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UNDERSTANDING THE WRITING CHALLENGES OF COLLEGE STUDENTS WITH ASPERGER'S SYNDROME

By Sarah Dubin

A Thesis

Submitted to the Department of Language, Literacy and Special Education

College of Education

In partial fulfillment of the requirement For the degree of

Masters of Arts in Learning Disabilities

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Thesis Chair: S. Jay Kuder, Ed.D

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Dedication

This thesis is dedicated to my husband, Stuart, my children, Jack and Lucy, and my family across the pond.

Acknowledgement

I wish to thank my professor, Dr. S.J. Kuder, for his ideas, wisdom, and guidance. I also extend gratitude to Mr. John Woodruff, who was an excellent resource and facilitator of this research.

Abstract

Sarah Dubin UNDERSTANDING THE WRITING CHALLENGES OF COLLEGE STUDENTS WITH ASPERGER'S SYNDROME 2013/14

S. Jay Kuder, Ed.D. Master of Arts in Learning Disabilities

This study involved research into the experience of college-level writing for students with Asperger's syndrome/ASD. Three research questions were addressed: what are the specific challenges students with Asperger's face with college-level writing, what has been done to help support and remediate these issues so far, and what could be done in the future to support students with Asperger's in their writing assignments? Surveys were administered to the students with Asperger's syndrome at Rowan University who have self-registered, and to the faculty who teach required college composition classes to undergraduates. Results indicate that the students find the aspects of writing related to executive functioning to be the most challenging, including organization of thoughts, structuring their writing, and staying on topic. More concrete aspects such as spelling and grammar/syntax were generally considered easier. Results from faculty indicate that there is a need for a greater understanding of how Asperger's might impact the learning experience for their students, and they are interested in learning more about what types of assistance would be most beneficial to offer.

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Chapter One

Introduction

Asperger's syndrome (AS), is an autism spectrum disorder (ASD) characterized by social impairment, communication difficulties and repetitive behaviors. The term is used synonymously with high functioning autism (HFA). Asperger's syndrome was only identified as a disorder a few decades ago, and research is still limited in its scope and duration. The prevalence of AS is not well established, and is complicated by diagnosis of the condition well into adulthood. Asperger's syndrome is often comorbid with Attention Deficit Hyperactivity Disorder (ADHD), tic disorders such as Tourette's, depression, anxiety disorders and Obsessive Compulsive Disorder (OCD). (NINDS, 2012)

Individuals with Asperger's syndrome often possess above average to superior intelligence. They also may have strong, narrow interests. These two characteristics, combined with greater awareness of the disorder and appropriate support from school districts, increasingly leads to Asperger's students being admitted to institutes of higher learning. Unfortunately, there are several symptoms of Asperger's syndrome that make college life challenging for those who have it. A major factor is their difficulties with social interaction and behavior. Many also struggle with the adjustment to a new schedule, and organizational difficulties make meeting deadlines and responding to correspondence difficult. Impulsivity, inflexibility, difficulty with eye contact and interpreting the body language of others, all make for challenging classroom experiences for students with Asperger's (Graetz & Spaminato, 2008).

A particular challenge for students with AS can be the area of writing. Students who excel in subjects where literal and concrete thought processes are required, such as those who major in physics or engineering, may find writing difficult. Writing is ultimately a social medium, and students with Asperger's may struggle with abstract ideas, organization of thoughts, and analyzing multiple perspectives on an issue. Their work often loses focus and proceeds on a tangent of their own preferred topic. Students with Asperger's may also struggle with note-taking, since they find it difficult to condense information into key points. Yet some colleges, such as Rowan University, require writing classes be completed by all undergraduate students, regardless of major.

Reflecting a national trend (Jurecic, 2007), the number of students with Asperger's at Rowan University registering with the Academic Success Center is increasing. Greater identification of the condition during childhood and adolescence, and greater awareness of how to support and accommodate students with Asperger's during their secondary education, is likely contributing to the academic success and increase in numbers enrolling in higher education, and there is nothing to suggest that this pattern of increase should falter. However, institutions of higher-learning are often ill-equipped to address the specific needs of students with Asperger's, whose strengths and areas of need differ from those of other disabilities such as ADHD, emotional disorders or specific learning disabilities. Very little research or evidence-based practice is currently available on the subject of students with Asperger's and higher-education. Yet if the pattern of enrollment emerging at Rowan is replicated elsewhere, more must be done to help students with Asperger's achieve the academic success that they are capable of, despite the challenges that college life poses for them.

Research Questions

This study will address three main issues:

- 1) What are the specific challenges those students with Asperger's face with collegelevel writing?
- 2) What has been done to help support and remediate these issues so far?
- 3) What could be done in the future to support students with Asperger's in their writing assignments?

Hypothesis

The research will be conducted at Rowan University, a public university located in Glassboro, NJ. The university's Center for Academic Success/Disability Services will be the source of information about the students with AS who have registered themselves with the university disability office.

I will survey all the students who have self-identified as having Asperger's syndrome at the university to find out their thoughts and experiences regarding college-level writing. I will seek information on the particular challenges they face, and what has been done to help remediate these difficulties. I will also survey faculty members who have taught undergraduate writing classes to students with Asperger's, to learn about their experiences and which accommodations they have used or would be prepared to use. I hope to gain consent for follow-up interviews with students, to probe more deeply their personal experiences and formulate ideas for future assistance.

I hypothesize that efforts have been made to inform faculty at Rowan about the needs of students with Asperger's. I also believe that some accommodations and

modifications have been put in place to help support the students. I feel it is likely that some students with Asperger's have sought assistance from sources such as the Writing Center on campus. However, with little evidence-based research in the area of students with Asperger's and higher-education, it is possible that these efforts are falling short of ensuring the success of the students in their writing classes.

Key Terms

Accommodations – Adaptations to the way learning or testing takes place that does not alter the target skills or performance expectations. Examples include extra time to complete an assignment or test, or use of a scribe.

Asperger's Syndrome (AS) – An autism spectrum disorder (ASD) characterized by social impairment, communication impairment and restricted/repetitive behaviors. Linguistic and cognitive development is usually typical.

Autism Spectrum Disorder (ASD) – A group of complex neurological disorders including autism, Asperger's syndrome, pervasive developmental disorder not otherwise specified (PDD-NOS), childhood disintegrative disorder and Rett syndrome (DSM-V, 2013). Characteristics of ASD include social impairment, communication impairment, stereotyped or repetitive behaviors and for some, cognitive delay.

Modifications – Changes to instruction or testing that alter the performance expectation from the student. Examples include a reduced number of questions, or altering the content of assignments.

Neurotypical – A term used by individuals with ASD/Asperger's to describe those who are not autistic.

Implications

The number of people being diagnosed with Asperger's is increasing as awareness grows. In turn, the number of students with Asperger's enrolling at institutes of higher learning is also growing. Little research or evidence-based practice exists to guide faculty in how to support students with Asperger's, who's challenges and needs are different to students with other, more widely studied conditions. There is a pressing need for more information about the particular challenges students with Asperger's face when they embark in higher education, and also about what can be done to strengthen their chances of success.

Summary

This study is being conducted to gather information about the experiences of students with Asperger's in their undergraduate writing classes. I aim to find out what aspects of the classes, and the writing process itself, they find challenging. I will also investigate what sources of assistance they sought, and to what extent they found this beneficial. I will survey faculty members who teach undergraduate writing classes to gauge their knowledge about, and experience of, students with Asperger's. I hypothesize that while some assistance has been offered and utilized, it is falling short of ensuring that these students reach their potential. I hope to develop strategies and suggestions that faculty may find useful in their future encounters with students with Asperger's.

Chapter Two

Review of Literature

Asperger's Syndrome: Classification and Diagnosis

In 1992, Asperger's syndrome was added to the tenth published edition of the World Health Organization's diagnostic manual, *International Classification of Diseases* (ICD-10) as a distinct disease. In 1994, AS was added to the 4th edition of *Diagnostic and Statistical Manual of Mental Disorders*, the diagnostic reference book of the American Psychiatric Association. However, as a result of confusion and inconsistency in the distinction between Asperger's and high functioning autism (Ghaziuddin, 2010 and Wing, Gould & Ginberg, 2011), in the latest edition of the book, DSM-V (2013), the various forms are represented under the single diagnostic category of Autism Spectrum Disorders.

To receive a diagnosis of autism spectrum disorder, individuals must display deficits in two domains: persistent social communication/social interaction and restricted/repetitive patterns of behavior. Specifically, an individual with ASD should demonstrate (or have demonstrated previously) deficits in social-emotional reciprocity, deficits in nonverbal communication used for social interaction, and deficits in developing, maintaining and understanding relationships. They must also demonstrate at least two types of repetitive patterns of behavior including stereotyped or repetitive motor movements, inflexible adherence to routines, highly restricted, fixated interests or hyper/hypo reactivity to sensory input (DSM-V, 2013). While specific numbers of those diagnosed with Asperger's syndrome are unknown, complicated by ongoing diagnosis

into adulthood and the often synonymous diagnosis of higher-functioning autism, the Centers for Disease Control and Prevention (2012) estimates that as of 2008, as many as one in eighty-eight children age eight will have an autism spectrum disorder.

