

Exceptional Faculty Members Who Responsively Teach Students with Autism Spectrum Disorders

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Abstract

The number of students with autism spectrum disorders (ASD) seeking admission into college is rising. Little research exists on how to meet the unique learning needs of this student population in higher education classrooms. The purpose of this qualitative research study was to document the ways in which supportive faculty members responsively approach students with ASD in their teaching roles. The findings of this study suggest that faculty members who were nominated as exceptional teachers and advisors to students with ASD drew from experiences of prior connections with individuals with disabilities, a belief in student abilities, setting high expectations for students, the development of caring relationships with students with ASD, an authentic passion for teaching, and a commitment to social justice. The pedagogical approaches entailed structured scaffolding, differentiated instruction, comprehensive accommodations, and collaborative institutional support. The outcomes of this study contribute new information to a paucity of research investigating faculty contributions to the success of students with ASD in higher education. This study pinpoints practical ways in which faculty members seek to help their students. Implications for practice and future research are discussed.

Keywords: Autism, disability, higher education, faculty, teaching

The growing enrollment of college students with disabilities over the past three decades has created a demand for educators to develop deeper and nuanced understandings of students with different disabilities. Even though students with disabilities now comprise at least 11% of college students (U. S. Government Accountability Office, 2009), understanding and meeting the needs of college students with disabilities is a civil rights and social justice issue to which journals of higher education have paid little attention (Peña, 2014). Further, the majority of research in higher education journals aggregates students with disabilities into a seemingly uniform group, ignoring the fact that students with specific disabilities have unique and complex social and academic needs. The numbers of individuals in the United States diagnosed with autism spectrum disorders (ASD), in particular, has risen dramatically in the last decade to 1 in 68 individuals (Centers for Disease Control, 2014). The prevalence of ASD in school-aged children has increased to an astonishing 1 in 50 children between the ages of 6 and 17 (Blumberg, Bramlett, Kogan,

Schieve, Jones, & Lu, 2013). Following the overall increase in the population of individuals affected with ASD, the number of students with ASD seeking admission into college is rising as well (Geller & Greenberg, 2010; Smith, 2007). The increase in enrollment is largely attributed to a combination of factors: children receiving diagnoses earlier in life, increasing comprehensive and early interventions, and a growing number of supports to prepare ASD students for academic and life pursuits beyond high school (Adreon & Durocher, 2007; Smith, 2007). In addition to typical college pressures, students with ASD have to confront substantial added challenges in their pursuit of postsecondary education (Adreon & Durocher, 2007).

While students with ASD oftentimes develop academic strengths and skills, they typically experience restricted interests, challenges in communication, and difficulty processing social information, which includes difficulties in understanding behaviors and intentions of others and within themselves (Boutot & Myles, 2011). In addition to sensory and executive

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functioning challenges, individuals with ASD may have extreme difficulties with the pragmatics of language, so that the meaning and understanding of the social rules of communication are lost or misinterpreted. The significant difficulties in social interactions, including initiating conversations, lead to challenges in developing and maintaining meaningful relationships (Geller & Greenberg, 2010). While the aforementioned issues are typical across individuals with ASD, there is a wide range of severity and expression of these specific symptoms in each individual, thus the use of the term *spectrum* (Adreon & Durocher, 2007).

A critical aspect of the postsecondary experiences for students with ASD is that they can experience difficulty navigating classroom environments and interacting with faculty members (Peña & Kocur, 2013). Students with ASD are therefore more likely to need support from responsive and understanding faculty members to thrive in postsecondary settings. Faculty members who are especially supportive of the unique needs of students with ASD are crucial to the academic and social success of this student population. Unfortunately, very little research has directly focused on the interactions between college faculty and students with ASD. As such, the purpose of this qualitative research study is to explore and document the ways in which supportive faculty members responsively approach students with ASD in their teaching roles.

Literature Review

Developing a cadre of faculty members who are supportive of students with ASD is essential, not only as a legal and moral imperative, but because student perceptions of faculty support greatly influence their learning and academic success (Hong, Haefner, & Slekar, 2011; Muller, 2006; Murray, Lombardi, Wren & Keys, 2009). Harris, Ho, Markle, and Wessel (2011) suggested that the interaction between students with disabilities and faculty is so crucial that, “students who interact with faculty members get better grades, are more satisfied with their education, and are more likely to stay in school” (p. 27). However, students with disabilities become reluctant to request accommodations and suffer the consequences when faculty members seem unwilling or unapproachable. Students’ inclination to seek out help decreases when they perceive prior or current faculty as having negative attitudes toward or a reluctance to work with stu-

dents with disabilities (Humphrey, Woods, & Huglin, 2011; Muller, 2006; Murray et al., 2009).

Studies have examined the attitudes of faculty members towards students with disabilities, with differing results across several factors, such as faculty awareness of disabilities, legal requirements, and faculty department affiliation (Muller, 2006; Murray, et al., 2009). For students with ASD, a successful college experience may hinge on whether faculty members are aware of their needs, and further, if faculty members are truly invested in helping them. In countries such as the United States and United Kingdom, faculty members are required by federal law to provide “reasonable accommodations” to college students registered with the campus disability office. This means that each institution individually interprets what is reasonable—for example, extended test time or a scribe—to provide to students with disabilities, including the growing population of students with ASD (National Center for Learning Disabilities [NCLD], 2009). Though reasonable accommodations are legally mandated, the willingness of the faculty and how they choose to implement these directives can vary and have great impact on the student. Vogel, Leyser, Burgstahler, Sligar, and Zecker (2006) found that faculty members are generally interested in increasing their understanding of appropriate accommodations for students with disabilities and acquiring skills to implement these strategies. Even minimal participation in disability-focused training has a positive effect on faculty willingness to provide accommodations for the students (Murray et al., 2009). Faculty members are more likely to support students with disabilities when they have been given some training on at least the general needs of these students.

While many faculty members are often well-intentioned, interactions with students on the spectrum can be challenging because of a lack of awareness of what ASD is and how to respond to the individual needs of these students. In a 2-year case study of students with ASD in a higher education institution in the United Kingdom, Taylor (2005) concluded that faculty and staff needed to know more about the needs of students with ASD to successfully support them. Taylor (2005) stated, “Although most of the population may be aware of disabilities such as blindness and deafness, few may be aware of the nature of autistic spectrum disorders” (p. 489). This can especially be difficult when ASD can fall into the “invisible disabilities” category, making the condition difficult

to identify, accept, and respond to. As faculty become aware of the needs of students with ASD, particularly in light of increasing enrollments, they can learn to adapt their pedagogical methods to accommodate and include students in productive and equitable ways.

