Unshared Realities:
A Rhetorical, Double-Empathy Perspective on Autistic University Students’ Lived Experiences of Academic Acculturation

by

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Abstract

Currently, only limited literature is available concerning autistic university students, particularly, regarding their internal, lived experiences of learning at university. This manuscript-based dissertation, which includes three research articles published or accepted for publication in peer-reviewed journals, investigates the lived experiences of autistic university students as they go through academic acculturation. In this multiphase, multimethod doctoral project, I used a qualitative, participatory design that involved a group of autistic graduate students who provided feedback concerning the data coding, analysis, and writing and editing of the three publications. The methods of data collection included several semi-structured interviews with autistic university students and their autistic and nonautistic instructors as well as other qualitative data (e.g., reflexive journaling, memos, writing samples). I analyzed the data by using reflexive thematic analysis (Braun & Clarke, 2022a) and composite narrative portraiture (Willis, 2019). The research findings indicated that misunderstandings between autistic students and their nonautistic instructors were common, both online and in-person. I drew on Milton’s Double Empathy Problem (2012) and selected rhetorical concepts to identify the underlying nature and reasons for these misunderstandings. Specifically, autistic students were found to use a distinct rhetoric compared to that of their nonautistic counterparts. At least two possible reasons for the development of such a distinct rhetoric may be a) the enhanced perceptual abilities of autistic individuals leading to different typification of academic rhetoric and b) their distinct ways of experiencing and processing time. An open-access website was designed to provide its readers, including academic policymakers and nonautistic university instructors, with insights into autistic students' lived experiences so they could better support autistic university students’ academic acculturation and acquisition of academic writing. This study is a first step to more clearly understanding the lived
learning experiences of autistic students so that they may have equitable access to learning spaces and knowledge creation in the academy.
Acknowledgements

“When we are no longer able to change a situation, we are challenged to change ourselves.”

— Viktor E. Frankl

This doctoral project has been both a personal growth journey and a capstone project. To acknowledge all the people who brought me to this moment is impossible. I am here now with this offering only because so many people who graced my life believed in and supported me. To begin, my nuclear family was amazing: both my parents, Neville and Barbara Robertson were exceptional role models, achieving doctorates in education in the 1960s. My lovely and incredibly generous sister, Lesley has been there for me in life, every moment of every day. I cannot thank her enough. My amazing and inspirational daughters, Megan and Nicola have helped me to try to be and do my best each day since they were born. My life partner and greatest friend, Roy, who knows me deeply, has never faltered in his belief in who I am and what I can do. My gratitude and love for him transcends words. All these people have changed me, and for this, I am eternally grateful for their presence and love in my life.

The actual doctorate is achieved on the shoulders of many children, families, friends, study participants, colleagues, committee members and my supervisor. The greatest contribution to the content of this work comes from the many children and adults whom I supported, and with whom I shared their struggles to acquire or re-acquire language. You have always been my heroes.

In this doctoral project, the study participants gave graciously of their time and expertise to contribute to research about how to enhance not only the lives of autistic people, but also the lives of all who interact with autistic people. My colleagues in the storied history of logopaedics (speech and language clinical work), applied linguistics, discourse studies, rhetorical studies, disability studies and
other disciplines, encouraged and inspired me beyond all measures. I particularly want to deeply thank Jess Rocheleau, Jasmin Macarios, George Ross, Laura Lefevre, Cameron Kent, Matthew Bell, Aster Javier, and Karen Malan, who profoundly enhanced my understanding of the nature and content of this research. I especially honour my first linguistics professor, Dr. Patrick Dickens, whose dedication to understanding language interaction and culture led to his induction into the San/Bushman people of southern Africa during the time of apartheid. He was simply an inspiration.

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For Aaron, Christopher, Bongani, and Tommy
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Abbreviations

APA: American Psychiatric Association
AS: Asperger Syndrome
ASD: Autism Spectrum Disorder
CB: Context Blindness
COVID-19: Coronavirus 2019
DEP: Double Empathy Problem
DSM: Diagnostic Manual for Mental Disorders
EF: Executive Function
GP: Guided Participation
ICD-11: International Classification of Diseases 2011
PAR: Participatory Action Research
RGS: Rhetorical Genre Studies
TA: Thematic analysis
ToM: Theory of Mind
UDL: Universal Design for Learning
WCC: Weak Central Coherence
Glossary

**Ableism:** “The practices and dominant attitudes in society that devalue and limit the potential of persons with disabilities” (‘What Is Ableism?’, n.d., para. 1)

**Academic writing (also, scholarly writing):** In this thesis, any writing that is performed within or for an educational setting, usually to achieve a requirement of the institution (e.g., school, college, or university).

**Autism:** Several definitions of autism exist, and these are often quite contentious. Definition one as used by psychiatrists, psychologists, educators, and various therapists: Autism (also autism spectrum disorder) is a neurological condition characterized by

- Persistent deficits in social communication across a variety of contexts (reciprocity, nonverbal communication, development/maintenance of social relationships)
- Restricted, repetitive behaviours (American Psychiatric Association [APA], 2013).

Definition two: In this thesis, I adopt the autistic community’s definition of autism as a diverse kind of neurology which results in a different way of being in the world that does not require a cure (Heilker & Yergeau, 2011; Network, n.d.).

**Chronos:** The aspect to time which relates to objective, quantitative time such as on a clock or calendar (Yates & Orlikowski, 2002).

**Chronotope:** The configuration of time-space within a narrative or story (Bakhtin, 1986a), including events in daily life.

**Coding:** In qualitative data analysis, attributing “interpreted meaning to each individual datum for later purposes of pattern detection, categorization, assertion or proposition development, theory building, and other analytic purposes” (Saldaña, 2016, pp. 4-5).
**Composite narrative portraiture:** A qualitative presentation of data using combined stories (or, narratives) from individual accounts of a phenomenon under study to tell a single story as a composite portrait drawn from several participants. According to Willis (2018), this analytical approach can provide “the richness and complexity of individual accounts” (p. 481) while ensuring participants’ anonymity.

**Context:** That which helps us to give meaning to events, things and utterances through time and space, internally and externally for a given interlocutor.

**Constant comparison:** “A method of analysis that generates successively more abstract concepts and theories through inductive process of comparing data with data, data with code, code with code, code with category, category with category, and category within concepts” (Charmaz, 2014, p. 342).

**Culture:** The ways in which people participate in the common practices of a community (Rogoff, 2003).

**Disability:** “Sociological disadvantage experienced by people” who have either been medically diagnosed or self-diagnosed with a physical, intellectual, or emotional condition or difference (Barnes & Mercer, 2010, p.11).

**Discourse:** The use of language above a sentence level (Swales, 1990) in any modality to communicate, or “patterns of socially located meaning that serve to construct reality and social objects in particular ways” (Clarke & Braun 2022a, p. 286).

**Discourse-based interviews:** An interview whereby the researcher/interviewer can try to reveal the tacit knowledge and strategies used by a rhetor by questioning them regarding choices they have made in their verbal or written discourse (Odell et al., 1983).
**Exigence:** A social need which is defined by the receiver/listener as a turn in a conversation (in any modality) inviting a response (Miller, 1984).

**Genre:** In Rhetorical Genre Studies, a typified response to a recurrent and perceived social need (Miller, 1984).

**Grounded theory:** “A rigorous method of conducting research in which researchers construct conceptual frameworks of theories through building inductive theoretical analyses from data and subsequently checking their theoretical interpretations” (Charmaz, 2006, pp. 342 – 343, see also constructivist grounded theory).