Asperger's and Higher Education

The scope of research that considers the experiences of students with Asperger's in higher education is limited. Safran (2001) attributes this to limited knowledge and understanding of the condition prior to its entry in the DSM-IV as a specific diagnosis. Griffin, Griffin, Christine, Albera and Gingras (2006) also point out that many individuals were diagnosed with high-functioning autism rather than Asperger's. Students with Asperger's tend to possess average to above average cognitive and verbal abilities (Jurecic, 2007). Their aptitude for acquiring knowledge, combined with interventions and accommodations from increasingly understanding school districts, have led the way for a dramatic increase in the number of students with Asperger's enrolling in higher-education (VanBergeijk, Klin & Volkmar, 2008).

Graetz and Spaminato (2008) highlight some of the potential challenges faced by students with AS as they transition to higher education. They make the point that at the secondary level, the IDEA mandates the provision of assistance for students with disabilities, while at the post-secondary level, the ADA and Rehabilitation Act are the mandates for assistance, usually in the form of accommodations and support. The sudden withdrawal of the higher level of support (for example special education teachers or aides) experienced during middle and high school may make for a challenging transition for students with AS. The transfer of power may also be unsettling for some families.

Dente and Coles (2012) point out that families who are heavily involved making choices

in their child's education, must be prepared for the shifting of rights to the student themselves, where information is released to parents only with written permission.

As Hadley (2007) points out, in graduating to the higher education environment, students with learning disabilities are assured services by Section 504 of The Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 (ADA). The law requires students to self-advocate, first by registering with the disability services office, then articulating their reasonable need for academic accommodations to their instructors and professors (Adreon & Durocher, 2007). Disability offices are often restricted in the amount of support they can offer, however. Wenzel and Rowley (2010) point out that a lack of funding impedes the ability of some higher-education institutions from developing resources to meet the needs of students with Asperger's.

Several characteristics of individuals with Asperger's make the college experience potentially difficult. Difficulties with social interactions can lead to problematic relationships with roommates, classmates and faculty, particularly if a person's Asperger's diagnosis is unknown or misunderstood. Their tendency to interpret language in an overly-literal way can set a student with Asperger's apart from their peers, as they have difficulty understanding sarcasm, humor and idioms/figures of speech (Adreon & Durocher, 2007). A student with Asperger's behavior in the classroom may fall outside the parameters of acceptable behavior, including dominating discussions, veering off topic, self-stimulating behavior such as rocking, and misreading the nonverbal cues of others. Dillon (2007) described some of the very specific challenges that certain, but not all, students with AS may experience in college, such as dominating class discussion, or never speaking up in class.

Inflexibility in routine can also be an issue, for example a last minute room change or shifting of seating arrangements within a classroom could cause anxiety and problematic behaviors (Adreon & Durocher, 2007). Group work can also be challenging for students with Asperger's, who cannot decipher the nonverbal messages and cues between the members of the group. Farrell (2004) refers to students with AS' "extreme literal-mindedness" as a barrier to successful social interactions. While their neurotypical peers may be making friends and building a network of support, students with Asperger's often remain isolated and unaware of sources of assistance available to them. Farrell (2004) indicates that a student with Asperger's may even lack the understanding that they could actually go and ask the professor for help.

Aside from social and behavioral issues, the academic demands of higher education can pose challenges for students with Asperger's. As concrete, literal thinkers, students with Asperger's can struggle with abstract ideas and vague, open-ended assignments. Complications in executive functioning can make time-management a challenge, and trying to plan for long-term assignments and exam study schedules can be difficult (Smith, 2007) (Dillon, 2007). While they may excel in concrete subjects such as physics, engineering and computer science, colleges may require all students to take classes such as writing composition, which can pose great difficulty for those on the spectrum.

Fleischer (2012) interviewed family members and university coordinators to find their perspectives on the higher-educational experiences of three students with Asperger's. Common concerns from family members included the student's abilities in planning, schedules, misplacing things, forgetting to pay bills and forgetting to eat. One

parent stated that the kind of support his son needed was someone to help "structure his day" and "explain practical things to him". It was also noted that the parents experienced frustration that the student has to decide for himself whether he wants support, what kind of support, and whether or not relatives should be informed.

In her article "Neurodiversity" (2007), Ann Jurecic, an assistant professor of English at Rutgers University describes her experience with a student with Asperger's. Though she was able to trace no identifying information that confirmed his diagnosis, his behaviors led her to believe that he had Asperger's. She details his loud, consistent voice and narrowly focused comments. He became fixated by the MLA style manual and correct citation form. He also displayed other behaviors typical of those on the autistic spectrum, from rocking in his chair, inability to understand humor, problems with attention and small-group work. While these deficits could also be present in neurotypical students, she states that her students stood out as particularly severe and she also explains that her student "did not respond to instruction and feedback as other students did, even though he gave every indication that he was eager to understand my instructions and to meet the expectations of the course". She does note, however, that her student was willing and eager to ask questions and for clarifications via email.

A significant issue with providing support to students with Asperger's is that they are sometimes reluctant to identify themselves as having Asperger's, either to the disability office or to individual instructors. Jurecic (2007) discusses the issue of being able to modify content and provide accommodations for students such as Gregory, who have not been formally identified as having Asperger's. While her knowledge of Asperger's and observations of her student's behaviors and difficulties led her to believe

that Gregory did have the condition, his failure to identify himself meant she was restricted in the modifications and accommodations she could offer him under ADA.

In terms of the university staff members, Fleischer (2012) found that the support offered was built upon their interests and understanding rather than an actual policy or plan by the university. One university coordinator expressed her wish that there was more knowledge among all the staff at the university about disabilities and what support is available. Fleisher asserts that collaboration between coordinators and families is key to the success of students with AS, but stresses that this is not possible unless both parties and the student themselves acknowledge that need for support. Farrell (2004) found that there was a consensus that the academic integrity of programs must be maintained, sharing the case of a doctoral music student who was unable to interpret composition from the romantic era since it lacked the typical structure and patterns of other music. His professor refused to modify the nature of the questions, and the student ultimately dropped out of the program.

Accommodations and Support

Paving the way for success for higher education students with Asperger's may begin as early as selecting the type of school they will attend. VanBergeijk *et al* (2008) point out how selecting a particular school can influence the success of a student with AS, although they each have pros and cons. With a smaller school, students with AS will have more individualized attention in an environment that more closely resembles their high school experience. However, a larger school will offer greater diversity and an increased chance of social acceptance with like-minded peers.

Once there, it is imperative that students with disabilities register with the institution's disability office. As we have previously established, special education provisions under IDEA do not continue into higher education. Institutes of higher education are instead governed by ADA, which prohibits any public institution from discriminating against individuals with disabilities. Accommodations and support can only be developed after the student has registered with the disability services office, since information regarding their condition is not passed on by their sending high school.

Smith (2007) surveyed staff at disability services at post-secondary institutions. She found that accommodations given to students with AS were generally the same as those given to students with other disabilities, despite the fact that their needs may be quite different. Students with learning disabilities or ADHD, for example, primary need accommodations that address academic and behavioral concerns. For students with Asperger's, social development is a crucial area of need that would not be addressed if disability offices relied solely on what worked for the students with other conditions.

What form the accommodations will take needs to be agreed upon by both the students and the faculty, who will likely wish to maintain the academic rigor of the course. It is also possible that the faculty members have no experience or knowledge of teaching students with Asperger's, and they may be reluctant to allow flexibility within their instruction and syllabus (Farrell, 2004). Farrell also argues that the lack of a common approach to college students with AS has led to open interpretation of what "reasonable accommodations" should consist of. She also points out the dilemma regarding the level of support that colleges can and should provide to students with special needs, since they are under no legal obligation to offer additional services.

In her article, "Support Services for Students with Asperger's Syndrome in Higher Education", Smith (2007) details her exploratory study into ways that post-secondary institutions can better accommodate and serve students with Asperger's syndrome. Smith urges that accommodations be made based on the individual characteristics of the student, rather than basing them solely on their condition. Smith also advocates for greater faculty awareness and involvement, possibly through feedback regarding the student's performance in class.

Graetz and Spampinato (2008) assert that self-advocacy and self-determination should be encouraged as students learn to manage without the help of a paraprofessional or special education teacher. They argue that while additional time for test-taking and note-taking may be of use for students with AS, the support in the social/relationship domain may be lacking. She offers advice to instructors who may find themselves with students with AS for the first time. This includes limiting verbosity and providing visual representations, providing ample time for students to respond to questions or write notes, teaching coping skills to deal with challenging situations, and making sure the students are aware of the various resources that are available to them.