While information and strategies for working with students with ASD are slowly developing within disabilities offices and on college campuses overall, there is almost no research that suggests that dissemination of this information is consistently and effectively informing the pedagogical practices of faculty members—the very institutional constituents who have daily interactions with students in and out of the classroom. Only two journal articles were found that focused specifically on faculty experiences and strategies with students with ASD. In their review of typical challenges experienced by students with ASD, Shmulsky & Gobbo (2013) outlined three kinds of strategies for community college instructors to more successfully interact with and support their students with ASD. These included strategies to support critical thinking instruction, improve executive function, and minimize classroom anxiety. In the other article, Gobbo & Shmulsky (2014) presented focus group data on faculty members' observations of strengths, challenges, and teaching strategies from their interactions with students with ASD. Faculty members described providing structure and attending to the emotional climate and anxiety of students with ASD as promising instructional practices. Although the review of instructional strategies in both articles suggested potential ways that faculty can support students with ASD, they should be viewed as general guidelines because they were not elicited as promising approaches from the students with ASD themselves or from faculty recognized as successful in their interactions. In order to enhance practices and suggest development of additional support in higher education for faculty who instruct students with ASD, this study investigated the ways in which exemplary faculty members approached teaching students to support their academic success.

Method

The question that guided the research design of this study was: In what ways do supportive faculty members responsively approach students with ASD in their teaching? In order to answer this research question, we engaged in a qualitative research study

of nine faculty members at two- and four-year institutions of higher education. A call for nominations was developed and distributed through various media: listservs, social media, word-of-mouth, email, and directors of disability service offices. As a result, college students with ASD and directors of college disability offices nominated all nine faculty participants as being exceptionally supportive in their teaching of students with ASD. A qualitative approach was appropriate because, as Merriam (2009) described, we “are interested in *understanding the meaning people have constructed*, that is, how people make sense of their world and the experiences they have in the world” (p. 13). We were in search of a complex and rich understanding of a phenomenon—effectively teaching college students with ASD—that is not yet well understood. Grounded in both constructivist and social justice lenses, the written findings from this study are a representation of knowledge that was co-constructed between the faculty members' stories and ourselves as researchers who aim to create socially just and inclusive environments for students with disabilities.

Participants

All nine faculty members participated in the study by way of purposeful sampling. College students with ASD and directors of college disability support offices in the southwestern United States nominated faculty members who they identified as exceptional or particularly successful in their interactions with college students on the spectrum. Initially, 12 faculty members were nominated and nine of those 12 agreed to participate. Faculty from both two- and four-year institutions were represented in the sample. Table 1 presents demographic information for each participant.

Data Collection

To gather in-depth responses, we developed a semi-structured interview protocol that aimed to elicit rich descriptions and stories of teaching experiences. As suggested by Yin (2014), the questions were developed to guide the participants to share their experiences openly, instead of being shaped with the intention of getting structured and rigid responses. Questions focused on faculty members' experiences and perceptions about teaching and interacting with students with ASD. Each interview lasted approximately one hour in length. The interviews were conducted at locations that faculty participants chose. Upon gaining

informed consent from each participant, the interviews were audio recorded and transcribed.

Data Analysis

We analyzed the interview data by using the qualitative data analysis software, Saturate App. We began with open coding by identifying significant statements in the transcripts that described the experiences of faculty teaching students with ASD. In other words, we developed and assigned codes to words, terms, or statements that were relevant to answering the research question. In the next phase of analysis, we transformed codes into themes. Creswell (2012) stated that themes “are broad units of information that consist of several codes aggregated to form a common idea” (p. 186). We grouped coded quotes with shared or related meanings into clusters of themes that emerged across participants’ experiences related to perceptions and experiences about teaching students with ASD.

Researchers’ Positionality and Trustworthiness

Our interest in supporting students with ASD at all educational levels is both personal and professional. In our combined years of professional experience, we have taught and developed close relationships to numerous students with ASD. Rooted in a social justice perspective, we view faculty members as having a responsibility to support students who require accommodations. We offer our candid disclosure of assumptions about faculty and ASD to provide transparency and trustworthiness in our interpretation of the data (Merriam, 2009). Further, “the account made through extensive time spent in the field, the detailed thick description, and the closeness of the researchers to the participants in the study all add to the value or accuracy of a study” (Creswell, 2012, p. 250). In our interrogation of perceptions and experiences of responsive faculty members, we aspire to encourage educators to re-examine their own conceptions about teaching the increasing number of students with ASD.

Limitations

Caution should be exercised in making generalizations outside of the context of this study. The findings are only reflective of the experiences of the nine faculty participants. We did not explore each one’s organizational culture in depth, which could provide contextual information about faculty members’ ability to support students with ASD. Further, the individ-

ualistic nature of ASD in the expression of symptoms could be viewed as a limitation for the interpretation of this study’s findings. For example, the experiences of the faculty members with the students with ASD whom they taught might not be representative of all students with ASD. Therefore, the nature of ASD itself may be seen as an unavoidable limitation to making general statements about how to support the whole population of students with ASD in higher education.

Findings

The findings of the study resulted in a model of responsive teaching approaches that enable faculty members to support students with ASD (Figure 1). Six themes formed the foundational beliefs and experiences that informed and guided four pedagogical approaches to meeting the needs of college students with ASD.

Foundational Beliefs and Experiences to Responsive Teaching

Personal connections to disability. One of the major foundational experiences common among exemplary faculty members was the development of prior personal connections to people with disabilities. Faculty drew from past interactions and relationships with students with disabilities, contributing to their willingness and ability to responsively teach students with ASD. Six out of the nine faculty members shared that they had a family member with ASD or a similar disorder, or that they had a close friend with a child with ASD. Cathy astutely noted, “It seems like a good percentage of the faculty that are really supportive have friends with kids with autism. Or maybe have had some personal kind of interaction. I think it is helpful if they’ve experienced it.” Several faculty members, like Kurt, expressed that being personally affected by the disorder caused him to be more aware and sensitive to the students’ needs. Kurt shared, “I have a child who has issues, not with autism however, but with other cognitive issues, which have made [me] more aware of these issues than I probably would have otherwise been.” Stephen described how finding out his close friend’s son had ASD was a motivating factor in his own exploration of the disorder:

One of my colleague’s sons was the same age as my son . . . They went to preschool together . . . and in that environment they discovered that he

was autistic. And so I really followed her and her husband's struggles with living with the son and trying to find solutions. So through that, I read more things about it and in my conversations with her I think was more educated, and then began realizing [more about] my students.