**Identity:** In this research, the social construction of a representation of oneself (cf. Ivanič, 1998).

**Identity-first language:** The use of terminology that describes one’s identity (particularly one’s disability status) before identifying other features of oneself (e.g., “autistic people”; “autistic students”).

**Intersectionality:** Unique human experiences of individuals who identify across a range of human characteristics and experiences, including gender, race, religious and other realms of human experience (Byrd et al., 2020; Crenshaw, 1989; Nichols & Stahl, 2019; Romero, 2018).

**Kairos:** The aspect of time which is subjective and qualitative in nature, and existing within the moments of communicative exchanges as opportunities to speak or act (Yates & Orlikowski, 2002).

**Lived experience (perezhivanie):** The complex and distinct interaction between an individual person’s psychological and affective/emotional history and current experiences within the physical and social environment (Blunden, n.d.; Clarà, 2016; Vygotsky, 2020).
**Member check:** A stage in a qualitative research design where participants are asked to review transcripts of earlier interviews with them and state whether they represent their statements in a trustworthy way (Saldaña, 2016).

**Neoliberal:** Related to free-market economies with reduced government control and regulation; dominant economic practices in Britain and the United States from the 1980s to the present.

**Neurodiversity:** The concept that neurological differences (such as autism) are part of human variation and do not need a cure (Silberman, 2015).

**Neurotypical:** The kind of neurological conditions which predominate in people within the world community (Chown, 2016). Similar in meaning to nonautistic, although there are other neurological conditions which may be nonautistic but not neurotypical (e.g., various learning disabilities).

**Participatory research:** A research methodology where participants are involved in co-research or as collaborators in all aspects of the study, especially from the first stages of the research (e.g., development of research questions and design of the study). An examination of the power relationships between different members of the research team is an important component.

**Perezhivanie:** See lived experience.

**Predictive coding (or Bayesian statistical models):** A model of how the brain perceives the world “by (rapidly, constantly) making top-down predictions about the world and comparing these against incoming perceptual evidence” (Fletcher-Watson & Happé, 2019, p. 130).

**Rhetoric:** The use of any language form “to accomplish something” (Swales, 1990, p. 6) or to achieve a “purpose” (St. Amant, 2013, p. 35). For Bitzer (1968), rhetoric is “a mode of altering reality” (p. 4).
Rhetorical situation: “A natural contexts of persons, events, objects, relations, and an exigence which strongly invites utterance” (Bitzer, 1992, p.5).

Rhetorical studies: Research which addresses topics related to rhetoric. See Rhetoric.

Rhetoricity: The quality of using rhetoric or being rhetorical. See Rhetoric.

Reflexive thematic analysis: In qualitative data analysis, an interpretative analysis which “foregrounds the active role of the researchers in coding and theme development” (Braun & Clarke, p. 293) and the subjectivity of analysis.

Reflexivity: "An attitude of attending systematically to the context of knowledge construction, especially to the effect of the researcher on every step of the research process" (Cohen & Crabtree, n.d.).

Social situation: "A social situation may be defined as an emergent pattern, or configuration, formed by the conjunction of six variables: (1) people; (2) culture traits; (3) specific meanings and relationships; (4) dynamic processes; (5) a specific time; and (6) a specific place. The conjunction of these variables produces a dynamic pattern which is the situation." (Carr, 1945, p. 138).

Theme development: Construction of “central organizing concept or idea” (p. 295) from the coding of qualitative data (Braun & Clarke, 2022a).

Text: Any stretch of language (in any modality) that can be understood in context (Nordquist, 2019)

Thematic analysis: an umbrella term for a group of qualitative analytic approaches which help researcher to develop patterns of meaning (i.e., themes and sub-themes) from their data.

Triangulation: The research practice of using multiple sources of data and/or methods of analysis to enhance the credibility of the findings of a given research project.
**Uptake:** The communicative response to a perceived social need or exigence (Freadman, 2012, see also “perlocutionary effect”, Austin, 1975).

**Unit of analysis:** A part of the whole, which retains all the basic characteristics of the whole, but cannot be further reduced (Vygotsky, 1986).

**Utterance:** A “link in a chain of communication” which is directed to someone and therefore acquires its “addressivity” (Bakhtin, 1986, p. 95) and situated meaning.
Preface

This manuscript comprises three peer-reviewed articles (Chapters five to seven), two of which have been published and one which has been accepted for publication. Further, the information from the articles is presented in an open-access website hosted by Carleton University, Ottawa, Canada (see Chapter eight). The three articles are reproduced in full in the same format as they were presented in each of the journals where they were printed or as the final copy accepted for publication. For purposes of citation, please see the bibliographic information from the published works below:


The article in Chapter five is a peer-reviewed publication globally available through Creative Commons. As per article 12.4, sections C and D of Carleton University’s Graduate Calendar, the article in Chapter six is a pre-print which has not yet been published but was accepted for publication on June 23, 2023 (see Appendix A). Finally, see the permission to re-print
the published article in Chapter seven in Appendix A. The content of this manuscript-based dissertation has been presented at a number of international conferences including Argentina, Australia, Canada, Scotland, Spain, Sweden, and the United States. See Appendix B for the dates of the presentations.

I confirm that I am the primary author of the co-authored texts in all three articles; in all cases, I was fully involved in designing and conducting the research, including collecting and analyzing data. I was also the primary author in preparing and writing all texts. Permission to publish these texts in this dissertation has been granted by my supervisor and co-authors and provided as separate documents in Appendices C and D. See Appendix A for publishers’ permissions to reproduce published copyright material.

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Chapter 1: Introduction

All students entering university for the first time are faced with a new culture to which they are expected to acculturate (Cheng & Fox, 2008; Lakey, 2003). In other words, they need to learn new ways of being, thinking, and communicating, including writing academically, in order to be successful (Lakey, 2003). However, to do so is especially challenging when one’s life and learning experiences to date have been different or even unique compared to most people in society, including other university students and instructors. This is the case for university students with a “sociological disadvantage” based on a "medically classified biophysiological condition" (Barnes & Mercer, 2010, p.11), or disability. Included in this population are neurodivergent university students, where neurodiversity is the concept that considers neurological differences as part of human variation that do not need to be cured (Silberman, 2015). In this manuscript-based thesis, I investigate the learning experiences of neurodivergent university students; specifically, I focus on the learning experiences of autistic students, whose increasing numbers have been entering universities in the last decade (White et al., 2016).

1.1 The Emerging, Constructed Nature of Autism

Currently, several definitions of *autism* are used clinically and in research. Certain autism researchers define autism as a pathologized way of experiencing life which needs to be fixed or cured (e.g., Baron-Cohen, 1997, 2002; Happé & Frith, 2006; Hughes et al., 1994; Vermeulen, 2013). Throughout the thesis, I refer to this definition as the *first* definition. In contrast, other researchers (e.g., den Houting, 2019; Milton, 2020; Pellicano & den Houting, 2021; Silberman, 2015; Singer, 2017) regard autism as a distinct, but valuable way of being part of the spectrum of humanity, which does not require a cure, a worldview that aligns with the neurodiversity paradigm. Indeed, these evolving ways of thinking and communicating about autism have been part of my
professional and academic journey, and this is the definition that I draw upon in the thesis (I refer to this definition as the *second* definition).