Dillon (2007) makes the point that, given such individual needs, mentors and coaches may be the optimum way to address the specific challenges each student faces as they adapt to college life. He also argues that rehabilitation agencies may be a source for creating an effective program for students with AS, since they have extensive experience with individuals who have struggled with workplace challenges. Dillon asserts that many of the challenges that lead to workplace failure for individuals with AS can also be applied in the college setting. He stresses that flexibility in the level and type of support

for each student is vital, and that too much support can be counterproductive if it creates dependency. Particular uses of the mentor could include the facilitation of discussion with the student and their instructor, and assistance with time-management.

Adreon and Durocher (2007) suggest several potential accommodations which, they admit, go above and beyond what is required by ADA. These include course exemptions or substitutions, permission to avoid group projects/discussions, oral rather than written exams and flexibility in coursework due dates. Some of these arguably alter the academic integrity of the courses. They suggest that families may want to consider hiring an outside tutor or life coach if college services are lacking, though this may of course be beyond the means of some families. They also point out the need for extra time to complete tests, suggesting that the anxiety felt by neurotypical students regarding tests is intensified for students with AS, who are also challenged by the change in routine. The possibility of motor difficulties also makes it justifiable to allow students with AS extra time for the physical writing process. A student's sensitivity to sensory stimulation may also call for a separate, quiet location to administer the test, free from distractions.

Dente and Coles (2012) stresses the potentially valuable role that social workers can play in preparing secondary school students with AS for higher education. A key element is educating both the students and their families about the differences they can expect from secondary school to college, in particular the switch from accommodations that the school is obligated to provide, to an environment where disability support is self-directed and instigated.

Griffin *et al.* (2006) explore educational interventions that work effectively for students with AS. They share Kaufmann's (2002) views that the most effective programs

for these students have highly consistent and structured school days, systematic social skill and language training, social mentoring and modified instruction and assignments. Given the differing resources available at college, it is important to consider which of these is feasible, and to what extent. Strategies they describe as useful for younger students, such as providing graphic organizers as a writing tool, breaking tasks down into smaller, more manageable steps, modifying directions to make them more explicit, and allowing extra time to complete assignments or tests, all translate well as possible accommodations that could be helpful for college students too.

Among the research addressing students with Asperger's and higher education, there are examples of colleges and universities that have adopted programs to provide specific assistance. Wenzel and Rowley (2010) detail an exceptional program at the University of Connecticut, whose Center for Students with Disabilities (CSD) developed a first year experience course for students with AS. The class, which meets once per week, includes information about social skills and how to adapt to a new environment. It offers a unique opportunity for students with AS to study alongside and interact with students who share similar challenges. Anonymity of the students was protected by making it a closed course that only identified students could enroll in, without specifically labeling it as a class for students with AS. The syllabus provided very clear objectives and information on grading expectations. Information was shared about the services offered by different departments and centers on campus, and how to utilize these services. Key advice offered by the authors includes gathering feedback from students regarding which supports they found most useful and what future supports would be helpful. They also advocate seeking input from faculty members to hear their

impressions of what it is like to work with students with AS.

VanBergeijk, Klin and Volkmar (2008) highlight the importance of a successful transition plan for high school students. They describe a program in the New York area where students attend "Grade 13", where they take courses at the local community college for half the day then return to their high school for social and academic support in the afternoon. Courses at the community college are selected to maximize the students' chances of success and expose them to the academic and social demands of a college environment. The reduced course load and daily support reduces the stress put upon the students and allows them to adjust gradually.

Asperger's and the Writing Process

As previously stated, a major area of need for many students with Asperger's is in the area of writing. Jurecic (2007) observed from her student's writing that although the syntax of his complex sentences was usually correct, he could not structure his thoughts or revise his arguments by imagining a reader who did not share his background knowledge. She states that without a sense of a reader, he had serious difficulty creating transitions, filtering background information, and constructing arguments and counter arguments. The author states "my experience with Gregory also made me consider how the academic essay, with its linear structure and intolerance for tangents, is rooted in "normal" neurology". Jurecic suggests that only through getting to know Gregory's strengths and areas of need as an individual was she able to individualize his instruction in such a way that remained loyal to the goals and purpose of the class. She states how she was more directive and rule-bound than with other students to simplify the task. His writing was writer-based rather than reader-based, and developing a sense of audience

was a key goal.

In their study comparing the narrative abilities of 12 adults with AS/HFA and 12 adults who were matched control, Colle, Baron-Cohen, Wheelwright and Van der Lely (2008) found that while there were no significant differences in general narrative abilities, but found specific pragmatic difficulties in those with AS. They suggest that the use of fewer personal pronouns, temporal expressions and referential expressions in the narratives of those with AS may indicate that social impairment leads to mild linguistic impairment.

Brown and Klein (2011) also compared the writing of 16 subjects with Asperger's syndrome to 16 neurotypical subjects, focusing on written composition and the influence of Theory of Mind. They concluded that the group with AS wrote shorter pieces, and the quality of the narrative and expository texts in those with AS was significantly lower than the neurotypical group. The difficulties with the mechanics of writing did not reach statistical significance. Regarding Theory of Mind, they found a positive correlation with text length and quality across both genres. Particular weaknesses in the writing by those with AS included maintaining focus on the main topic, and making smooth transitions between ideas.

Adreon and Durocher (2007) make suggestions for possible accommodations that might benefit students with AS who are struggling with the process of writing. Providing lecture notes or slides can assist when fine motor difficulties make the physical act of writing challenging. They suggest explicit instructions for organizing classroom and study materials, including the use of color-coded binders and subdivisions within them. They advocate breaking large assignments into smaller manageable units which can be

turned in separately, and also some way of prompting students to begin researching projects, studying for exams etc to overcome their time-management difficulties.

Babcock (2008) points out that while many college writing centers have policies declaring "no proofreading" and "no editing", these rules maybe denying a legitimate accommodation for students with disabilities, who would benefit greatly from a second opinion of their writing. She suggests that a tutor could offer a "think aloud", explicitly demonstrating the thought process that might instigate a change in the writing.

Very few studies have been conducted on the writing process and post-secondary students; therefore it is worth considering techniques that have proven successful in slightly younger students. In her article, "Use of Strategy Instruction to Improve the Story Writing Skills of a Student with Asperger Syndrome" (2007), Delano used the Self-regulated Strategy Development (SRSD) model as an intervention for an adolescent with autism. The strategy provides the student with explicit instruction in strategies for planning, writing, revising, editing, and monitoring their writing. She found that her subject made significant gains in the quality and quantity of writing in response to the intervention. She conducted a similar study using the SRSD model using video self-modeling with three adolescents with AS, and also saw gains in the quantity of words written.

Some researchers provide suggestions for assistive technology that could support students with Asperger's. Caverly (2008) proposes that voice recognition software could eliminate the physical challenge of writing, either using a pen or typing on a keyboard. This does not address the content concerns, however. VanBergeijk *et al.* (2008) suggest

the use of laptops, scribes or tape recorders to offset the fine motor challenge of notetaking.

The primary aim of this study is to gain a deeper understanding of the issues facing students with Asperger's syndrome taking college-level writing classes. Some of their challenges are general in terms of the wider college experience. Yet the process of writing often sets students with Asperger's apart from their peers, since even those who excel in other subjects can find writing extremely difficult. Accommodations and support in this area are inconsistent and arguably insufficient. Through surveying both students with Asperger's, and the instructors who teach them, I hope to find insight into what the particular challenges are, what has been done in terms of support, and what could be done to improve the situation in the future.

Chapter Three

Research Methodology

Setting

This study was conducted at Rowan University in New Jersey. Rowan University is a selective, medium-sized public state comprehensive research university. The university has three campuses, with its main campus located in Glassboro, 20 minutes southeast of Philadelphia. There are over 13,000 students at Rowan, which includes undergraduates, graduate students and professionals. 24% of the student body is from minority groups. It currently offers approximately 85 bachelors degree programs, 65 masters degree programs, multiple doctoral degrees, two professional degrees, and various certifications and endorsements.

Within Rowan, the College of Communication and Creative Arts is home to the Writing Arts department, which is one of only a few in the country. Through the Writing Arts Department's First-Year Writing Program, all Rowan undergraduates must complete general-education composition courses. The program aims to provide the foundation that all students need to become capable writers, who can respond to a variety of academic, personal, or professional writing situations. Students are taught writing skills through critical reading and thinking, and by analyzing and communicating complex ideas. Students are also taught synthesis of research skills, information literacy, critical rhetorical awareness, and creative insights.

Rowan University's Glassboro campus also contains the Academic Success

Center. This center serves several purposes, including placement testing, tutoring
services and Basic Skills instruction. It is also the home of the university's Disability

Resources. Incoming students with disabilities are required to register themselves and provide documentation of their disability at the Academic Success Center if they wish to receive accommodations and assistance during their time at Rowan. The center offers several services for students with disabilities, including the College Compass program, which allows incoming students a chance to acclimatize to the campus in August through tours and workshops. The center also offers Academic Coaching to students with disabilities, which consists of one on one support in making the transition from high school to college.

