanding, and the ceasing of movement was also challenging for them (Berkeley, Zittel, Pitney, & Nichols, 2001; Rinehart, Bellgrove, Tonge, Brereton, Howells-Rankin, & Bradshaw, 2006; Nazarali, Glazebrook, & Elliott, 2009).

Participants also cited need for touch to slow their typing pace or to obtain typing rhythm. Autism has been linked to apraxia (Biklen, 1993; Biklen & Cardinal, 1997), which is described as the impairment of the execution of learned movement (Geschwind, 1975). Apraxia can entail difficulty with voluntary actions or a lack of voluntary actions. This correlation between apraxia and autism contributes to the literature from a group of scholars who have suggested that motor movement difference may play a larger part in autism than previously believed (Donnellan, Leary, & Robledo, 2006; Donnellan et al., 2010; Goldman et al., 2009; Hill & Leary, 1993; Nazarali et al., 2009; Rinehart et al., 2001).

Additionally, individuals with autism have been found to have difficulty with planning and reprogramming body movement (Nazarali et al., 2009). Once a movement has already been planned, and the individual is asked to reprogram their movement, the movement becomes more difficult. Facilitated communication is a communicative method that supports stability of body movement in order for an individual to type (Crossley, 1994). Further, the physical support that is given provides resistance and helps the user to reset their motor movement to then strike another key (Whittier Area Parents' Association for the Developmentally Handicapped, n.d.). Several participants discussed needing a rhythm or needing to be slowed down, which was also present in the interviews. Facilitated communication can provide physical support that aligns with these motor movement needs, as well as changes to levels of support as the motor needs of the user changes.

Many educators think body movements are indicative of behaviors, and those behaviors are either positive or negative, good or bad. Likewise, many educators believe movements, viewed through a behaviorist lens, are driven by function (Alberto & Troutman, 2006), although the function may not always be recognizable. The discourse around autism contributes to an educator's understanding of the disability. What this means is that, when behaviorist terminology is used to help define the disability, this terminology contributes to how one thinks about autism, what one expects from those with autism, and how one treats individuals with the disability (Baglieri et al., 2011). For example, the definition of autism, along with experience working or being around individuals with autism, drives what an educator believes the disability to be. Not

one participant mentioned that they enjoyed behavioral therapy or that behavioral therapy provided them with educational opportunities they would not have otherwise had. However, two users shared their participation in behavioral therapy helped them as they learned to type, and, subsequently, typing may have provided them educational opportunities they would not have otherwise had. This provides insight into behavioral therapy as a means of contributing to a skill the users felt was useful, as opposed to teaching skills able-bodied individuals deemed important.

Understanding how autism has been linked to apraxia, as well as how individuals with autism may be uniquely impaired by apraxia, may broaden or change educators' approaches to working with students on the spectrum. This understanding may make educators less likely to assume that body movements are task avoidance or noncompliant behaviors and that students want to control their body but cannot always do so on command. An increased understanding would acknowledge the voices of those served by listening to their feedback about body movement and subsequently provide a more respectful approach to teaching.

Examining how body movement aligns with a communicative method such as FC would provide educators with an approach to supporting those who have involuntary movement needs. If educators view autism as a neurological difference and believe students with the disability are impacted by apraxia, it could have a profound effect on how communication is approached in classrooms. When looking at other neurological disorders that include movement components, such as Tourette's or Parkinson's (Leary & Donnellan, 2012), it is accepted that support may be needed to do the activities the individual wants to do. Instead of identifying what individuals with Parkinson's cannot do and trying to find ways they can overcome their disability, educators would accept that these individuals have an impairment and provide the person support and accommodations. Looking at autistic typers with this same lens opens the door to accepting a method that provides physical support.

Conclusion

This study explored the educational experiences of eight adults with autism who use FC to communicate. Additional research is needed in several areas, including how teachers educate students with autism and further research on FC. Examination of the way educators are prepared, as well as the system in which they teach in upon graduation, is needed. When focusing on placement for students with autism, there is a desire to segregate within the disability, whereby districts often separate students with autism into their own classrooms (i.e., structured autism classes, also known as autism specific classrooms). This practice is disconcerting because some states are beginning to disband self-contained classrooms labeled mild/moderate; however, there are minimal plans to deconstruct classrooms labeled moderate/severe or structured autism classrooms. The number of autism-specific classrooms is increasing dramatically and primarily driven by a behaviorist perspective. Continued research in this area can lead to increased understanding of the effects of these segregated classrooms on students with autism.

Future research in FC is needed. To make strides in the method, researchers must continue to examine: (a) how users move along the continuum of support and work toward becoming independent typers, (b) facilitators in their roles, and (c) ways facilitators could possibly influence users. Researchers are fearful of doing work in FC. The amount of scrutiny and

negative feedback FC has received has made scholars hesitant to conduct research on this communicative method. This method is so feverishly discounted by some that they do not see the point of doing further research in the area. Academia needs to reexamine its behavior about how it treats both individuals who use this method and individuals desiring to conduct research with people who use the method. Not providing an ethical space for work to be done will not halt use of the method, but instead will sustain stagnancy of the method which continues to rise in use. The lack of research impacts providing users a standardized communicative method.

Facilitated communication has provided autistics with limited or unreliable verbal speech the ability to demonstrate competence and to make their voices heard. Results from the study suggest there is a need for teachers to better understand participants' body movements and sensory needs. Additionally, the participants shared the importance of developing relationships and a desire for peer friendships. Educators should accept autistics the way they are and help to cultivate and sustain natural peer relationships. Presuming competence of all students, regardless of perceived ability, provides a platform for educators to work from, in hopes that equitable educational opportunities will be provided to all students.

Without the use of FC, these eight individuals would not have been heard. Essentially, without this method, educators would not learn from the participants' educational experiences, helping to reexamine existing beliefs about autism, how those with autism are educated, and the communicative method itself. Although the use of FC continues to be controversial, it is being used by autistics and other disabled individuals and cannot be ignored. To be an individual with a disability, using a controversial communicative method that is not widely accepted in a system built and dominated by professionals, might make one wonder who the system was really created to serve. If it is truly built to serve those it proclaims to serve, it is time educational professionals and individuals with disabilities work together to create innovative and sustainable change.

Appendix A: Interview Guide

Current age:

What age did you learn to type?

Ethnicity (optional):

Interviews 1 & 2: Focused Life History & Details of the Experience

Explain your past educational experience. The experiences include social interactions and relationships with teachers and peers. The shared information can go back as far as far as you can remember.

- Did you spend time in special education? If so, what ages?
- Please describe what your special education services looked like (for example, in a self-contained or SDC (special day class) or pull out services for some of the day, etc.).
- Tell me about your educational experiences up to this point in your life.
- Tell me about your social life/experience during your educational experiences.

- Tell me about your interactions with teachers and specifically special education teachers when you were in school.
- Tell me about how you learned about and were trained in FC.
- Describe how your educational experiences changed (if at all) once you began using facilitated communication.
- How would you explain your transition when first using FC, from needing physical support to becoming an independent typer?

Interview 3: Reflection on the Meaning

Reflect on the meaning of your experience. The objective of this interview is to see how the factors in your life interacted to bring them to their present situation.

- How has your use of FC grown over time? (how did you first start to type and how did you make progress)
- During your time in school, did you have any behavioral or sensory needs that you would like to discuss?
- What would you like educators to know when working with students with autism who have limited reliable verbal speech?
- Is there anything else you would like to share?
- Do you have any questions for me?

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