“Don’t mourn for us”, Jim Sinclair\(^1\) said in 1993, speaking on behalf of *autistic* people in addressing nonautistic parents who were struggling to deal with their grief upon finding that their child had received what was often considered at the time to be that most terrifying of diagnoses, autism (Grinker, 2008; McGuire, 2016; Prizant, 2015). In the early 1990s, autism-related diagnoses (e.g., pervasive developmental disorder, Rett’s Syndrome, Asperger Syndrome) were increasingly being used by usually nonautistic medical professionals under the guidance of diagnostic manuals such as the various versions of the Diagnostic and Statistical Manual of Mental Disorders American Psychiatric Association, or DSM, 2013) or the International Classification of Diseases World Health Organization, 2019). According to McGuire (2016) and others, articles in leading newspapers, magazines, and television programs were also promoting the narrative of an epidemic of autism which compounded nonautistic parents’ fears (see Acevedo, 2018; Davidson & Orsini, 2013; Grinker, 2008; McGuire, 2016). As Sinclair (1993) observed, nonautistic parents’ hearts "broke" (n.p.) at each developmental milestone their children missed, and they struggled to come to terms with the autistic child they had, instead of the dreamed-of neurotypical child they had wanted. The message received by their actual, autistic child was clear: they were not expected, much less celebrated by society, and even sometimes by their own parents.

\(^1\) Jim Sinclair is one of the earliest autistic leaders of the neurodiversity movement.
Sinclair (1993) argued for an alternative narrative moving away from one of tragedy and disease to one of celebration of expansive neurodiversity, or the variation of neurology in humanity, and all neurodiversity had to offer. Over the past 25 to 30 years, the neurodiversity movement has become more mainstream, and Sinclair has been increasingly well-received and recognized for their important contributions to the emergence of modern constructions of autism. However, autistic communities still work tirelessly towards important issues in accessibility, recognition, and inclusion within nondisabled worlds. In this research project, I have adopted the second definition of autism as a distinct, and valuable way of being human, which I believe has the potential to make important contributions to academic conversations.

1.2 Personal Opportunity to be a Knowledge Broker

As a doctoral candidate performing this research, this dissertation has been my opportunity to learn, speak, and write based on my history of 38 years of working as a speech-language clinician, with the last quarter century mostly spent learning through my interactions with autistic preschoolers, children, teenagers, and adults. I am nonautistic, but I have engaged with hundreds, if not thousands of autistic people over the last 30 years. For a nonautistic person, this experience is unusual; indeed, it exceeds even the reported opportunities to engage with autistic people described by some of the autistic participants in this study. In fact, this moment in space and time, is wherein my opportunity lies: a possibility to explore, learn from, and integrate the experiences with all the autistic children and university students with whom I have interacted, and autistic and nonautistic university instructors who have participated in and co-researched this multiphase study. I am deeply grateful for this chance to contribute.
In fact, using terminology borrowed from Falconer (2023) and Wenger (1998), my autistic co-researchers and I can be considered knowledge brokers, or social agents connecting and sharing information between autism and disability studies research, applied linguistics, and rhetorical studies as well as between the autistic and nonautistic communities. According to Falconer (2023), brokers perform this “boundary work” (p. 147) where two or more disciplines or communities intersect or overlap. Further, boundary work typically involves the creation of a “boundary object” (Falconer, 2023 p. 148), which in this context is this dissertation and the research articles which comprise it.

**Figure 1.1**

*Interactions Between Researchers Who Study Autism and the Autistic Community*²

At present, there are both autistic and nonautistic researchers interested in working in the field of autism research. Figure 1.1 depicts the relationships between the autistic community and

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² Original diagram by author, inspired by Wenger (1998, p. 113).
all researchers who study autism. Unfortunately, not all nonautistic researchers equitably include autistic researchers or even members of the autistic community in their research, except as study participants with little or no role in the research design and work. And yet, those autistic and nonautistic researchers who are committed to research which prioritizes input from autistic community members to address research questions which are useful and relevant to the autistic community, can be considered knowledge brokers. Indeed, all autistic researchers can be considered brokers. In this multiphase study, as knowledge brokers, my autistic co-researchers and I are committed to sharing our findings with autistic and nonautistic people in the community as well as researchers from all disciplines.

1.3 A Word on Terminology and Decisions about Language Use

In the disability research literature, there is considerable variety in use of terminology which reflects different understandings of disability, including autism (Acevedo, 2018; Chown, 2017; Silberman, 2015). In general, the language used to describe autism and people who either seek this diagnosis or self-identify in this way fits into three categories:

1. Person-first language, for example, “person with autism,”

2. Identify-first language, for example, “autistic person,”

3. Emphasis on the diversity of autism, for example, “person on the (autism/autistic) spectrum” (Wing & Gould, 1979).

In this project, I use the identity-first term, “autistic students” and similar other phrases which are promoted by most autistic researchers and writers (Barnes & Mercer, 2010; McGuire, 2015; Tregaskis, 2004; Heilker & Yergeau, 2001; Yergeau, 2018). First, as mentioned above, I support the idea that being autistic refers to a distinct, but highly valuable way of being in the world, not a deficit or pathology which needs to be cured. Further, in today’s world, groups of
disabled people (e.g., the Deaf community and, more recently, autistic people) are increasingly self-identifying as distinct cultures\(^3\) (the ways in which people participate in the common practices of a community, Rogoff, 2003), with individuals belonging to the community or culture considering their disabilities to be integral parts of their identity (Milton, 2020; Network, n.d.; Raymaker & Nicolaidis, 2013; Sinclair, 2010). For this reason, most autistic adults prefer identity-first language which is also increasingly required by professional research journals that publish studies related to issues of concern to autistic people. In my work, I have followed their lead and used identity-first language.

Further, the term “autism/autistic spectrum” is also usually considered respectful language by autistic adults (Nicolaidis, 2019), and I sometimes use this term as well. Although the construction of autism as a spectrum was first suggested in 1979 (Wing & Gould, 1979) and is a well-accepted term in current research literature, it may be considered inconsistent with binary or dialectic constructions comparing autistic people’s experiences to those of nonautistic people. Indeed, I have heard this inconsistency criticized at a few conferences by the advocates of the term spectrum (for both “autistic spectrum” as well as “human spectrum”) who argue credibly for the

\(^3\) According to Chapman (2019) and Silberman (2015), the autistic community has recently self-identified as a unique culture with its own ways of being, communicating and acting with agency. This development has been compared to similar developments in the Deaf community over the past half century where Deaf individuals have self-identified their community as a unique culture with its own language. Chapman (2010) and Silberman (2015) have posited that the internet is comparable to American Sign Language as the means of sharing among members of autistic culture and development of their agency within the world.
idea that autistic and nonautistic experiences may not be mutually exclusive or categorical in nature.

While I agree with the notion of the spectrum or autism as a continuous phenomenon, the current cultural movement among autistic adults to own their own identity as “autistic people”, distinct from nonautistic or neurotypical people (or people with more typical neurology), can be seen as contrary to the spectrum stance. Indeed, many, if not all, life experiences, are continuous or spectrum-like. Recently, historically categorical variables such as gender and racial identification have proved to be continuous or fluid in nature (Katz-wise & Parsa, 2021). And yet, it has sometimes been useful in research to categorize what are, in fact, continuous variables such as colours, age groups, and so on. That is the case in this multiphase study. Therefore, consistent with the emergence of the concepts of autistic identity and culture, I have taken the decision to present autistic people’s experiences categorically and used the language of comparison as in comparing autistic and nonautistic people’s experiences.