Participants

Two separate groups were targeted by the study. The first group consisted of faculty from the Writing Arts department. 43 members of the faculty were selected to participate. All selected faculty were chosen based on their teaching of Intensive College Composition, College Composition I or College Composition II during the current academic year. 20 adjuncts that taught the classes in the fall semester but had not returned for the spring semester were not included.

The second group targeted by the study consisted of Rowan students who had self-registered with the Academic Success Center as having Asperger's syndrome.

Information provided by the center indicates that 52 students met the criteria.

Survey Instruments

The research design in this study had both qualitative and descriptive elements.

Two separate surveys were created, one for each of the target groups (please see

appendices). Both surveys began with alternate consent statements, explaining the purpose of the study, indicating that participation by the subjects was entirely voluntary and their responses would be anonymous. The faculty survey was divided into two sections. The first section was to be completed by faculty who had taught composition classes to a student who had self-identified as having Asperger's syndrome, and consisted of seven questions. The second section was to be completed by all respondents, and consisted of a further eight questions, some multi-part. A variety of question types were used, consisting of multiple choices, rating scales, comment box questions and demographic questions. The survey questions attempted to ascertain the faculty member's knowledge, experience and attitude towards proving assistance/accommodations to students with Asperger's syndrome.

The student survey consisted of 13 questions. Like the faculty survey, it contained multiple-choice, rating scale, comment box and demographic questions. The survey attempted to ascertain the particular challenges the students faced with the writing process, their experiences in sharing their diagnosis and which accommodations, if any, were useful.

Procedure

The faculty survey and alternate consent statement were created by the researcher and approved by the thesis advisor. Consent was obtained from the chair of the Writing Arts department to distribute hard copies of the survey to the appropriate faculty. The chair also agreed to arrange distribution of the survey to the subjects through his secretary, who would deliver them to the faculty mailboxes. Copies of the survey were

delivered to the department and distributed to 43 individuals within the Writing Arts

Department of Rowan University. The common criteria was that each had taught College

Composition I, College Composition II or Intensive College Composition during the

current academic year. A two-week deadline for submission was established.

Participants were advised through a note attached to the survey that they should return

their completed paper to the department secretary, who would store them until they were

ready for collection by the researcher. The names of the individuals who were targeted

by or responded to the survey were never shared with the researcher, to protect their

anonymity.

The student survey was also created by the researcher and approved by the thesis advisor. Following a discussion with the director of the Academic Success Center, it was determined that a greater response rate might be achieved if the students were able to submit their responses electronically. An electronically fillable version of the survey was created. To protect the identity of those who had registered with Disability Services, the survey was emailed to the 53 students with Asperger's by the director of the Academic Success Center. A one-week deadline for submission was imposed. The students were instructed to return the completed surveys to the director via email, who would ensure that any identifying information (e.g. email address) was removed before passing them on to the researcher.

Initially, the responses from both faculty and students were low, with only six faculty members and one student submitting their completed surveys. Both deadlines were extended a week, and reminder emails were sent out. On the advice of the director

of the Academic Success Center, hard copies of the survey were made available for students coming in to the center for coaching. Following the second deadline, the researcher collected completed surveys from the secretary of the Writing Arts department and the director of the Academic Success Center. One further faculty survey and two further student surveys were submitted after the deadline, but accepted into the study.

Chapter Four

Results

This study sought to address three main issues:

- 1) What are the specific challenges those students with Asperger's face with collegelevel writing?
- 2) What has been done to help support and remediate these issues so far?
- 3) What could be done in the future to support students with Asperger's in their writing assignments?

The faculty survey and alternate consent statement were created by the researcher and approved by the thesis advisor. With assistance from the chair of the Writing Arts department and the director of the Academic Success Center, the surveys were distributed to the subjects, and the completed surveys were gathered and returned to the researcher.

Faculty Survey

The faculty survey was distributed to 43 individuals within the Writing Arts

Department of Rowan University. The common criteria was that each had taught College

Composition I, College Composition II or Intensive College Composition during the

current academic year. Eleven members of faculty returned the completed survey. The

subjects were asked to provide their highest degree earned. Figure 1 shows the results.

Ten subjects stated that a master's degree was their highest degree earned. One stated

that they had earned a doctoral degree. None of the respondents selected bachelor's as
their highest degree earned.

Table 1. Demographic Information Provided by Faculty

Highest Degree Earned		
<u>Degree</u>	Respondents	
Bachelors	0	
Masters	10	
Doctorate	1	
Overall Teaching Experience		
<u>Category</u>	Respondents	
0-2 Years	0	
2-5 Years	4	
5-10 Years	4	
>10 Years	3	
Rowan Teaching Experience		
<u>Category</u>	<u>Respondents</u>	
0-2 Years	1	
2-5 Years	4	
5-10 Years	3	
>10 Years	3	

The faculty subjects were also asked to share the number of years experience teaching at college level. They were asked to select from a range. The results indicate that none of them had only 0<2 years experience. Four respondents indicated that they had 2<5 years teaching experience, and four also responded that they had 5<10 years of experience. Three respondents indicated that they had 10 or more years of teaching experience.

The subjects were asked to share their years experience teaching at Rowan. One indicated that they had less than two years experience at Rowan. Four indicated that they had between two and five years experience at Rowan. Three subjects indicated that they

had between five and ten years experience. Three subjects indicated that they had more than ten years teaching experience at Rowan. These results are shown in Table 1.

Of the eleven subjects who responded to the survey, four completed the section that indicated that they had taught a student who self-identified to them as having Asperger's syndrome. One respondent indicated that the student approached them to share their diagnosis prior to the first class. Two respondents indicated that the student shared their diagnosis at the first class. One respondent shared that the student approached them after the first class but before finals. None of the respondents indicated that the student approached them one or two classes before finals.

The subjects were asked to share which accommodations and modifications the students had requested, and which were granted. No students requested modified assignments. One student asked to be excused from group work, but that request was denied. No students asked to be excused from presentations. One student asked to be given preferential seating, and the request was granted. Four students asked for extra time for assignments, and one student asked for extra time for exams. These requests were all granted. One student asked for an alternate setting for exams, and this was granted. No students requested peer monitoring/note sharing. Two students asked for copies of slides/lecture notes, and these were granted. No respondents indicated that their student had requested an accommodation or modification not listed. The results are shown below in figure 1.

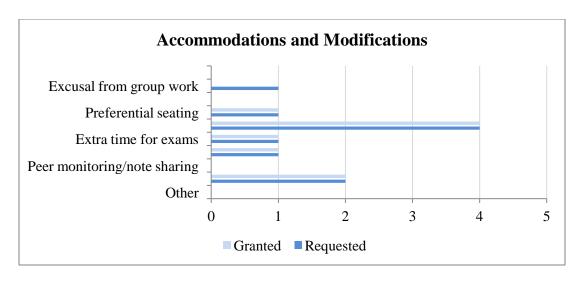


Figure 1. Faculty Accommodations and Modifications Granted/Requested

The subjects were asked to share if their students had displayed certain behaviors that can be characteristic of individuals with Asperger's syndrome. None indicated that their students had dominated class discussion or shown repetitive/stereotypical behaviors. One student displayed inflexibility with unavoidable changes. Three students showed anxiety or over-stimulation to stimuli. Two students directed discussions away from the topic towards their own interests. One respondent checked "other", and shared that their student would summarize the discussion at the conclusion as a way to participate.

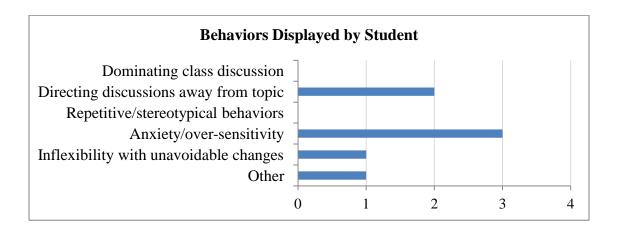


Figure 2. Behaviors Displayed by Students

The subjects were also asked to share if their students displayed any other characteristics that may negatively impact their performance in the class. Two responded that their students had unexcused absences from class. Three respondents reported poor punctuality from their students, and three noted that they received late assignments from their students. None of the respondents indicated that they received assignments that failed to address the directions given, and none checked the "other" box.

When asked how they would rate the student with Asperger's syndromes overall performance in the class when compared to their typical peers, none of the respondents indicated that their students were "high" or "high average". One respondent considered their student "average", and one considered their student "low average". Two respondents shared that their students' overall performance was "low" when compared to their typical peers.

The faculty was asked which particular aspects of the writing process were challenging for their student with Asperger's syndrome. Four respondents indicated that challenges with the physical process of writing, imagining the audience/reader, researching a topic, spelling, and grammar and syntax were "neutral". One felt that planning was "very difficult", while three more thought it was "somewhat difficult" for the students. Three of the respondents through that organization of thoughts was "very difficult" for the students, and one thought it was "somewhat difficult". Staying on topic was "very difficult" for two students, and "somewhat difficult" for two students.

Understanding the assignment was "very difficult" for two students, "somewhat difficult" for one and "neutral" for one. Revising and editing was "very difficult" for three, and

"somewhat difficult" for one student. Under the "other" category, one respondent indicated that "organizing schedule conflicts" was "somewhat difficult".