Overall, the majority of the faculty in this study had professional and life experiences of knowing and working with students with disabilities that became a turning point for them to be more responsive to their students with ASD.

Belief in students' abilities. The foundation to being a responsive faculty member to students with ASD was also formed by an overriding and authentic belief in students' capabilities and potential for educational growth. Faculty members discussed their beliefs in the potential of the students with ASD, in spite of social and communication challenges, for academic and future career success. James explained:

When I came to campus, part of my outreach efforts included those historically underrepresented individuals. And what I found was, there's so much potential academically, prevocational . . . And then I saw so much success for some of the, not just Asperger's students, but some students that would be typically, with just a little bit of guidance, be able to put up with the rigor and the faculty.

The entire faculty in the study felt that the students with ASD had the potential to learn and grow during their time in college. Kurt discussed his enjoyment in watching the growth of his students with ASD:

I really like seeing people change for the better. That they begin to understand those things and they become different students. And that really is one of the things I most enjoy is having a student come up to me and tell me, 'That really worked for me. I really understand this now.'

Faculty members not only believed in students' potential, but they were committed to being a part of that growth. This sense of ownership over student development and learning encouraged faculty to be active participants in the educational lives of students with ASD. Kurt poignantly shared:

We should strive for student success and we should strive for the success of all students. And even if we feel overwhelmed by the hurdles that, that person faces, that doesn't mean that we can't help that student in whatever way we can help that student. And that requires us to work at it. It requires our patience. And it requires our effort.

High expectations. Because faculty members presumed competence in students with ASD, they placed high expectations on them to meet course learning goals. More than half of the faculty described having high expectations for their students with ASD, provided that these students were given appropriate support services. James believed that setting high bars for success helped to establish a positive working relationship with the students since the expectations were clear:

I feel it's very important to start with a foundation of rigor, expectations, and building an emotional component to the learning environment very early on, set that tone. And if you have that from the beginning whether it's a semester long or multi-years you have a rapport with each student, and then you're able to carve out a path that's going to be individualized and successful built on that foundation.

Further, Kurt described his belief that, although he was extremely willing to allow for appropriate accommodations for students with learning differences, he placed the responsibility to request those accommodations on the students themselves, as part of the learning process. As illustrated by James' and Kurt's stories, faculty were willing to provide support to their students, but in return, held these students to high standards of learning and personal responsibility.

Ethic of care. Faculty believed that developing trust and meaningful relationships with their students was the vehicle to enable students to achieve their potential. Some faculty members used terms such as "nurturing," "trust," and even "love" in their stories of interactions with specific students with ASD that they had taught and mentored. An ethic of care prevailed in the faculty stories, one which revealed a genuine desire to understand the needs of their students with ASD through establishing meaningful connections with them. Anna stated, "Things that I've seen that work over time is a general sense of care for

the students, an investment in trying to get to know them.” Cynthia commented, “I enjoy that kind of really deep connection that can happen, doesn’t happen every semester, it certainly doesn’t happen with every student. But it’s an amazing feeling.” The entire faculty agreed that getting to know the students was especially important to positively interact with students with ASD. Stephen mentioned that it was a necessity in order to find out what he could do to help: “The primary advice that I have is just get to know the student and get to know what his or her struggles are.”

Faculty members believed that their students, especially those with ASD, responded more positively to their feedback and guidance once the students felt comfortable and safe. Put another way, establishing relationships with students often resulted in stronger supports for the student. James stated, “Some students don’t see themselves at a college level, so they need a lot of emotional support to get over that initial fear.” Jacqueline described how students trusted her and allowed her to ask more of them once they established that she would help them through the learning process. She said, “I think the approach is often nurturing—nurturing people who have talent, and then pushing them further to get them to the next level where they want to be.”

Passion for teaching and students. Not only did the faculty members speak about their passion for the students, they also spoke candidly about their love for teaching and for their individual subject areas. Kurt clearly described his personal experience and feelings about being a community college faculty member:

One has to want to work with people. One has to want to help people . . . One feels passionate about the field that you’re doing. You feel passionate about inculcating people into that field and understanding it, and wanting to do it. And one feels passionate about student’s success, especially in a community college.

All the faculty members spoke emphatically about the many things that they enjoyed about teaching and in their current positions. James spoke directly about how one of his favorite parts of teaching students with ASD is those transformational experiences where he learns along with the students:

I love those moments, those ah-ha moments when you see a student break down a barrier, overcome

an obstacle that is perceived or real, and you witness that. You know? For them it’s a miracle that they’ve never been able to read or they’ve never been able to access an e-mail or connect with another individual physically and or virtually. And so seeing those moments are what keeps me coming back.

When asked what prompted his decision to become a college faculty member, Paul simply but powerfully stated, “I enjoy teaching and I believe that I can make difference.” Overall, the faculty participants clearly shared their passion for their students and the profession in their stories.

Commitment to social justice. Four of the faculty members spoke thoughtfully and candidly about how they connected their personal desire to help the students with ASD to issues of social justice. They saw their role as helping “underserved” students, whose voices are often not heard, gain access to opportunities that might be seemingly unattainable without people willing to support their needs. The faculty members had, as Anna stated, “a consciousness around differences, and supporting differences, and how success can still be achieved amidst differences.” Shannon expressed her commitment to the student-centered mission of the community college, in which she encouraged students to have a voice:

I think that that’s what the community college does, the system does for us is, I think it protects democracy. I think it provides social mobility. I think it gives voice to people who often don’t have a voice. And I think that that’s good for all of us. I was committed to that, to the diversity we used to have in the system.

Further, several faculty members mentioned that they felt strongly that giving accommodations to students with ASD and other disabilities was a way to make sure that the students received equitable opportunities to participate in college. Kurt spoke about how providing these tools to the students should not be thought of as a burden from the perspective of the faculty, but as a necessary part of one’s job responsibilities.