Further, when I discuss autistic students' experiences communicating, learning, writing, and so on at university, I use the term lived experience in a specific sense. That is, I refer to the internal experiences of autistic students as they engage in university learning environments, which are at the centre of this multiphase doctoral project. The concept of such an internal experience has emerged in current cultural historical research (e.g., Mochizuki, 2022; Veresov et al., 2017) as the basis of the concept of perezhivanie, as it is transliterated in English (Clarà, 2016; Fleer, 2016). It

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4 The Russian spelling of the term is переживание (perezhivanie). Please note that the form perezhivanie is singular (experience) and the form perezhivaniya is plural (experiences).
was originally developed by Vygotsky (1986, 2020) and has later been represented in the English-language literature as a “lived experience” connected to a “social situation of development” (Blunden, n.d., para.1). In other words, perezhivanie addresses the complex and distinct interaction between an individual learner’s psychological and affective emotional history and current experiences within the (physical and social) environment of a given learning interaction (Blunden, n.d.; Clarà, 2016). For Vygotsky (1986, 2020), the nature of perezhivanie was not static but changeable so that any individual could experience the same environment differently at different times, and any two individuals would not experience the same environment in the same way. As an example, Vygotsky (2020) described three children living in an abusive home environment, each of whom responded differently to the same environment according to their individual perezhivanie, which is determined by their individual emotional psychological processes, including their affective emotional experiences. In the dissertation, I use the terms perezhivanie and lived experience interchangeably.

1.4 Research Purpose and Development of Research Questions

The purpose of the research project presented in the dissertation has been to investigate the lived experiences (or perezhivaniya) of autistic university students as they acculturate to academic life at a university, including their acquisition of academic writing. Further, a secondary purpose has been to obtain autistic students' recommendations regarding the academic supports that may enable them to be successful at university. To guide the overall research project, the following umbrella question was posed:

How do autistic university students account for their lived experiences learning and engaging with nonautistic and autistic instructors and peers at university?

Three sub-questions were posed:
1. How do autistic university students account for their lived experiences with academic acculturation and acquisition of academic writing?

2. How do autistic and nonautistic instructors account for their experiences teaching autistic university students, especially in supporting autistic students’ development of their academic writing?

3. How do different learning formats (i.e., in-person or virtual learning) impact autistic students’ learning and engaging at university?

More specific research questions are also found within the three published articles which comprise this doctoral dissertation.

**1.5 Rationale for a Manuscript-Based Dissertation**

As mentioned above, I have positioned myself as a knowledge broker working at several boundaries (Falconer, 2023; Wenger, 1998):

- between several research fields (i.e., applied linguistics, rhetorical studies, and autism research)
- between the above-mentioned research fields and the autistic community
- between the autistic community and the university.

Indeed, my personal aims in doing this doctorate in the first place were to expand my clinical understandings with theory, update my knowledge of current trends in the applied linguistics and autism research communities, conduct useful and relevant research to support autistic university students, and then ultimately and most importantly, share this knowledge with all who can benefit from it. As a capstone project at the end of my clinical career, sharing this knowledge through publications was highly important to me. Consequently, a manuscript-based dissertation was the ideal vehicle to achieve these aims.
1.6 Summary of Chapter One

In Chapter one, I have discussed the emerging and various constructions of the nature of autism and described my and my co-researchers’ roles as knowledge brokers in conducting this research project at the nexus of several disciplines and crossroads of research and community groups. I have also discussed the importance of terminological use in autism research and outlined the reasons for the choices I have made. I have presented the research purpose and overall research questions and discussed why I chose a manuscript-based dissertation as the vehicle to present this multiphase study. Below I provide an overview of the rest of this dissertation and then move to Chapter two, an overview of current perspectives on disability and autism.

1.7 Overview of the Dissertation

This manuscript dissertation comprises nine chapters. The remaining chapters are described below.

Chapter two provides an overview of current constructions of autism as well as a description of the variety of theories which have been forwarded to account for autism. I particularly emphasize Milton’s (2012) Double Empathy Problem (DEP) perspective as the starting point of the theoretical framework for this multiphase study. Further, I describe current learning and teaching environments which autistic students encounter when they enter university. Finally, I emphasize that autism is a complex experience uniquely lived by each individual with this diagnosis or identification.

In Chapter three, I review selected literature from writing studies, particularly as the studies relate to the nature of autistic-nonautistic social and academic interactions at university. I also present a review of traditional and more current rhetorical concepts that I use to expand the DEP perspective in this study.
Chapter four provides details on research methods, which I could not include in the published research articles due to the journals’ space limitations. I also include a discussion of my evolving understandings of appropriate and effective methodologies and methods which I used over the course of my doctoral experience.

Chapters five to seven present three peer-reviewed publications that constitute the manuscript-based part of this dissertation. They include:

Chapter five: a pilot study investigating the potential value of using Rhetorical Genre Studies (RGS) as a new lens to understand the nature of autistic university students’ interactions with their nonautistic instructors and peers (Ballantine & Artemeva, 2020).

Chapter six: an in-depth investigation of autistic university students’ accounts of their lived experiences interacting with their autistic and nonautistic instructors. The chapter presents a detailed discussion of academic acculturation and acquisition of academic writing by autistic university students (Ballantine et al., accepted for publication).

Chapter seven: a study examining learning preferences reported by a small group of autistic university students as they strove to be successful during the rapid, unexpected changes in instructional formats imposed by the COVID-19 pandemic, with particular emphasis on their preferences for online or in-person engagement and learning (Ballantine et al., 2023).

In Chapter eight, I describe a university website which I constructed to disseminate the above findings, particularly addressing the needs of autistic university students, their peers, and instructors to access this information in support of student needs (Ballantine & Artemeva, 2022).

The concluding Chapter nine is a synthesis of the finding of the studies presented in the published articles and the website. It discusses how the integration of the findings provides important understandings of autistic students’ experiences with a view to supporting them in the
future and ensuring that their contributions to knowledge creation and meaning making in the university are recognized and valued. Finally, I make concluding remarks, and discuss avenues for future research.
Chapter 2: An Overview of Current Perspectives on the Lived Experiences of Autistic People

With the overall aim of conducting a relevant and useful study to better understand autistic university students’ lived learning experiences and to suggest effective pedagogical supports which promote their equitable, or fair, access to learning and knowledge creation at university, this research is situated at the crossroads of several disciplines. The literature on autistic university students’ experiences (Gelbar et al., 2014; Gurbuz et al., 2019; Roberts & Birmingham, 2017; Siew et al., 2017) in general is limited, and that concerning their academic acculturation and writing (Gillespie-Lynch et al., 2020; Prince, 2013) is even more scarce. In this chapter, I examine the history of the constructed nature of autism including current understandings of autism as a neurodivergent and valuable way of being, thinking, and communicating in the world. Specifically, I start by discussing various models or constructions of disability, including autism, which are still used in the world of today (Barnes & Mercer, 2010; Grinker, 2008; McGuire, 2016; O’Dell et al., 2018). Next, I review several prominent theories of the nature of autism which have brought the field to where it is now. Finally, I discuss how the models and theories of disability and autism have impacted university learning environments and the consequences of this effect.

2.1 Models of Disability

Three models of disability, including autism, are currently in use. Within these contrasting models, autism has been viewed as a pathological deficit, as a social construct which limits full societal participation for autistic persons, and as a culture with its own identity and agency to determine its role in society (Acevedo, 2018; Barnes & Mercer, 2010; Tregaskis, 2004). Below, I discuss and explore all three models and their impacts on theories of autism and autistic writing.
2.1.1 Biomedical Model

The biomedical model (also, individual model) of disability emphasizes deficits or disorders, which are situated within each individual person and which require a cure (Acevedo, 2018; Barnes & Mercer, 2010; Clare, 2017; Tregaskis, 2004). In the past, this model has been widely used by western medical and clinical professionals and its influence is still highly prevalent today (Acevedo, 2018; Silberman, 2015; Yergeau, 2018). Using the biomedical model, autism has been defined as a neurological condition characterized by:

- Persistent deficits in social communication across a variety of contexts (reciprocity, nonverbal communication, development/maintenance of social relationships), and


The biomedical model is most aligned with ableist rhetoric, or the language of majority nondisabled people regarding their understandings of disability (Cherney, 2019). This perspective situates those with disabilities, including autism, as economically unproductive or in need of societal charity (Acevedo, 2018; Dolmage, 2017). Indeed, many of the mainstream cognitive theories of autism reflect this model.