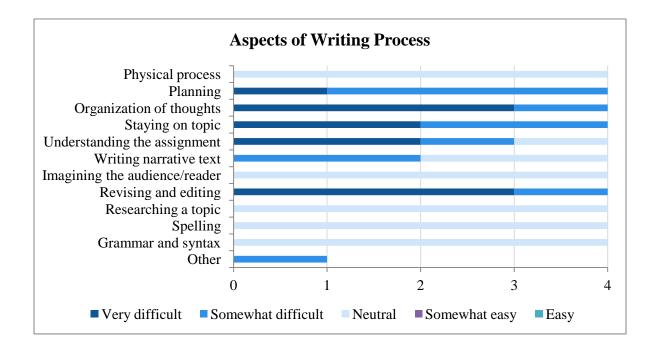


Figure 3. Level of Difficulty of Various Aspects of the Writing Process

The faculty was asked to share if they had encouraged their student with Asperger's syndrome to seek assistance. Two responded that they referred students to the Student Writing Center. One respondent checked the "other" box, and indicated that their student was already working with the school, but he recommended that he talk with his other teachers too.

All respondents were asked how knowledgeable they consider themselves about Asperger's and autism spectrum disorders. None of the subjects considered themselves "very knowledgeable". Two subjects stated that they were "somewhat knowledgeable". Three subjects considered themselves "average", while six stated that they were "a little

knowledgeable". None of the subjects indicated that they were "not at all knowledgeable" about Asperger's and autism spectrum disorders (see figure 4).

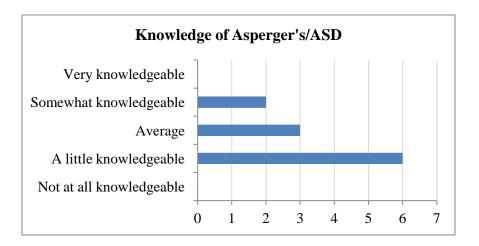


Figure 4. Faculty's Knowledge of Asperger's/ASD

All respondents were also asked where their knowledge of Asperger's and autism spectrum disorders had come from. Eight subjects stated that the media had been a source of information. One person indicated academic journals/publications. Seven of the faculty said personal experience had contributed to their knowledge. Three subjects indicated information provided by Rowan. One subject indicated books. Nine subjects stated that discussions with friends and colleagues had contributed to their knowledge. Two subjects checked "other". One cited a student panel on the subject organized by the Academic Success Center, the other cited Maria Flocco's presentation.

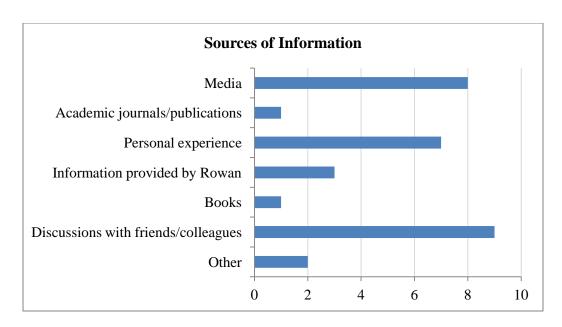


Figure 5. Sources of Information about Asperger's

All respondents were also asked how knowledgeable they consider themselves about the particular challenges that students with Asperger's and autism spectrum disorders face with the writing process. None of the subjects considered themselves "very knowledgeable" or "somewhat knowledgeable". Four subjects considered themselves "average", while five stated that they were "a little knowledgeable". Two of the subjects indicated that they were "not at all knowledgeable" about the writing challenges of students with Asperger's and autism spectrum disorders.

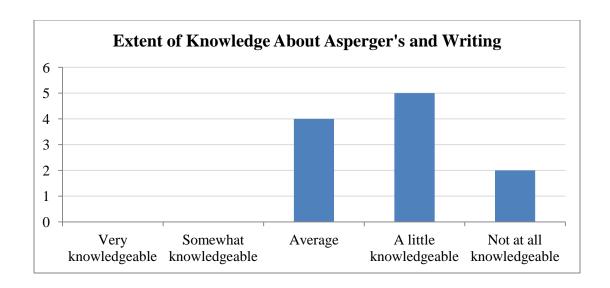


Figure 6. Extent of Faculty Knowledge about Asperger's and Writing

The faculty respondents were asked how prepared they feel to teach a student who might approach them to self-identify as having Asperger's syndrome. None of the respondents indicated that they were "very prepared". One felt "somewhat prepared". Two stated that they were "neutral" about the subject. Four stated that they felt "somewhat unprepared". Three respondents indicated that they felt "very unprepared" to teach a student with Asperger's syndrome. These results are shown below in figure 7.

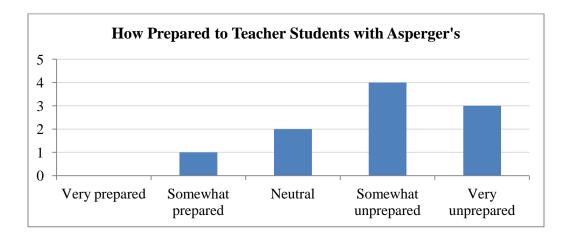


Figure 7. How Prepared are Faculty to Teach Students with Asperger's

The faculty was also asked which accommodations they would be willing to offer a student with Asperger's syndrome who was struggling with course content. Six respondents indicated that they would be willing to offer modified assignments, and six indicated that they would excuse the students from group work. Eight shared that they would excuse a student from a presentation. Eleven stated that preferential seating would be an acceptable accommodation. Eleven would permit extra time for assignments. Nine would permit extra time for exams, and ten would permit an alternate setting for exams. Eleven would allow peer monitoring/note sharing, and ten would be willing to provide copies of slides/lecture notes (see figure 8 below). In addition, ten respondents (91%) stated that maintaining the academic integrity of the course was essential when selecting modifications or accommodations, while one (9%) responded that they didn't know.

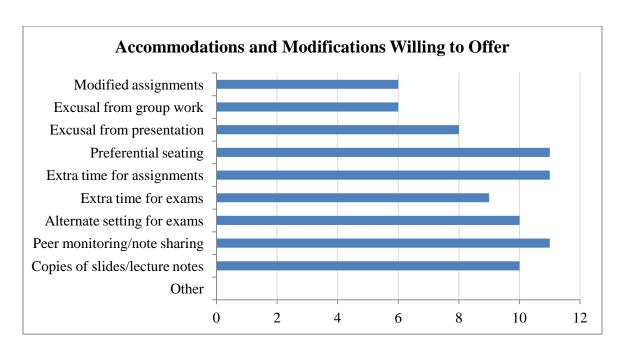


Figure 8. Accommodations and Modifications Willing to Offer

In an open-ended question, the faculty was asked to share their thoughts on how Rowan University and the Academic Success Center could better prepare writing

instructors to teach students with Asperger's syndrome. One requested information on best practices with Asperger students. One suggested resources that could be posted online on the instructor web site. The same respondent also suggested workshops or presentations that could be done in conjunction with existing winter or summer FYWP workshops, citing one that Marie Fiocco had presented previously in June 2013. One respondent requested information on how instructors can refocus comments when the student directs them away from the topic. The same respondent also raised the issue of how instructors might "protect" learners from the other students who "sense" the student with Asperger's is "different" therefore "annoying". A different subject suggested a conference explaining how students with Asperger's learn best, suggestions on how to accommodate students, and requested examples of students with Asperger's writing. One subject stated that they would like to know how to approach required class assignments without ruling them out altogether. Another claimed that instructors in the first year writing program are basically unfamiliar with Asperger's syndrome, so someone should present a workshop for the instructors to learn the about basic accommodations. Five of the faculty chose not to respond to the question.

Student Survey

The survey was distributed to 52 students who had registered with Rowan's Disability Services with a diagnosis of Asperger's syndrome. Two completed the survey electronically. Seven completed a hard copy of the survey. All respondents were male. Of the nine respondents, two are freshman, one is a sophomore, two are juniors and four are seniors. The students were asked how long ago they received their diagnosis of Asperger's syndrome. Two of the respondents indicated greater than two years but less

than five. Two respondents indicated greater than five years but less than ten. Five of the students shared that they had received their diagnosis more than ten years ago. The results are displayed below in figure 9.

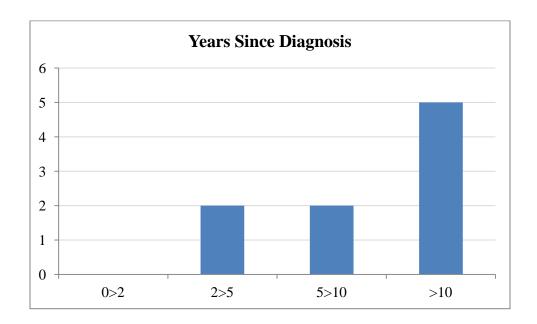


Figure 9. Years since Asperger's Diagnosis

The students were also asked to share their major at Rowan University. Three of the respondents are majoring in Computer Science. Two are studying Electrical Engineering. One respondent is majoring in Biochemistry, one in Music Education, one is a joint major in Math and Geography, and one chose not to respond to the question. They were asked if they had completed College Composition I and/or College Composition II at Rowan. Six took College Composition I, two did not. Two took College Composition II, seven did not.