It’s not something that is nice to do. It’s not something that we do because we have the time or patience to do. It’s something we have to do. And

we have to have the patience. And we have to have the time to be able to do this. We are required to do it and as educators we should want to do it. Because we should want to see these students succeed.

Faculty participants who were committed to social justice held the worldview that students with ASD, as a historically marginalized group, deserved the right to inclusion in higher education. Social justice, in combination with the other foundational beliefs and experiences to responsive teaching, contributed to the willingness of the faculty members to become institutional agents for students with ASD.

Pedagogical Approaches to Responsive Teaching

The foundational beliefs and experiences related to students with ASD described in the prior section served as a guiding framework for faculty members' pedagogical approaches. The pedagogical approaches reported by faculty included structured scaffolding, differentiated instruction, comprehensive accommodations, and developing collaborative institutional support.

Structured scaffolding. To begin, several faculty members spoke of breaking down larger assignments into smaller tasks or components so that expectations were clearly structured and communicated. Faculty members observed that scaffolding assignments in this way was especially helpful to students with ASD. Shannon detailed her method of scaffolding as a way to provide access to the material that she taught in her English classes. She started with "these big things" like poetry or a paragraph and taught the students by "breaking it down, seeing sort of the components of it and how it works." She started off in a structured way by explaining to students, "Here's how you write a paragraph. Do this, this, this." As the learning exercise evolved, Shannon allowed the student to take on more ownership of the learning. She explained, "real learning is sort of amorphous . . . It's sort of a journey. And I see the long road . . . [It involves] breaking it down for them and then providing a lot of different ways for them to show what they know."

Five additional faculty members described their techniques of dividing larger projects and assignments into manageable parts. Most of these faculty mentioned that they believed this strategy did not compromise the purpose of the assignment, but instead allowed the students with ASD to reach the

desired result of demonstrating understanding of the material. Jacqueline discussed how the process of making costumes in her costume design course could be overwhelming for students with ASD. As a result, she had students work in small steps, from the initial stages of imagining the design, to the execution of creating the garment. Jacqueline explained her rationale: "Breaking down steps to make a garment [is] the same philosophy where sometimes you have to break down steps conceptually for people so that they can wrap their heads around [it]."

Differentiated instruction. Another component of the faculty's responsive pedagogical approaches was teaching content material via multiple methods in order to reach students with varying learning needs. The multiple methods included approaches using technology, lecture style discussions, small group projects, and interactive activities to reinforce the material. Faculty described their styles as "experimental," "experiential," and "hands-on," in contrast to more traditional lecture-based methods of delivering content that is still widely used in higher education. Most of the faculty spoke about a personal teaching style that catered to multiple learning needs and styles, described as "multidimensional", and "super diverse." Although a majority of the faculty admitted that they did not have a strong understanding of ASD, the style that these faculty members used could be particularly beneficial to students with ASD in the classroom, due to the individualized expression typical of ASD. James shared his "individualized for each individual" approach that he believed worked well for his students with ASD. He explained, "With that richness of diversity you have to be able to relate to where they're going. Find that individual path, tap into their learning style and look at a universal design for learning and integrate everybody as you go."

While the faculty all agreed that their responsibility was to teach the content material to their students, most relayed different ways in which to accomplish this goal. Stephen stated that he had high expectations that his students learned the necessary material, but that it was his job to help find a way in which the students understood best:

[I] provide a variety of ways of communicating, too, so not just the oral communication, but have it written down, have it in several different places and in several different ways, of communicating the same thing. But even there my teaching style

mixes activity with content material and involves a lot of student work and project work. I use technology quite extensively.

Comprehensive accommodations. Beyond offering differentiated instruction, all but one faculty member reported providing accommodations to students who experienced challenges in their classroom well beyond what was required or mandated by the campus disability office. The philosophy of faculty participants to provide accommodations was grounded in the idea of leveling the educational playing field for students with ASD. Kurt explained,

The way I see it is that people who have special needs have hurdles that other people don't have ...By giving the accommodations, is [to] try to level the playing field. To try and put down some of those hurdles. So it's not a question of an unfair accommodation; rather it's to make it fairer for those people who have these extra hurdles that these other people don't have.

Faculty participants attempted to make adjustments and accommodations in order to support the strengths of the students with ASD, instead of focusing on the challenges and what the student could not do. Put another way, faculty participants spoke about finding out what the student could do well to determine how to accommodate the assignment to the students' learning needs. They tailored assignments so that the individual student felt a sense of accomplishment, without compromising the rigor or learning goals of the assignment. The goal was to make the assignments accessible to students who have a different set of strengths.

Collaborative institutional support. A majority of the faculty participants spoke of working closely with their disabilities offices and other individuals on campus to support the success of students with ASD. Seeking out this kind of institutional support enabled faculty members to better meet the needs of their students in the classroom to access the curriculum. Kurt described his approach to working collaboratively with his campus disability office personnel to identify and support students on the spectrum:

What I know about autism is when I've talked to the [disabilities office] group here, I happened to sit with them. And I would talk to them about

various students of mine. And try and understand what those, the challenges some of those students face. So I have a better idea about the kinds of things that I should be doing to help those students.

Kurt, like many of the other faculty, proactively sought help to support the students' individual learning needs. Disability office personnel provided faculty members with guidance and a set of accommodations, mandated by law, to allow students to access the curriculum.

Although a significant amount of the guidance was offered by the disability office, faculty members found additional means of collaborative support. Five faculty participants reported seeking support from their colleagues, specifically those faculty members who had direct experience with the same students with ASD. Anna took the initiative to speak to her students with ASD about their positive interactions with faculty, and then sought out those faculty members for advice and guidance. She described:

The second thing I would say is utilize your colleagues. When I extended myself to a colleague in my own department, like this is a student in our major. There are other people who have had experience with him. So for me to go for a strengths-based approach, and say [to the student], 'Well what teachers do you feel like you really had a good connection with?' And then ask the faculty.

No matter where the additional support came from, most of the faculty in this study initiated contact with others to help them most successfully work with the students with ASD.