2.1.2 Social Model

The social model, which emerged in the 1970s as a dialectic alternative to the individualized, biomedical model, emphasizes that disability is a social construct and not inherently related to a pathological embodiment or impairment (Acevedo, 2018; Barnes & Mercer, 2010; Clare, 2017; Tregaskis, 2004). Rather, it results from “the social, environmental, structural, spatial, and attitudinal barriers that hinder ‘impaired’ peoples’ full participation in wider society” (Acevedo, 2018, p. 200). The social model re-conceptualizes disability in important ways which has led to crucial improvements in society’s lens on disability and improved access to physical,
social, and political spaces. However, it still characterizes disabled individuals as lacking in agency, and not consistently recognized for their own valuable experiences and abilities (Acevedo, 2018; Barnes & Mercer, 2010; Clare, 2017).

2.1.3 Cultural Model

More recently, a cultural construction of disability (Carpenter, 2011) has arisen, which together with the social model, is strongly aligned with the neurodiversity movement, or the movement that promotes the construction of developmental and mental disabilities as simply part of the diversity of human neurology. Indeed, the cultural perspective has reconceived disability as a site of cultural and political agency (Acevedo, 2018; Grinker, 2008; McGuire, 2016; Nguyễn, 2015; Tregaskis, 2004) emphasizing the inclusion and importance of the accounts of the lived experiences of disability reported by disabled persons themselves. In autism research, this perspective emphasizes that being autistic is being on the diverse spectrum of human neurology with both strengths and weaknesses as are found in all humans (Carpenter, 2011). Further, as mentioned in Chapter one, the concept of neurodiversity characterizes autism as a distinct culture which differentiates itself from nonautistic cultures (Clare, 2017; Silberman, 2015), much as has happened in the Deaf community (Chapman, 2019; Silberman, 2015). It should be said, however, that this is an emerging perspective which has come about as autistic adults have increasingly made contact with each other, often on the internet, discussing their experiences, values, beliefs and identities as a distinct culture (Network, n.d.; Silberman, 2015).

Although I use the term “culture” collectively here, I am aware that a singular autistic culture does not accurately depict the many subcultures of the autistic community, for example, those who are speaking, those with learning disabilities, etc.
All three above-mentioned models (biomedical, social, and cultural) continue to be used in societal practice and research communities at large, each providing different, but overlapping perspectives on disability, and, according to Acevedo (2018), each must be understood to fully appreciate “the lived experiences of disabled people” (p. 202). While I acknowledge that the biomedical definition of autism is still widely used by professionals and some families of autistic children, I adopt the adult autistic community’s definition of autism as a divergence in human neurology (or, neurodiversity) which results in a different way of being in the world, but which does not require a cure (Heilker & Yergeau, 2011; Network, n.d.). Although this social and cultural approach does acknowledge the existence of embodied (neurological) differences in autistic people, it emphasizes that society’s construction of autism as a pathology limits the participation of autistic persons in the social world. It also emphasizes that autism is a site of cultural identity, agency, and action where neurodivergent people can exercise the power to participate fully in all of society. My research reflects this understanding.

2.2 Review of Theories of Autism

Although the term *autism* was first used as a description of a sub-type of schizophrenia by Bleuler in the early 1900s, the first clinical descriptions of the autistic experience as it is biomedically constructed today are usually attributed to Kanner (1943) in North America and, at almost at the same time, Asperger (1944) in Austria (Cohen & Volkmar, 1997). Later, in the 1950s, as was often the case with any developmental difference experienced by a child at that time, autism was often attributed to a deficiency in the mother’s parenting style and skills (Colker, 2015; Grinker, 2008; Jackson & Mannix, 2004). Indeed, one of the first explanations or theories of autism was that it related to problems with mother-child attachment due to an aloof or reluctant mother (Bettelheim, 1967). Later on, in the 1970s and 1980s and onwards, however, cognitively
based theories became mainstream (Chown, 2016). These theories raised some important considerations which sometimes characterized the experiences of some autistic people, and they typically were employed by professionals who endorsed a biomedical model of disability (Barnes & Mercer, 2010; Grinker, 2008; McGuire, 2016; Silberman, 2015). More recently, autism research also explored perceptual processing differences among autistic individuals as compared with those who are nonautistic (Fletcher-Watson & Happé, 2019; Pellicano & Burr, 2012; C. J. Price, 2012; Wang et al., 2017). For this review, I start with a contentious, but widespread conversation about a particular autism theory, Theory of Mind, that has been in the research literature for the last two decades.

2.2.1 Theory of Mind and the Double Empathy Problem

Theory of Mind (ToM) has been defined as the ability to be able to perceive the perspectives of the minds of other people, and even the ability to reflect on one’s own thinking (Baron-Cohen, 1997; Chown, 2016). Differences in ToM in autism have historically been described as deficits within an individual autistic person with perspective-taking or understanding the mental states of other people and even of oneself (Asaro-Saddler & Bak, 2014; Baron-Cohen, 1997; Brown et al., 2014; Brown & Klein, 2011; Frith & Happé, 1994; Jurecic, 2006, 2007). Baron-Cohen (1997) considered that ToM deficits were a key, if not defining, feature of autism. However, ToM differences have been demonstrated to occur within a wide range of populations including those who are very young, and those with schizophrenia, blindness, and deafness (Boucher, 2012; Chown, 2016; Hobson, 2009). In addition, Pellicano (2010) found that many autistic people have been able to solve various tests of ToM, particularly as they mature and develop “early domain general skills” (p. 530). These include skills relating to goal setting, planning, organizing, working memory, and attention (or, executive functions) and the ability to
perceive and understand an overarching theme based on the perception of a number of details (or, central coherence skills). This finding is not unlike the development of the general population where increasing maturity is also associated with improved ToM (Boucher, 2012; Chown, 2016).

Importantly, most of the published literature on the topic of ToM has only considered differences or difficulties that autistic individuals experience with understanding the perspectives or mental states of nonautistic people, but *not vice versa* (Chown, 2016; Hacking, 2010; Milton, 2012; Sinclair, 1993). Milton (2012), an autistic researcher, was the first to describe the difficulties that *both* autistic and nonautistic people have in understanding *each others’ mental states* as the Double Empathy Problem (DEP). More specifically, he posited that researchers should consider not only the difficulties which autistic people have in understanding the minds and feelings of nonautistic minds, but also the difficulties that nonautistic people have in understanding autistic minds and feelings. Indeed, Milton (2012) contended that autistic people may well have a greater understanding of nonautistic minds than vice versa, simply because autistic people engage daily in negotiating the nonautistic world.