The students were asked if they approached their writing instructor to share their diagnosis of Asperger's syndrome. Five (55%) stated that they did, four (45%) did not.

Those who responded in the affirmative were then asked to check the response that most closely matched their views on their instructors. The first statement related to whether the student felt comfortable approaching their instructor for help. One student selected "strongly agree", two "somewhat agree", two were "neutral", one selected "somewhat disagree" and none "strongly disagree". The second statement related to whether the instructor was receptive to providing accommodations and modifications. Three strongly agreed, two somewhat agreed, one was neutral, and none indicated that they somewhat disagreed or strongly disagreed. The third statement related to whether the instructor was knowledgeable about how Asperger's might impact the student's learning. None "strongly agree", two "somewhat agree", three were "neutral", none "somewhat disagree" and one selected "strongly disagree". The results are displayed in figure 10.

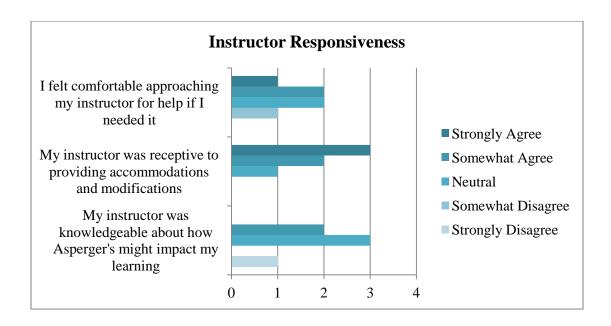


Figure 10. Instructor Responsiveness

The students were asked to rate specific aspects of the writing process in terms of how challenging they find them. The first was the physical process (typing or

handwriting). None of the students indicated that this is "very difficult". One stated that this is "somewhat difficult". Three stated that they were "neutral", two find it "somewhat easy" and three find it "easy".

The second aspect of the writing process that the students were asked to rate was planning a piece of writing. One respondent stated that this is "very difficult", three stated that it is "somewhat difficult", three were "neutral", two find it "somewhat easy", and none responded that they find planning "easy".

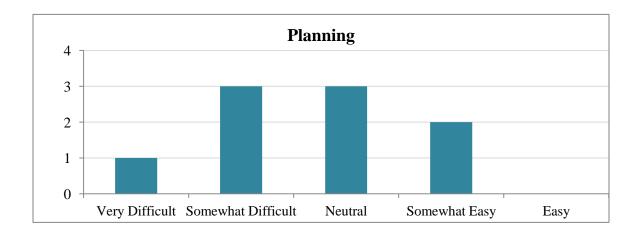


Figure 11. Planning of Writing

The third aspect was organization of thoughts. Four respondents found this "very difficult". One indicated that they found it "somewhat difficult". One was "neutral", and two selected "somewhat easy". None of the respondents indicated that they found organization of thoughts "easy".

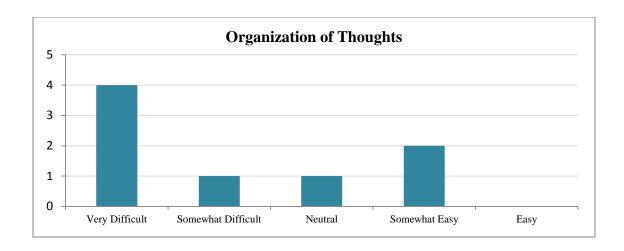


Figure 12. Organization of Thoughts

The fourth aspect was staying on topic. Three of the students shared that they found this "very difficult". None of them selected "somewhat difficult". Three were "neutral", one indicated "somewhat easy", and two of the students indicated that they found staying on topic "easy". Students were also asked how challenging they find understanding an assignment. None of them responded that this was "very difficult". Two students indicated that they found this "somewhat difficult". Two students were "neutral". Five students found understanding an assignment "somewhat easy", and none of them indicated that they found this "easy".

The sixth aspect of the writing process that the students were asked to consider was writing narrative text. None of the students indicated that this was "very difficult". One stated that they found this "somewhat difficult". Four were "neutral". One student indicated that they found it "somewhat easy", and three selected "easy".

The students were asked how challenging they found imagining the audience/reader when they write. None of the respondents reported that this was "very difficult". Two of the respondents indicated that they found this "somewhat difficult". One stated that they find it "somewhat easy", and one stated that they find it "easy". When asked about revising and editing, none of the respondents indicated that they found it "very difficult". Two respondents selected "somewhat difficult", and two selected "neutral". Three students indicated that this was "somewhat easy", and one student selected "easy". The students were also asked how challenging they find researching a topic. None of them responded that they find it "very difficult". Three find it "somewhat difficult". One was "neutral" about the subject. Five respondents indicated that they find researching a topic "somewhat easy", and none replied that it is "easy".

On the subject of spelling, one respondent indicated that they find it "very difficult". None indicated "somewhat difficult". One indicated that they were "neutral" about the subject. One stated that they find spelling "somewhat easy", and six indicated that they find it "easy".

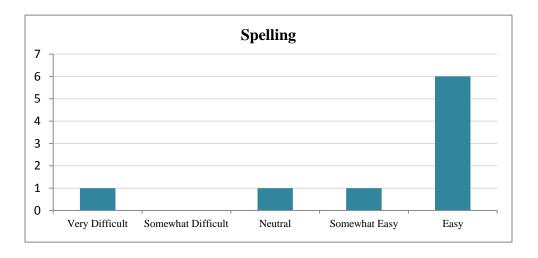


Figure 13. Spelling

The last aspect of the writing process that the students were asked in terms of how challenging they find it was grammar and syntax. One respondent indicated that this is "very difficult". None of the students indicated "somewhat difficult". Two were "neutral" on the subject. One student indicated that they find it "somewhat easy", and 5 indicated that they find it "easy".

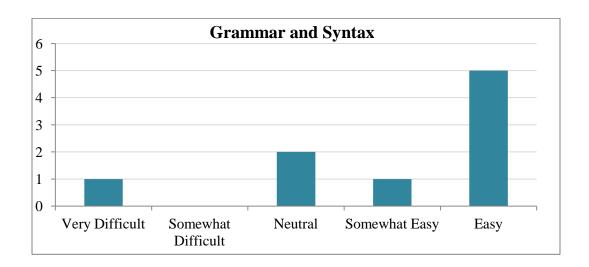


Figure 14. Grammar and Syntax

The students were asked to share any specific accommodations or modifications that they had requested during their College Composition classes. No students requested modified assignments, excusal from group work, and excusal from presentation or preferential seating. Two asked for extra time for assignments. Six asked for extra time for exams. Five students asked for an alternate setting for their exams. Two students asked for peer mentoring or note sharing, and two asked for copies of slides or lecture notes. One student checked "other", and made the comment that he was unaware he could ask for any of these accommodations or modifications. Six students (67%) stated

that these modifications and accommodations helped them succeed in the class. Three students (33%) did not respond to the question.

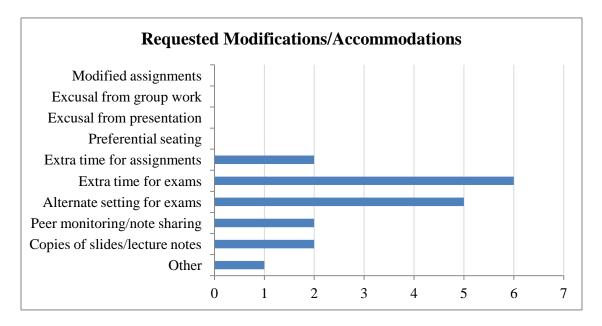


Figure 15. Requested Modifications/Accommodations

The students were asked if they had sought assistance from the Student Writing Center. Five students (56%) stated that they had, and four students (44%) indicated that they had not. Those who responded yes were asked to describe the help they received from the Center. One student indicated that he had received on-to-one help with improving the clarity of his writing. Another described his experience as general guidelines for understanding the assignment (from another "neurotypical" individual's perspective) and/or bouncing possible ideas off of another person. One student stated that a writing tutor helped him in College Comp I the second time. Another commented that he was helped with organizing his ideas and expanding them. One student shared

that he got help with assignments to get good grades. All five students (100%) who sought assistance from the Student Writing Center would recommend it to other students.

When asked if they were satisfied with the grade they had received for their College Composition Classes, eight students (89%) indicated that they were, and one (11%) indicated that he was not satisfied.