Discussion

It is the direct relationship between the student with ASD and the instructor which will determine the academic success in a particular course, and therefore positively or negatively affect that student's chance for success in their pursuit of higher education. The findings of this study highlight significant belief systems and experiences, as well as pedagogical approaches, that college faculty enact to support the academic success of students with ASD. The outcomes of this study contribute new information to a paucity of research investigating faculty contributions to the

success of students with ASD in higher education. Much of the growing literature on needs and existing accommodations for these students focuses on the general challenges that students with ASD face, and the overall experiences of the students in their postsecondary educational pursuits (Hastwell, Martin, Baron-Cohen, & Harding, 2012). The critical piece that is greatly missing is the perspectives of faculty who are able, willing, and actively offering assistance to the students with ASD, specifically from faculty who have been recognized as exceptionally responsive to students with ASD.

Guiding Beliefs and Experiences of Responsive Faculty Members

Six foundational beliefs and experiences empowered faculty members to support students with ASD: prior personal connections and relationships to people with disabilities, a belief in students' abilities, high expectations for academic performance, an ethic of care, a passion for teaching and the students themselves, and a commitment to social justice. Of these six, prior connections to people with disabilities, the ethic of care, and a passion for teaching their subject matter and the students themselves emerged as significant core values and experiences to being responsive to students with ASD in the majority of the faculty

Prior connections to people with disabilities.

Almost all faculty members in the study had experienced interactions and relationships to people with disabilities prior to teaching students with ASD and other disabilities. These rich experiences enabled faculty members to develop funds of knowledge about students with disabilities that informed their beliefs and practices in the classroom. The sociocultural concept of *funds of knowledge* is defined as, "historically accumulated and culturally developed bodies of knowledge and skills" (Moll, Amanti, Neff, & Gonzalez, 1992, p. 133). In the educational context of higher education, these funds of knowledge and skills are developed as faculty members interact with and teach students with disabilities. The richer the funds of knowledge, the more experiences and skills a faculty member has to draw from when encountering new situations with students in the classroom. The result is that faculty members become more responsive practitioners when they have richer funds of knowledge to draw from (Bensimon, 2007). Faculty members in this study were able to empathize and have more meaningful interactions with their students with ASD because they had gained knowledge and skills related

to the obstacles that their students faced from their own past experiences and relationships with people with disabilities.

Ethic of care. The faculty in this study showed a strong ethic of care, evidenced by the reported caring and nurturing interactions with their students with ASD. This ethic of care is consistent with research on qualities of caring teachers, and the positive impact they have on students, specifically on students with disabilities such as ASD. Noddings' (1992) seminal work on the need for caring in education described a significant need for a connection between the student and the teacher in order to inspire a desire to learn and participate fully in the learning process. Since Noddings' study, significant literature has emerged on the powerful impact of caring teachers, more recently as it relates to faculty in higher education (Jenkins & Speck, 2007; Slate, LaPrairie, Schulte, & Onwuegbuzie, 2011; Wang, Gibson, & Slate, 2007). Thayer-Bacon & Bacon (1996) presented a model of caring based on their exploration of college professors who were identified as caring. The model depicted forms of caring, including a desire to be approachable, creating supportive classroom environments, and an overall attitude of acceptance and trust. The professors' reflections in Acker's (2003) study of outstanding college teachers further discussed how caring and commitment were significant attributes of their recollections of their favorite teachers. Similar to the personal qualities of the faculty in the current study, Acker (2003) identified a genuine desire to help and a willingness to spend time in developing relationships from the excerpts of the recognized exemplary college teachers. Research indicates that care-centered approaches are particularly effective for students with significant obstacles (O'Brien, 2010; Orr & Hamig, 2009; Park, Roberts & Stodden, 2012). Apparent in faculty participants' comments in the current study, the development of trusting and caring relationships was a crucial component in the academic success of the students with ASD.

It is important to note that four of the eight members developed an ethic of care that was driven by a need to effect social change on a broader scale. Both Kurt and Shannon involved themselves in issues of diversity, access, and student equity on a daily basis. James and Shannon spoke in detail about their desire to increase awareness for "invisible disabilities" such as ASD, and to help find more ways to support this deserving population of students.

Passion for teaching students and subject matter. Faculty members in this study described their passion for their subject areas, for the profession, and for their students. Previous research reveals that effective teachers are ones that can convey their passion to their students (Acker, 2003; Slate et al., 2011). In addition, students feel connected to and appreciate faculty members who clearly show their enthusiasm and commitment to their students. In research by Slate et al., students identified faculty members' knowledge and passion about their subject as the highest priority in their definition of exemplary teachers. Similarly, faculty members in the current study spoke of truly loving what they teach, and all but one of the nine participants had more than eight years of teaching experience in higher education. Therefore, the faculty participants had time to acquire considerable knowledge in their subject areas, as well as continued enthusiasm for the content. Acker offered support for the role of passion in responsive teaching, from the perspective of both college faculty members who were recognized as exemplary and from current faculty members reflecting on their own experiences with outstanding college teachers. The reflections included vivid descriptions of how the faculty showed their excitement during class sessions, and in many cases, showed passion for causes more substantial than the content of the course.

Promising Pedagogical Approaches

Willingness to accommodate. Many students with ASD require accommodations in order to be successful in their postsecondary pursuits (Hewitt, 2011). The faculty participants in the current study all revealed an overwhelming willingness to provide necessary accommodations, often times above and beyond the traditional academic accommodations, such as extended time on exams and note taking services. Several faculty described examples in which they found ways to accommodate the various learning styles of their students, yet they all agreed that these adjustments did not alter the goals nor the rigor of the assignments. Although the faculty in the study showed a commitment to supporting their students with ASD, a few spoke about their concern that not all of their colleagues felt the same way. Prior research has indicated numerous accounts of faculty members who are unwilling to provide even the baseline of the legal requirement of "reasonable accommodations", including emerging studies from the experiences of

students with ASD in higher education (Cawthorn & Cole, 2010). Studies have shown that some faculty believe that certain accommodations provide an unfair advantage to the students with disabilities (Cook, Hennessey, Cook & Rumrill, 2007). Baker, Boland & Nowik (2012) found that almost 30% of the students with disabilities in the study reported that their professors were not willing to make reasonable accommodations. On the contrary, Kurt and others spoke passionately about their view that accommodations help to make the learning environment more equitable for the students with disabilities.