Within the context of writing studies, common challenges for all novice writers are to develop a sense of audience (Giltrow et al., 2014), as well as to develop one’s identity or *voice* as a writer (Ivanič, 1998). In particular, transitioning from one setting and culture to another (e.g., from high school to university, from university to the workplace, or from one country to another) has repeatedly been shown to be challenging for all student writers (Artemeva & Fox, 2010; 

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6 I have drawn on this aspect and understanding of the Double Empathy Perspective as the start (or springboard) of the combined theoretical framework, used in this project, which I developed based on the DEP together with selected rhetorical concepts.
Canagarajah, 2006; Dias et al., 1999; Dias & Paré, 2000; Swales, 1990). For autistic students, an understanding of their (usually nonautistic) audiences and their sense of their own authorial voice and identity (Ivanic, 1998) within academic spaces dominated by nonautistic people (or, nonautistic academic spaces) could be even more difficult to develop (Brown & Klein, 2011; Gerstle & Walshe, 2011; Jurecic, 2006, 2007). However, part of the problem lies in the ableist influence of what is considered “good” or “appropriate” writing which has almost exclusively been developed within nonautistic spaces (Dolmage, 2017; Prince, 2013). One must consider how well nonautistic students, if they were required, might learn to communicate, or write in autistic ways, as they have usually had even fewer opportunities to participate in autistic social and writing spaces than autistic students in nonautistic spaces.

2.2.2 Executive Function

Executive functions include goal setting, planning, organizing, working memory and attention. Challenges with executive function skills (Asaro-Saddler & Bak, 2014; Macintosh & Dissanayake, 2006) have also been proposed to account for distinct information processing in autistic people compared to nonautistic ones (Attwood, 2007; Chown, 2016; Frith & Happé, 1994; Hill, 2004). However, although some autistic individuals have been reported to experience these kinds of challenges, this is not the case for all autistic people (Chown, 2016). Indeed, Hill (2004) has argued that any challenges in executive functions in autism cannot be generalized. Rather, they may be connected to difficulties with the ability to move back and forth between different activities or tasks (set shifting) and the ability to shift one’s thought processes between two or more different concepts (cognitive flexibility) (Chown, 2016; Hill, 2004).

Another theory of autism relates to the attention style of autistic people. For example, associated with the executive function conceptualization of autism is the related diagnosis of
monotropism which has also been suggested as a primary underlying cause of autism. Monotropism was first described by Murray et al. (2005) as an attention style where a person tends to focus on a single or small number of interests at the expense of noticing information outside of the central interest(s). This would be consonant with the characteristic often reported in the autism literature that many people with autism enjoy and engage in strong and intense interests (Attwood, 2007; Ryder & Brownlow, 2018) and struggle with shifting attention (Chown, 2016).

Differences in executive functions have been implicated in nonstandard (or nonautistic people’s) ways of writing, especially relating to written cohesion and coherence (Gerstle & Walsh, 2011; Prince, 2013). The general argument is that differences between autistic and nonautistic people related to their attention, goal setting, and working memory may result in differences in how the two populations plan and execute a cohesive and coherent piece of writing (Gerstle & Walsh, 2011). It must be emphasized, however, that such differences occur in many other populations, for example, first-year university students, those with language learning disabilities, and attention deficit disorders (Owens & Farinella, 2019).

2.2.3 Weak Central Coherence

The weak central coherence (WCC) theory (Frith & Happé, 1994) described autism as a cognitive style with heightened attention to perceptual details at the expense of over-arching global concepts or abstractions (Asaro-Saddler & Bak, 2014; Brown et al., 2014; Frith & Happé, 1994). In other words, the WCC theory suggests that autistic individuals may have very strong skills in attending to details, but that these may come at the expense of detecting or processing over-arching concepts or the gist of the information (Chown, 2016; Frith & Happé, 1994). Alternatively, Mottron et al. (2006) described the strong tendency to notice and process detail among autistic people as an “enhanced perceptual function” (p. 27). Later, Happé and Frith (2006) reported that
although they believed WCC to be a characteristic of some autistic individuals, it was unlikely to be a primary cause of autism. Other theorists have questioned whether autistic people simply assign different levels of relevance to details of incoming perceptions as compared with nonautistic people (Chown, 2016; Vermeulen, 2013). In writing, this may lead to differences in the extent and kinds of details which are emphasized in autistic students’ writing.

**2.2.3.1 Bayesian Accounts of Perceptual Processing.** *Predictive coding* (also known as Bayesian statistic models) “suggests that our brains operate by (rapidly, constantly) making … predictions about the world and comparing these against incoming perceptual evidence” (Fletcher-Watson & Happé, 2019, p. 130). Further, the model suggests that the brain aims to minimize any mismatches between predictions (also known as priors) and incoming perceptions to reduce prediction errors, thereby enabling the brain to be more accurate in those predictions which guides an individual’s resulting behaviours.

Building on the original findings of the WCC theory in studying autistic peoples’ perceptual processing, predictive coding statistical models have suggested that autistic individuals may use under- or over-specified, learned predictions (or, top-down processing) to perceive incoming information about the environment (Lawson et al., 2014; Palmer, Lawson, & Hohwy, 2017; Pellicano & Burr, 2012). In other words, autistic individuals may distinctly use predictions learned from prior experiences of sensory input or experiences about incoming stimuli from the environment compared to nonautistic people. Typically, experience in interacting with the world results in learning more accurate predictions (top-down processing) of “reality” over time, but in the case of autistic peoples’ experiences and perceptions, Pellicano and Burr (2012) found that autistic people rely more on incoming sensory information (bottom-up) rather than learned predictions. Other researchers (Lawson et al., 2014; Rapaport et al., 2022) have found quite the
opposite. That is, they found that autistic people use prior, but over-specified (or, over detailed) predictions from previously encountered experiences. This accounts for such findings as the tendency for autistic individuals to have enhanced discrimination of perceptual features (e.g., more accurate pitch perception or noticing of visual details). In either case, these studies have suggested important differences between autistic and non-autistic peoples’ perceptual experiences when processing information from the environment.

### 2.2.3.2 Autism as Context Blindness

Vermeulen (2013) also proposed an expansion of the Frith and Happé’s (1994) concept of WCC, suggesting that, in his words, “a lack of” (p. 182) contextual sensitivity or “context blindness” (p. 182) may explain differences in autistic peoples’ experiences as compared to those of non-autistic people. He posited that deficits in the ability to use context in meaning-making during information processing in all modalities (e.g., visual, auditory, olfactory, etc.) could account for some of the cognitive and behavioural characteristics of autism. Indeed, he argued that focusing on the most relevant contextual information in a social/communicative exchange allows individuals to respond more appropriately (and in a timelier manner) to the communicative context (Vermeulen, 2013). Once again, however, differences in timing and assigning relevance can either be constructed, as Vermeulen (2013) does, as a deficit, or from a neurodiversity perspective, they may be viewed as perceptual or cultural differences.

### 2.2.4 Summary of Cognitively and Perceptually Based Theories

All the above-mentioned theories, except the DEP and the predictive coding studies, characterize autism as a pathologized biomedical or psychological deficit (e.g., lack of ToM or empathy; dysfunction in executive skills or a cognitive style with weak central coherence, or context blindness). Furthermore, all the theories have been formulated based on non-autistic
researchers’ external observations of autistic people’s behaviours. According to Carpenter (2011), the biomedical model can “create false binaries, marginalize some and privilege others, and deny people rights and opportunities through the erection of physical and institutional barriers” (para. 10). Until recently, such deficit-based understandings of autism meant that many autistic people were denied opportunities for a university education (Alcorn-MacKay, 2010; Gelbar et al., 2014; White et al., 2016) and often denied the opportunity to write according to their own ways of communicating in spaces where monolithic, ableist views of academic writing have traditionally dominated (Dolmage, 2017; Prince, 2013). Indeed, these cognitively based theories do not recognize the neurodiversity construction of autism as a unique and valuable way of being human and, in fact, as a site of identity and agency.

2.3 Ableism and the University

In this study, I define ableism as “the practices and dominant attitudes in society that devalue and limit the potential of persons with disabilities” (‘What Is Ableism?’, n.d., para. 1). Until society sees ableist discrimination as a culturally generated and reinforced system which limits the potential of everyone, most people will continue to view disability itself as a problem. In effect, ableism becomes a problem only for disabled people, similar to the way that racism is often treated as a problem only for people of colour (Cherney, 2019, p. 265).