The last item on the student survey asked for their thoughts on how their experience in College Composition classes could have been improved. One shared that his experience was just fine and in no real need of improvement. Another shared that he was not really aware that he could receive extra time for assignments, and he received an F and a D on two of his assignments because they were late. One student shared that he had a lot of issues with writing in elementary school that he seemed to have sorted out himself over the years. He added that unfortunately he was negatively affected in College Composition classes when instructors did not give clear assignments. He reported that he had to take Comp I and II twice over his freshman semesters, and that he was able to pass only when the professor was capable of giving clear assignment instructions. The same student also noted that he finds handwriting tedious, and achieves much better results when he is able to type assignments.

Chapter Five

Discussion

This study sought to identify the particular aspects of the writing process that college students with Asperger's find challenging. Two separate perspectives on the issue were targeted: that of the students themselves, and that of the instructors who teach undergraduate writing classes. From the results of the faculty surveys, it seems that the aspects that they feel are most challenging for their students with Asperger's are planning, staying on topic, understanding the assignment, organizing thoughts and revising/editing. The behavior (typically associated with Asperger's) that was observed most frequently by the faculty was anxiety/overstimulation. Poor punctuality, unexcused absences and late assignments from some students were also noted by the faculty.

The students were also asked to rate aspects of the writing process in terms of how difficult they find it. Most aspects receive a spread of results ranging from very difficult to somewhat easy. Of significance was planning, organization of thoughts, staying of topic and revising/editing, the results of which leaned towards difficult. This is consistent with executive functioning challenges that often affect individuals with Asperger's. Conversely, spelling and grammar/syntax were considered overall to be easier by the students. Again, this fits with the generalization that students with Asperger's handle concrete information (correct spelling patterns, learned rules of grammar, etc) with greater ease than abstract thoughts. In her research, Jurecic (2007) also found that students with Asperger's had correct syntax in their writing, but struggled with structuring thoughts and revising arguments.

A second focus of the research was an inquiry into what has been done so far to assist students with Asperger's at Rowan. Relevant ventures shared by the director of the Academic Success Center included the College Compass, an introductory weekend for students with disabilities and parents to help with the transition into college. While not directly related to writing, this contributes to the students' overall success and comfort-level on campus. The Academic Coaching program, also run by the Academic Success Center, is significant as it offers assistance for students in whichever area they need support, which for many may be writing. This organized program of support is particularly beneficial for students with Asperger's, whose deficits in social interactions may serve as a barrier to initiating peer learning opportunities. The Student Writing Center, while not serving students with disabilities exclusively, is another resource where students struggling with writing can receive free tutoring.

The third focus of the research was what could be done in the future to support college students with Asperger's in the area of writing. Greater knowledge and understanding among the writing instructors is an important goal. The faculty is aware that they lack formal training in the area of teaching students with Asperger's, with the majority of their knowledge coming from the media, personal experience and discussions with friends or colleagues. A number of them suggested workshops or presentations as a way to move forward with their understanding, in particular in the area of appropriate accommodations. More readily accessible resources, potentially through the website, are also an achievable suggestion made by faculty. Efforts must also be made to improve communication between students with Asperger's and their instructors regarding the types of accommodations and modifications available. This was most apparent with the

issue of late assignments from students, despite the fact that all instructors indicated that they would be willing to offer extra time if requested.

Several research studies have referred to the issue of students in higher education needing to self-identify and request assistance for the first time. Graetz and Spaminato (2008) highlighted some of the potential challenges faced by students with AS as they transition to higher education, making the point that at the secondary level, the IDEA mandates the provision of assistance for students with disabilities, while at the post-secondary level, the ADA and Rehabilitation Act are the mandates for assistance, usually in the form of accommodations and support which students must request for themselves.

This issue was evident in a number of responses to my surveys. One faculty respondent described a student who they believed had Asperger's because of multiple symptomatic behaviors, and yet the student's lack of self-identification prevented the instructor from implementing accommodations or modifications which could have contributed to the students success in the class. This bears close resemblance to the experience of Jurecic (2007), who discussed the issue of being unable to modify content and provide accommodations for students who had not been formally identified as having Asperger's. While her knowledge of Asperger's and observations of her student's behaviors and difficulties led her to believe that he did have the condition, his failure to identify himself meant Jurecic was also restricted in the modifications and accommodations she could offer him.

Other issues raised by the need to self-identify and self-advocate include the apparent discrepancy between the accommodations and modifications that students

requested, and what instructors are prepared to offer. This was most notable with extra time for assignments. All faculty respondents stated that they were prepared to offer this accommodation. Yet turning in assignments late was an issue for at least one student, who stated "I did not know I could receive extra time for assignments... I got an F and then a D because they were late". Past research has indicated that complications in executive functioning can make time-management a challenge for students with Asperger's, and trying to plan for long-term assignments and exam study schedules can be difficult (Smith, 2007) (Dillon, 2007). Given the instructors' limited knowledge about teaching students with Asperger's, they may not realize the shift that has occurred and that the students may not be able to ask for the help they need. Possibly creating a handout, either department wide or individually, of what accommodations and modifications could potentially be available would prevent this lack of understanding in the future. When asked to indicate which accommodations and modifications he had requested, one student stated that he was "unaware I could make such accommodations...I thought I could only get time and a half on exams".

Wenzel and Rowley (2010) point out that a lack of funding impedes the ability of some higher-education institutions from developing resources to meet the needs of students with Asperger's. However, the ideas suggested by the faculty in this study are not necessarily prohibitively expensive. While organizing presentations and workshops will certainly entail a financial burden, the relaying of information to staff through an existing website would not appear to pose a great expense. This is particularly true since the Academic Success Center has already generated useful material/handouts to distribute to faculty regarding the teaching of students with Asperger's.

Farrell (2004) refers to students with AS' "extreme literal-mindedness" as a barrier to successful social interactions. While their neurotypical peers may be making friends and building a network of support, students with Asperger's often remain isolated. One of the instructors indicated on their survey that social acceptance was an issue, as they commented "I wonder how instructors can protect these learners from other students who sense the Asperger student is "different", therefore, "annoying".

While Smith (2007) asserts that institutions are not catering to the needs of students with Asperger's, through the Academic Success Center, Rowan University has made several important steps towards integrating the students into the college. They are invited to attend the College Compass program to assist in the transition to college life. Dillon (2007) makes the point that, given the individual needs of students with Asperger's, mentors and coaches may be the optimum way to address the specific challenges each student faces as they adapt to college life. Rowan has established an Academic Coaching program, which provides individualized support to students with disabilities, helping them identify their learning style, and to become more self-reliant, self-motivated and autonomous.

Limitations

This study is limited in its size, in that it is restricted to a single institution. The number of subjects who responded to the survey was also limited. Of the 53 students who were asked to complete the survey, nine responded. The director of the Academic Success Center indicated that this was to be expected since getting the students to check and respond to mail and email is an ongoing concern. He also shared that previous

surveys distributed to the students, even when they offered incentives for completion, only generated a minimal response. The response from faculty was also relatively low, with 11 completed surveys being turned in from the 43 that were distributed.

The study was also limited by the timeframe for completion. A lengthier study could have probed deeper into the perspectives of both the faculty and students through interviews and focus groups. However, given the short time allocated for data collection, this extension of the research was not feasible.

Future Studies

Future studies could include more than one institution, to get a broader understanding of the experience of college age students with Asperger's. They could also extend beyond the area of writing, to expand our knowledge about the issues and successes of students with Asperger's across a variety of academic disciplines. It may also be beneficial to explore different methods of data collection. In particular, students with Asperger's may have skewed self-perception that results in not having a true understanding of their strengths and weaknesses. While the survey provides information on their skills from their own perspective, it would be helpful to cross-reference this information with feedback from instructors, samples of work and grades.

It would also be useful to survey non-Asperger's college students about writing to compare the responses of the two groups. Such research could further our understanding about general academic strengths and weaknesses rather than traits which are symptomatic of disabilities such as Asperger's. For example, it would be useful to see if

neurotypical students who are also majoring in fields such engineering or physics also struggle with the expressive elements of the writing process.

Practical Implications

It is apparent from this study that there are gaps in the knowledge of instructors who will teach writing to an increasing population of students with Asperger's. The Academic Success Center is making useful, important strides towards providing information for the instructors. Following the suggestion of one of the faculty respondents, making information about the best ways to support students with Asperger's available and easily accessible online would be a useful resource, as instructors could access the information when they need it rather than trying to locate a handout that is easily lost. Providing additional workshops and presentations on the topic could also be useful, particularly if they involved question and answer sessions where instructors concerns could be addressed.

The level of communication between students with Asperger's and their instructors also needs to be improved. Even students who are assertive enough to identify themselves as having Asperger's to their instructors may have reservations about asking for specific accommodations or modifications, or be confused as to what is permissible. It would be extremely beneficial for individual instructors, or the Writing Department as a whole, to generate a list of the accommodations and modifications that they would be prepared to offer, and present this to self-identifying students as a means of opening dialogue as to which would best serve the student's needs.

From the feedback given by the students as to which aspects of the writing process they find difficult, mentors, tutors and instructors at the Writing Center can tailor goals and strategies to most assist the students with Asperger's who approach them for help. In particular, visual aids in the area of organizing thoughts and structuring writing may be most beneficial to the majority of the students, whereas spelling and grammar should be of only minor concern.