Instructional methods. Just as faculty participants in the study did not feel burdened by accommodating students, they also did not hesitate to scaffold their instruction by breaking down assignments into manageable tasks or differentiate by varying instructional approaches to enable students to access the curriculum. In their study examining the qualities of award-winning university professors, Jenkins and Speck (2007) found that the professors commonly used structured learning and scaffolding as techniques to successfully reach and teach their students. The professors in the study felt that these methods enabled them to communicate clear expectations, and to show their students how to successfully approach learning the concepts. Researchers have documented that students with ASD in particular benefit from clear expectations, and from larger assignments which are broken down or scaffolded (Boutot & Myles, 2011; Gobbo & Shmulsky, 2014). These strategies, according to Gobbo and Shmulsky (2014), can lower the anxiety of students with ASD and play to their strengths of thriving in structured environments.

Institutional collaboration. Although the faculty members in the current study were individually recognized as particularly responsive to their students with ASD, most of these faculty members described how their ability to support students was enhanced by collaborating with others within their institutions, fostering a climate amenable to supporting students with disabilities. Faculty members actively sought out guidance from their campus disabilities offices on how to support their students with ASD. In addition, faculty received advice about teaching strategies from their colleagues and even the students themselves. In their study on improving engagement for college students with ASD, McKeon, Alpern & Zager (2013) found that students were best supported when accommodations were provided as part of a collabo-

rative effort among the faculty member, student, and disability service providers. Additional research has shown how faculty can work together with disability centers, administrators, and fellow faculty members to form comprehensive networks of support for the students with ASD (Humphrey, et al., 2011). While the faculty may be the direct contact to the student with ASD in the classroom setting, the current study indicates that the faculty member does not work alone in developing responsive teaching practices. What is clearly evident is that the faculty members in this study were effective in gathering pedagogical tools and implementing them for the benefit of their students with ASD.

Implications for Policy and Practice

In spite of being nominated as exemplary faculty, faculty members in the current study not only spoke of having inadequate awareness of the needs of their students with ASD, but also expressed a desire for professional development opportunities in order to enhance their supportive practices. What can be done to influence more faculty members to engage in responsive teaching practices that enhance the learning experiences of students with ASD and other students who experience learning differences? How can faculty members who have not had close interactions with family members or others with ASD cultivate these crucial funds of knowledge for responsive teaching of students with disabilities? This section explores implications for meaningful institutional policy and practice.

Meaningful Faculty Development

Peña's (2012) research suggests that intensive, sustained faculty development that is supported by institutional leadership can promote the exposure and self-reflection necessary to help encourage more responsive teaching practices to under-served students. In Peña's study, faculty members engaged in an intensive 20-month professional development program that involved: (1) structured interactions with the target student population (in this case, underrepresented minority students); and (2) structured faculty meetings to reflect on knowledge and experiences of these student interactions. The faculty participants in the study who previously had very little experience with engaging in responsive teaching practices with the students in question changed the most. In par-

ticular, faculty experienced "ah-ha" moments about race, privilege, and taking responsibility for student success. In turn, they developed critically conscious teaching and advising practices.

We suggest that postsecondary institutions who commit to a similar professional development format can create meaningful changes in faculty members' interactions with and teaching of students with ASD. With increasing numbers of students with ASD who will enroll in colleges and universities, we recommend mandated faculty development opportunities in order to (a) increase awareness of ASD for faculty and other campus constituents who are in direct contact with them, and (b) provide practical pedagogical approaches that have been shown to be successful teaching strategies with students with ASD. This study pinpoints concrete ways in which the faculty members seek to help their students, such as developing trust through caring interactions, offering appropriate and comprehensive accommodations, and designing their classrooms and lessons with attention to differentiated ways of learning. The recommendation is that these faculty development trainings offer a chance to first, assist faculty in building critical knowledge (funds of knowledge) to better inform their beliefs by structuring interactions with students on the spectrum. Then, through extensive structured training and reflection, faculty can develop practical tools, at least partly directed by responsive faculty members as models of successful teaching strategies. Exemplary faculty members recognized as skilled and supportive of students with ASD at each campus should serve in the long-term as mentors and resources for faculty members who have specific questions as they encounter more students with ASD in their classrooms. Incorporating these components into professional development opportunities will significantly inform the growing number of faculty members who will encounter, teach, and advise college students with ASD.

Universal Design

The faculty members in this study showed an overwhelming commitment to offering accommodations, differentiating their instruction, and using a student-centered approach to teaching. These efforts are congruent with universal design, "the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design" (Center for Universal Design, 2011, para. (1)). Under the premise that all stu-

dents learn in diverse ways, instructors recognize the need to develop strategies and approaches to develop an accessible learning environment. Scott, McGuire, and Foley (2003), developed the nine principles guiding Universal Design for Instruction specifically for college classrooms: equitable use, flexibility in use, simple and intuitive, perceptible information, tolerance for error, low physical effort, size and space for approach, a community of learners, and instructional climate. In the current study, Anna described how she constructed her unique classroom each semester with direct input from her students by simply asking them what would help. She told the students,

I'm interested in what would make a difference for you. So I want you to review this [evaluation] and then come up with three to five things on an index card that would help you as far as what I can do as the professor to create a conducive learning environment. It's an awesome exercise.

Students with ASD can greatly benefit from interactions with faculty who practice universal design. James spoke of his use of universal design in his classroom, where he combined kinesthetic components and hands-on learning as much as possible to create inclusive learning spaces for the individualized needs of his students with ASD. He also expressed his desire to see the universal design application more widely accepted at the college level.

For college faculty members, "specific barriers [exist that] hinder the implementation of Universal Design features at their institution to a moderate or major extent" (Raue & Lewis, 2011). These barriers included:

lack of incentives for faculty to change their instructional practices, limited staff resources to provide faculty and staff with training on accessibility issues, and limited availability or interest on the part of faculty to participate in training opportunities related to accessibility issues. (pp. 16-18)

In one study, only one-third of faculty in private institutions and half of faculty in public institutions received training on universal design (Raue & Lewis, 2011). College leaders must commit to professional development that not only involves structured interactions with students and reflection with fellow faculty, as described above, but also incorporates prin-

cipals of Universal Design. Universal design should be encouraged for the benefit of all students, not just those students with ASD. Higher education institutions need to convince and support faculty in moving toward this goal.