In the historical and cultural traditions of current neoliberal universities, there are many

7 In this study, I define neoliberal as related to free-market economies with reduced government control and regulation; dominant economic practices in Britain and the United States from the 1980s to the present.
practices which still promote elitism in the academy, namely, that only select, and very able- minded people can or should take part in academic learning, conversations, and research (N. Brown & Leigh, 2020; Cherney, 2019; Dolmage, 2017; Farahar & Foster, 2021). Indeed, even a notion of the “perfect academic” (Brown, 2018, p. 21) exists, which is associated with high levels of achievement, productivity, efficiency, extensive publishing, and so on. Those who work at universities and other post-secondary institutions are invariably rewarded for how closely they can align themselves with this notion of the “perfect academic” and thereby gain the prestige, power, and financial rewards of their labour. And yet, many highly successful academics struggle with their self-awareness of their own less-than-perfect characteristics or performances, often leading to feelings of inadequacy as they strive for what they have internalized as a drive towards perfectionism. This experience even has a name – *imposter syndrome* (Clance & Imes, 1978; Corkingdale, 2008) which comes with its own set of risks and dangers such as anxiety, depression, risky behaviour, and even suicide (Atherley & Meeuwissen, 2020; de Vries, 2005).

Similarly, many autistic adults also experience anxiety, depression, and even suicidal ideation or suicide (Hull et al., 2017; Lai et al., 2017) when they feel a need to meet nonautistic social expectations in nonautistic public places, including university campuses, especially when and where they try to hide their own autistic characteristics and behaviours to look less autistic, often referred to as *camouflaging* (Attwood, 2007). Such behaviours may include maintaining eye contact or limiting repetitive movements to fit in within nonautistic social spaces. These camouflaging behaviours further extend to trying to fit in with ways of thinking, ways of socializing and ways of communicating, including writing, which align with the notion of the perfect academic (Brown, 2018; Jurecic, 2006, 2007).
Instead of continuing down this path of elitist and perfectionistic goals for the university and its inhabitants, there has been a move towards greater inclusion and diversity on campus, particularly since women were first admitted to universities in the mid 1800s (Canagarajah, 2006; Dolmage, 2017). This trend has proceeded to include a much wider diversity of students and instructors comprising many different races, ethnicities, ages, and disabilities (Brown & Leigh, 2020; Dolmage, 2017; Dunn, 1995). There has even developed a new research methodology, Community-Based Participatory Research, including indigenous methodologies (Kovach, 2009) and participatory action research (Kemmis & McTaggart, 2000; Raymaker & Nicolaidis, 2013) that require full engagement with participants who are members of various cultural groups (e.g., Inuit, First Nations, or autistic cultures). Such research methodologies promote inclusion, respect for the communities which are included in the study as well as a change in power dynamics between the university and the communities (Kemmis & McTaggart, 2000; Raymaker & Nicolaidis, 2013). Indeed, it is those who have personal lived experience of their communities who are most invested in the values and beliefs which should be embedded within the research itself (Kovach, 2009; Raymaker & Nicolaidis, 2013).

The teams of researchers using these research methodologies actively question the nature of the power relations between researchers and participants, who have access to take part in all aspects of the research process including defining what counts for knowledge. Indigenous and community-based participatory research at its best has the potential to increase access to meaning-making, thereby including divergent and distributed knowledge forms and resulting in more trustworthy, relevant and useful research for the people and cultures they study (Kemmis & McTaggart, 2000; Kovach, 2009; Raymaker & Nicolaidis, 2013).
2.3.1 Ableist Apologia

Increasingly, the conversation about ableism and academia is gaining ground, at least within disability studies (L. Brown, 2014; N. Brown & Leigh, 2020; Brown, 2021; Cherney, 2019; Dolmage, 2017). Dolmage (2017) discusses the rhetorical responses of some within the academy as “ableist apologia” (p. 35), or a particular response used by those who consciously or subconsciously respond to calls of ableism by, for example, saying or thinking, “Of course, higher education is ableist!” or “Oh, I’m sorry; I didn’t know that I was being ableist!”. For some, the historical elitism in universities is acceptable, while others may still be coming to terms with the changing student populations at today’s universities. Dolmage (2017) argues, however, for the need to interrogate ableist practices in higher education and to address instances and practices that disadvantage autistic and other disabled persons from participating in the academic world solely based on their disability. Indeed, in historical cases of exclusion of certain groups from the university (e.g., women, racialized or religious communities), society has most often found that initial push back against inclusion of these groups on the basis on their personal, intellectual, or emotional characteristics, was unfounded.

2.4 A Word about Autism, Co-occurring Conditions, and Intersectionality

One point where the many and varied theoretical accounts of autism can agree is on the complexity of the experience of being autistic. There are good reasons why autism was described as a spectrum by Lorna Wing as early as the 1980s (Chown, 2016; Fletcher-Watson & Happé, 2019; Happé & Frith, 2020) and more recently has even been described with perhaps more dimensionality as a “constellation” (Fletcher-Watson & Happé, 2019, p. 15) of characteristics. Recognizing autism itself as a very wide diversity of experiences is only the start. It is also understood that autism often presents with co-occurring experiences, for example, anxiety,
depression, Attention Deficit-Hyperactivity Disorder (ADHD) to a name a few (Attwood, 2007; Chown, 2016; Fletcher-Watson & Happé, 2019; Prizant, 2015). Indeed, the future of autism research will need to address the diversity and multi-dimensionality of the autistic experience. In this multiphase study, I acknowledge the complex and intersectional nature of autistic peoples’ experiences including the ways that various individual characteristics (race, class, gender, and others) come together and overlap to determine the individual’s lived experiences.

2.5 Chapter Summary

In Chapter two, I have presented several currently used models of disability and autism and then reviewed current theories of autism, arguing for the importance of incorporating the perspectives of autistic people, such as has been done in Milton’s (2012) DEP. I have also discussed the university learning environment which autistic students encounter, including ableist attitudes within academia. I have stressed the importance of always remembering the complex and intersectional nature of autistic peoples’ experiences. Next, I will describe how selected rhetorical concepts can expand the DEP perspective to explore the nature and reasons for the common mutual misunderstandings between autistic and nonautistic people predicted by the DEP.

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8 I define intersectionality as related to those unique human experiences of individuals who identify across a range of human characteristics and experiences, including gender, race, religious and other realms of human experience (Byrd et al., 2020; Crenshaw, 1989; Nichols & Stahl, 2019; Romero, 2018).
Chapter 3: Writing and Rhetorical Studies’ Concepts Used in this Dissertation

Rhetoric refers to using any language form “to accomplish something” (Swales, 1990, p. 6) or to achieve a “purpose” (St. Amant, 2013, p.35). For Bitzer (1968), rhetoric was even “a mode of altering reality” (p. 4). In this chapter, I start by describing relevant literature from writing studies research regarding current pedagogical ideas about the importance of the social context of learning to write (Trimbur, 1994). Indeed, as the important role of the social context of learning to write has been recognized in pedagogical theories of academic writing, sometimes referred to as the social turn in writing studies (Trimbur, 1994), the importance of effective social and academic interactions between students and their instructors and peers has been seen as more critical. Next, I explore how these ideas relate to autistic students’ learning experiences at university. Finally, I explain how I used selected rhetorical concepts used in this study to expand Milton’s (2012) DEP.