Conclusion

This study involved research into the experience of college-level writing for students with Asperger's syndrome/ASD. Three research questions were addressed: what are the specific challenges those students with Asperger's face with college-level writing, what has been done to help support and remediate these issues so far, and what could be done in the future to support students with Asperger's in their writing assignments? Surveys were administered to the students with Asperger's syndrome at Rowan who have self-registered, and to the faculty who teach required college composition classes to undergraduates. Results indicate that the students find the aspects of writing related to executive functioning to be the most challenging, including organization of thoughts, structuring their writing, and staying on topic. More concrete aspects such as spelling and grammar/syntax were generally considered easier. Results from faculty indicate that there is a need for a greater understanding of how Asperger's might impact the learning experience for their students, and they are interested in learning more about what types of assistance would be most beneficial to offer.

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Appendix A Faculty Survey

The purpose of this survey is to research faculty experiences with, and perspectives on, students with Asperger's in required college writing classes. The research, entitled "Understanding the Writing Difficulties of University Students with Asperger Syndrome" is being conducted by Sarah Dubin of the Department of Language, Literacy and Special Education, Rowan University, in partial fulfillment of her M.A. degree in Learning Disabilities. For this study you will be asked to answer questions on one survey (attached). Your participation in the study should not exceed 30 minutes total. There are no physical or psychological risks involved in this study, and you are free to withdraw your participation at any time without penalty. Your responses will be anonymous.

By taking this survey you agree that any information obtained from this study may be used in any way thought best for publication or education provided that you are in no way identified and your name is not used.

Participation does not imply employment with the principal investigator, or any other project facilitator.

If you have any questions or problems concerning your participation in this study, please contact Sarah Dubin at dubins71@students.rowan.edu, or her faculty advisor, Dr. Sydney J. Kuder, at Kuder@rowan.edu.

If, during your employment at Rowan University, you have taught College Comp to a student who **self-identified** as having Asperger's syndrome or Autism Spectrum Disorder, please complete **all questions.** If you have taught more than one, please consider your most recent student.

If, during your employment at Rowan University, you have NOT taught College Comp to a student who **self-identified** as having Asperger's syndrome or Autism Spectrum Disorder, please complete **questions 8-14**

1. Did the student(s) approach you to share their diagnosis:

Prior to the class beginning

At the first class

After the first class but before finals

One or two classes before finals

2. Did the student request specific accommodations/modifications?

		Requested	Granted	
	Modified assignments			
	Excusal from group work			
	Excusal from presentation			
	Preferential seating			
	Extra time for assignments			
	Extra time for exams			
	Alternate setting for exams			
	Peer mentoring/note-sharing			
	Copies of slides/lecture notes			
	Other			
3.	Did the student display any of the follow	ving behaviors:		
	Dominating class discussion			
	Directing discussions away from the topic to	wards own interests		
	Repetitive/stereotypical behaviors e.g. rocking	ng		
	Anxiety or over-sensitivity to stimuli			
	Inflexibility with unavoidable changes (e.g. r	room switches, rearrangen	nent of seating)	
4.	Did you experience any of the following	with from your student:		
	Unexcused absences from class			
	Poor punctuality			
	Late assignments Assignments that failed to address the dir	□ rections given □		

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5. How would you rate the student's overall performance in the class when compared to their typical peers:

High □ High Average □ Average □ Low Average □ Low □					
What particular aspects of the w	riting process wer	e challeng	ing for y	our studen	t:
	Very Difficult	Somewhat Difficult	Neutral	Somewhat Easy	Easy
The physical process (typing or han	dwriting)				
Planning					
Organization of thoughts					
Staying on topic					
Understanding the assignment					
Writing narrative text					
Imagining the audience/reader					
Revising and editing					
Researching a topic					
Spelling					
Grammar and syntax					
	I				
Did you encourage your student	t to seek assistance	from:			
Peer mentoring program □					
Student Writing Center					
Classmates					

6.

7.

8.	How knowledgeable do you	u conside	er yourself about Asperger's and autism spectrum disorders?
	Very knowledgeable		
	Somewhat knowledgeable		
	Average		
	A little knowledgeable		
	Not at all knowledgeable		
9.	Where has this knowledge	come froi	m? Check all that apply
	Media		
	Academic journals/publication	ns	
	Personal experience		
	Information provided by Row	an	
	Books		
	Discussions with friends/colle	eagues	
	Other (please state)		
10	2		er yourself about the particular challenges that students with orders face with the writing process?
	Very knowledgeable		
	Somewhat knowledgeable		
	Average		
	A little knowledgeable		
	Not at all knowledgeable		

11. If a student approached you feel to teach them?	to self-identify as having Asperger's syndrome, how prepared would you
Very prepared	
Somewhat prepared	
Neutral	
Somewhat unprepared	
Very unprepared	
12. Which of the following acco	mmodations would you be willing to offer to a student with Asperger's who
was struggling with course c	
Modified assignments	
Excusing from group work	
Excusing from presentation	
Preferential seating	
Extra time for assignments	
Extra time for exams	
Alternate setting for exams	
Peer mentoring/note sharing	
Copies of slides/lecture notes	
Other	_
13. Do you consider it essential a modifications or accommoda	to maintain the academic integrity of your course when selecting ations?
Yes □ No □	

14.	Please share your though writing instructors to tea		cess Center could better prepare		
15.	Please share the following	ng demographic informatio	n:		
	Highest degree earned:				
	Bachelors	Masters	Doctorate		
	Years experience teaching	at college level:			
	0<2 years □	2<5 years □ 5<10 years	□10+ years		
Years e	xperience teaching at Rowa	an:			
	0<2 years □	2<5 years □ 5<10 years	□10+ years		

Appendix B Student Survey

The purpose of this survey is to research the experience of students with Asperger's in required college writing classes. The research, entitled "Understanding the Writing Difficulties of University Students with Asperger Syndrome" is being conducted by Sarah Dubin of the Department of Language, Literacy and Special Education, Rowan University, in partial fulfillment of her M.A. degree in Learning Disabilities. For this study you will be asked to answer questions on one survey (attached). Your participation in the study should not exceed 30 minutes total. There are no physical or psychological risks involved in this study, and you are free to withdraw your participation at any time without penalty. Your responses will be anonymous.

By taking this survey you agree that any information obtained from this study may be used in any way thought best for publication or education provided that you are in no way identified and your name is not used.

Participation does not imply employment with the Rowan University, the principal investigator, or any other project facilitator.

If you have any questions or problems concerning your participation in this study, please contact Sarah Dubin at dubins71@students.rowan.edu, or her faculty advisor, Dr. Sydney J. Kuder, at Kuder@rowan.edu.

1.	What is your current st	atus at Rowan:
	Freshman	
	Sophomore	
	Junior	
	Senior	
	Graduate Student	
2.	Did you transfer to Roy	wan from a two-year community college?
	Yes	
	No 🗆	

3.	Are you?					
	Male □					
	Female					
4.	How many years ago were you diagnose	d with Aspe	rger syndron	ne/ASD?		
	0-2 years □					
	2-5 years □					
	5-10 years □					
	Over 10 years □					
5.	What is your major here at Rowan?					_
6.	Did you take College Comp I at Rowan?	Yes □ N	lo □ If yes,	when?		
7.	Did you take College Comp II at Rowan	? Yes □ N	No □ If yes,	when?		
8.	Did you approach your writing instructor	r(s) to share	your diagno	sis of Aspe	rger syndro	me?
	Yes □ No □					
	If yes, please check which response most of	closely matche	es your views	on the follo	wing:	
		Strongly agree	Somewhat agree	Neutral	Somewhat disagree	Strongly disagree
	My instructor was knowledgeable about how					
	Asperger's might impact my learning					
	My instructor was receptive to providing accommodations and modifications					

I felt comfortable approaching my instructor for help if I needed it

9.	Please rate the following	aspects of the	writing process i	in terms of how	challenging you find them:	

	Very Difficult	Somewhat Difficult	Neutral	Somewhat Easy	Easy
The physical process (typing or handwriting)					
Planning					
Organization of thoughts					
Staying on topic					
Understanding the assignment					
Writing narrative text					
Imagining the audience/reader					
Revising and editing					
Researching a topic					
Spelling					
Grammar and syntax					

10. Did you request any specific accommodations or modifications during College Comp I or II?

Modified assignments	
Excusing from group work	
Excusing from presentation	
Preferential seating	
Extra time for assignments	
Extra time for exams	
Alternate setting for exams	
Peer mentoring/note sharing	

	Copies of slides/lecture notes
	Other
	If yes, did the modifications and accommodations help you succeed in the class?
	Yes No If no, why not
11.	Did you seek assistance from the Student Writing Center? Yes □ No □
	If yes, please describe the help you received from the Center
	Would you recommend the Center as a resource for other students? Yes No□ □
12.	Overall, were you satisfied with the grade you received in your College Comp class(es)?
	Yes □ No □
13.	Please share your thoughts on how your experience in College Comp I or II could have been improved