Future Research Recommendations

Although this study indicates multiple factors related to beliefs and pedagogical approaches among the faculty participants who are considered responsive to students with ASD, it is unclear whether it is the total combination of the factors that students with ASD find helpful or a few factors that are more significant to the students. Do certain factors carry more weight than others? A quantitative study may be able to tease out the significance of certain factors over others. Future research should also involve direct feedback from college students with ASD to shed light on the qualities they identify in responsive teaching in higher education.

This study examined the qualities of college faculty who responsively taught students with ASD by collecting faculty members' stories and accounts in interviews. Future research should include direct observations of the faculty-student interactions. Observations would allow researchers to document more detailed accounts of the kinds of interactions, relationships, and practices that best support students with ASD. These observations would serve as a method of validation to the findings from the current study, and shed new light on approaches that did not emerge in this study's faculty interviews. Again, adding interviews of college students with ASD themselves would contribute the most invaluable perspective to understand which approaches and strategies in teaching students with ASD are effective. Students with ASD are the experts in this topic, and they should be given a central voice in the research.

While the faculty members in this study had rich funds of knowledge from which to draw to approach students with ASD in responsive ways, faculty members outside of this study may not have been exposed to experiences and relationships with people with disabilities. What about faculty members who do not have family members with ASD or who have not had the chance to develop ways in which to interact with students to develop these crucial funds of knowledge? Can training opportunities enhance the potential of faculty to learn more deeply about their students and

become more culturally and socially sensitive in their ways of thinking and knowing? More research must be conducted on the kinds of faculty development opportunities that make meaningful and long-lasting changes by adding to faculty members' funds of knowledge, and enabling them to develop effective pedagogical approaches with students with ASD.

References

- Acker, J. R. (2003). Class acts: Outstanding college teachers and the difference they make. *Criminal Justice Review, 28*, 215-231.
- Adreon, D., & Durocher, J. S. (2007). Evaluating the college transition needs of individuals with high-functioning autism spectrum disorders. *Intervention in School and Clinic, 42*, 271-279.
- Baker, K. Q., Boland, K., & Nowik, C. M. (2012). A campus survey of faculty and student perceptions of persons with disabilities. *Journal of Postsecondary Education and Disability, 25*, 309-329.
- Bensimon, E. M. (2007). The underestimated significance of practitioner knowledge in the scholarship on student success. *Review of Higher Education, 30*, 441-469.
- Blumberg, S., Bramlett, M. D., Kogan, M. D., Schieve, L. A., Jones, J. R., & Lu, M. C. (2013). *Changes in prevalence of parent-reported autism spectrum disorder in school-aged U.S. children: 2007 to 2011-2012*. National health statistics reports; no 65: National Center for Health Statistics.
- Boutot, E. A., & Myles, B. S. (2011). *Autism spectrum disorders: Foundations, characteristics, and effective strategies*. Upper Saddle River, NJ: Pearson Education, Inc.
- Cawthorn, S. W., & Cole, E. V. (2010). Postsecondary students who have a learning disability: student perspectives on accommodations access and obstacles. *Journal of Postsecondary Education and Disability, 23*, 112-128.
- Center for Universal Design. (2011). *The principals of universal design*.
- Centers for Disease Control and Prevention (2014). *Autism spectrum disorders*.
- Cook, L., Hennessey, M., Cook, H. G., & Rumrill, P. D. (2007). The views of university faculty members and service providers regarding the increased enrollment of students with learning disabilities. *Learning Disabilities, 14*, 205-216.
- Creswell, J. W. (2012). *Qualitative inquiry & research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Geller, L. L., & Greenberg, M. (2010). Managing the transition process from high school to college and beyond: Challenges for individuals, families, and society. *Social Work in Mental Health, 8*, 92-116.
- Gobbo, K., & Shmulsky, S. (2014). Faculty experience with college students with autism spectrum disorders: A qualitative study of challenges and solutions. *Focus on Autism and Other Developmental Disabilities, 29*, 13-22.
- Harris, J., Ho, T., Markle, L., & Wessel, R. (2011, May/June). Ball State University's Faculty Mentorship Program: Enhancing the first-year experience for students with disabilities. *About Campus, 16*(2), 27-29.
- Hastwell, J., Martin, N., Baron-Cohen, S., & Harding, J. (2012). Giving Cambridge University students with Asperger syndrome a voice: a qualitative, interview-based study towards developing a model of best practice. *Good Autism Practice, 13*, 56-63.
- Hewitt, L. E. (2011). Perspectives on support needs of individuals with autism spectrum disorders: Transition to college. *Topics in Language Disorders, 31*, 273-285.
- Hong, B., Haefner, L., & Slekar, T. (2011). Faculty attitudes and knowledge toward promoting self-determination and self-directed learning for college students with and without disabilities. *International Journal of Teaching and Learning in Higher Education, 23*, 175-185.
- Humphrey, M., Woods, L., & Huglin, L. (2011). Increasing faculty awareness of students with disabilities: A two-pronged approach. *Journal of Postsecondary Education and Disability, 24*, 255-261.
- Jenkins, C. R., & Speck, B. W. (2007). "I'm in their corner": Caring as foundational to effective teaching. *Journal on Excellence in College Teaching, 18*, 41-60.
- McKeon, B., Alpern, C. S., & Zager, D. (2013). Promoting academic engagement for college students with autism spectrum disorder. *Journal of Postsecondary Education & Disability, 26*, 353-366.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco: Jossey-Bass.
- Moll, L. C., Amanti, C., Neff, D., & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory into Practice, 31*, 132-141.

- Muller, L. (2006). Research collaboration with learning-disabled students: Strategies for successful student-faculty partnerships. *Journal of College Science Teaching*, 36(3), 26-29.
- Murray, C., Lombardi, A., Wren, C. T., & Keys, C. (2009). Associations between prior disability-focused training and disability-related attitudes and perceptions among university faculty. *Learning Disability Quarterly*, 32, 87-100.
- National Center for Learning Disabilities. (2009). *Understanding the Americans with Disabilities Act Amendments Act and Section 504 of the Rehabilitation Act*.
- Noddings, N. (1992). *The challenge to care in schools*. New York, NY: Teachers College Press.
- O'Brien, L. M. (2010). Caring in the ivory tower. *Teaching in Higher Education*, 15, 109-115.
- Orr, A. C., & Hamig, S. (2009). Inclusive postsecondary strategies for teaching students with learning disabilities: A review of the literature. *Learning Disability Quarterly*, 32, 181-196.
- Park, H. J., Roberts, K. D., & Stodden, R. (2012). Faculty perspectives on professional development to improve efficacy when teaching students with disabilities. *Journal of Postsecondary Education and Disability*, 25, 377-383.
- Peña, E. V. (2014). Marginalization of published scholarship on students with disabilities in journals of higher education. *Journal of College Student Development*, 55, 30-40.
- Peña, E. V. (2012). Inquiry methods for critical consciousness and self-change in faculty. *Review of Higher Education*, 36, 69-92.
- Peña, E. V., & Kocur, J. (2013). Parenting experiences in supporting the transition of students with autism spectrum disorders into community college. *Journal of Applied Research in Community Colleges*, 20(2), 5-12.
- Raue, K., & Lewis, L. (2011). *Students with disabilities at degree-granting postsecondary institutions*. (NCES 2011-018). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.
- Scott, S. S., McGuire, J. M., & Foley, T. E. (2003). Universal Design for Instruction: A framework for anticipating and responding to disability and other diverse learning needs in the college classroom. *Equity and Excellence in Education*, 36, 40-49.
- Shmulsky, S., & Gobbo, K. (2013). Autism spectrum in the college classroom: Strategies for instructors. *Community College Journal of Research and Practice*, 37, 490-495.
- Slate, J. R., LaPrairie, K. N., Schulte, D. P., & Onwuegbuzie, A. J. (2011). Views of effective college faculty: a mixed analysis. *Assessment & Evaluation in Higher Education*, 36, 331-346.
- Smith, C. P. (2007). Support services for students with Asperger's syndrome in higher education. *College Student Journal*, 41, 515-531.
- Taylor, M. J. (2005). Teaching students with autistic spectrum disorders in higher education. *Education & Training*, 47, 484-495.
- Thayer-Bacon, B. J., & Bacon, C. S. (1996). Caring professors: A model. *The Journal of General Education*, 45, 255-269.
- U. S. Government Accountability Office. (2009). *Higher education and disability: Education needs a coordinated approach to improve its assistance to schools in supporting students* (Report to the Chairman, Committee on Education and Labor, House of Representatives, GAO-10-33).
- Vogel, S. A., Leyser, Y., Burgstahler, S., Sligar, S. R., & Zecker, S. G. (2006). Faculty knowledge and practices regarding students with disabilities in three contrasting institutions of higher education. *Journal of Postsecondary Education and Disability*, 18, 109-123.
- Wang, J., Gibson, A. M., & Slate, J. R. (2007). Effective teachers as viewed by students at a 2 year college: A multistage mixed analysis. *Issues in Educational Research*, 17(2), 1-24.
- Yin, R. K. (2014). *Case study research: Design and methods*. Thousand Oaks, CA. SAGE Publications, Inc.

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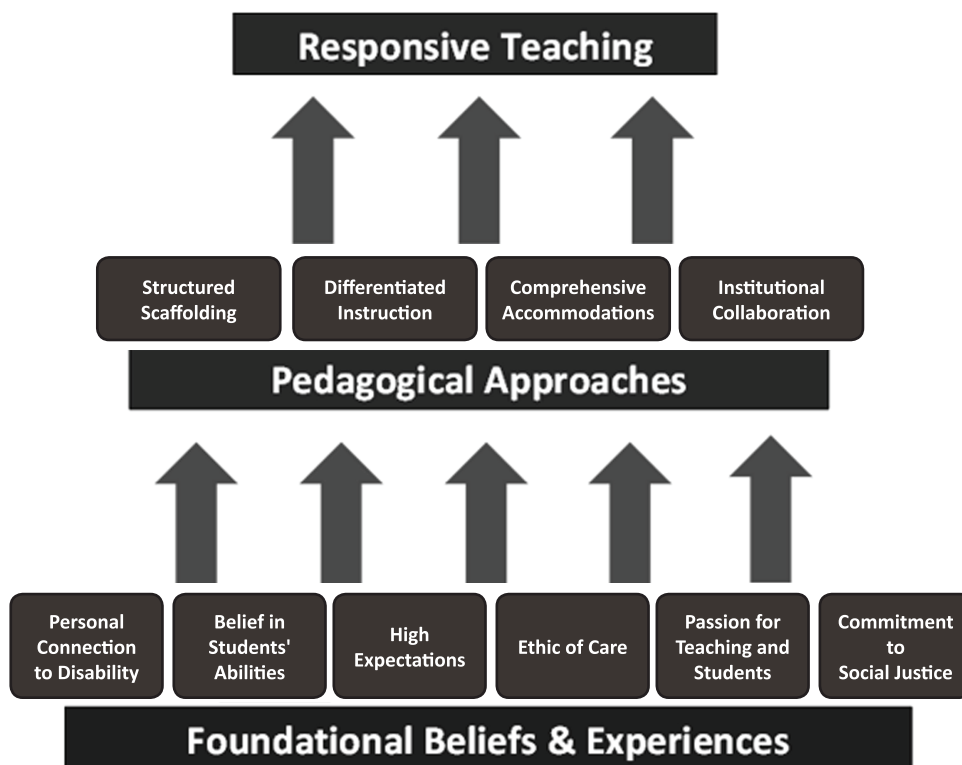


Figure 1. Responsive Teaching Model to Support College Students with ASD

Table 1

Participant Demographics

Pseudonym	Gender	Discipline	Institution Type	Years at Current Institution	Total Years Teaching	Training ASD	Nominated by
Shannon	F	English	2 yr. public	23	35	no	Disabilities Director
James	M	Assisted Technology	2 yr. public	13	13	yes	Student
Kurt	M	Computer Science	2 yr. public	13	15	no	Student
Stephan	M	Theater Arts	4 yr. private	31	45	no	Student
Jacqueline	F	Theater Arts	4 yr. private	3	3	no	Student
Anna	F	Recreation & Tourism	4 yr. public	6	7	yes	Disabilities Director
Cathy	F	Education	4 yr. public	23	23	yes	Student
Cynthia	F	Sociology	4 yr. public	8	30	no	Disabilities Director
Paul	M	Sociology	4 yr. public	7	15	no	Disabilities Director