3.1 Academic Writing and The Social Turn

Developing strong academic writing, defined here as writing performed within or for an educational setting, is challenging for most incoming university students and critical for their academic success (Artemeva, 2008; Casanave, 2002; Freedman & Medway, 1994; Hyland, 2015). Autistic students, however, encounter unique experiences in this pursuit as they participate as a minority group on campus with the majority of their peers and instructors being nonautistic (Gerstle & Walsh, 2011; Lucas et al., 2021; Prince, 2013). Some nonautistic instructors report experiencing challenges in working with the growing number of autistic students on university campuses (Alcorn-MacKay, 2010; Gelbar et al., 2014; White et al., 2016) and offer a variety of personal accounts of strategies which the instructors believe to have been helpful (Brown et al., 2014; Gerstle & Walsh, 2011; Jurecic, 2006, 2007; Roberts & Birmingham, 2017). Other autistic academics and their allies (or, nonautistic people working alongside autistic academics and
researchers as equal partners and sharing common goals) believe that writing instructors already have strategies that work with all students and that also can be effective with autistic students (Heilker & Yergeau, 2011); still other autistic academics question the currently dominant ableist academic way of writing, and call for greater flexibility in writing practices at university (Heilker & Yergeau, 2011; M. Price, 2011; Prince, 2013).

The literature on academic writing research and pedagogy over the past half century is usually described as having traversed three stages: the product-based approach, the process approach and the post-process approaches (Graves, 2018), although all approaches can be observed in writing composition classrooms to this day. The product-based approach to writing studies, which was prevalent before the 1970s, focused quite specifically on the finished text (Artemeva, 2004) and consequently, teachers following this paradigm emphasized the forms of writing and correctness of the product. This included focusing on features such as accurate grammar, vocabulary use, and other concrete metrics with a strong tendency to promote standard native English use (Graves, 2018). However, the product-based approach did not really address the writer, the process of writing, or the audience as integral parts of the writing process (Artemeva, 2004). In response, the process-based approaches focused on the iterative, cognitively based composing processes through which individual writers proceed (Britton, 1982; Elbow, 1973; Emig, 1971; Flower & Hayes, 1981; D. Murray, 1982). Furthermore, Flower and Hayes (1981) and others also emphasized hierarchical cognitive factors such as long-term memory, planning, organizing and goal setting, as underlying the writing process (Britton, 1982; Elbow, 1973; Emig, 1971; Graves, 2018; Murray, 1982).

In the 1980s, a paradigm change in writing theory and pedagogy occurred and came to be known as the social turn which was described by Trimbur (1994) as “a post-process, post-
cognitivist theory and pedagogy that represent literacy as an ideological arena and composing as a cultural activity by which writers position and reposition themselves in relation to their own and others subjectivities, discourses, practices, and institutions” (p. 109). With this shift, where the situated, sociocultural context of learning to write is emphasized, social exchanges between students and their instructors and peers are seen as crucial to the experience of learning to write at university (Dias et al., 1999; Freedman & Medway, 1994; Trimbur, 1994). It follows that any reason which limits or otherwise affects a given student's opportunities to interact socially at university has strong potential to affect their learning to write academically. Indeed, individuals with social disabilities or differences, including autism, are highly likely to engage in fewer social interactions with neurotypical peers because of their differences with social anxiety, social motivation and/or pragmatic language skills (Hart & Whalon, 2011; Prince, 2002). Compounding the situation, however, is the strong tendency for potential interlocutors to be fearful or otherwise uncomfortable with interacting with individuals with any of these social differences (Prince, 2002; Tresgaskis, 2004). Consequently, autistic students are likely to have fewer opportunities to practice and engage in the kinds of interactions which can promote their likelihood of social success in the nonautistic world as well as serve as support for development of their academic writing (Hart & Whalon, 2011; Prince, 2002). Indeed, current studies find that autistic students and their parents report that student support services at universities are meeting the students’ needs educationally, but not socially (Siew et al., 2017). For autistic students, learning in general and learning to write in a highly social, nonautistic environment may present some unique challenges, especially when the current theories of writing and composition emphasize social engagement and action.
3.2 Academic Writing and Autism

The deficit-based, biomedical view of autistic writing, which is still prevalent in many research articles and pedagogical practices at universities, aims to support teachers and university instructors in finding strategies that would effectively ameliorate or fix autistic ways of writing so that their writing would conform to more normative (or ableist) expectations (Brown et al., 2014; Jurecic, 2006, 2007). From the biomedical perspective, autistic ways of writing are explicitly compared with ableist concepts of what “good writing” is and often described as characterized by difficulties with perspective taking (or lack of consideration of audience), writing with a lack of coherence and cohesion, and sometimes providing excessive and non-relevant support for long and over-detailed arguments (Brown & Klein, 2011; Brown et al., 2014; Jurecic, 2006, 2007). And yet, many of the concerns regarding autistic students' trajectories of learning to write academically are common for all students entering university (Gerstle & Walsh, 2011; Giltrow et al., 2014). For example, all university students need to develop their rhetorical writing skills to successfully summarize ideas, define terms, orchestrate voices of other academics, and maintain an awareness of their audience in order to successfully and succinctly achieve their rhetorical purposes (Giltrow et al., 2014). In this, autistic students are hardly unique in challenges they may encounter in developing any of the above-mentioned skills, although their learning experiences and trajectories seemed to be distinct (Prince, 2002; Gerstle & Walsh, 2011).

In her important but contentious paper from more than 15 years ago, “Neurodiversity”, Jurecic (2007) described her well-meaning efforts to understand one of her writing students for whom, “from the first day, his difference was obvious” (p. 424). Although no formal diagnosis was available, Jurecic (2007) asserted high confidence that her student had Asperger’s Syndrome.
(currently diagnosed as autism, level 1\(^9\)) and described his so-called “problems” (p. 427) with audience awareness leading to difficulties “creating transitions, filtering background information, and constructing arguments and counterarguments” (p. 427). She thoughtfully considered ways to address his pedagogical needs and worried that if she were not to expect the same standards of writing from him as the other students in the class, she would have “denied him the opportunity to learn to communicate effectively in a university setting” (p. 435). Even as Jurecic (2007) sought to understand autism as a neurodivergent way of being, she still forwarded pedagogical strategies that would cure or remediate her student’s neurodiversity.

Lewiecki-Wilson and Dolmage (2008), writing in response to Jurecic's (2007) work, argued that alterations to curricula and pedagogical practices in post-secondary education were required so that the variety of neurodivergent students attending universities could participate fully and offer their unique ways of writing (and thinking) to the academy. Further, they argued there should not be an aim to "cure" or otherwise remediate autistic students’ academic writing (Gerstle & Walsh, 2011; Yergeau, 2018).

Similarly, Prince (2013), an internationally recognized autistic primatologist, argued that academic writing was too constricting and did not allow her to fully express her identity as an autistic author:

As I have become more and more ensconced in academia, following its rules, and learning to speak its language, I have always been aware that I and all the things and perhaps people

\[\text{\textendash}\]

\(^9\) A diagnosis from the DSM-5 where individuals are described as having typical intellectual and language abilities but struggles with social cognition and use of repetitive or ritualistic behaviours (American Psychiatric Association, 2013)
I am, are lost in its translation. I have become increasingly disturbed that there is only one “me” that is welcomed and embraced in this erudite and tamed country in the lingua franca [of the academy] (p. 319).

Furthermore, within universities of today, the contestation of a monolithic, nativist (and ableist) concept of academic writing is already occurring in multilingual, decolonial, and second language research and pedagogical contexts (Bawarshi, 2006; Canagarajah, 2006; 2023). Bawarshi (2006), for example, considers the increasing numbers of international students learning to write on university campuses, and calls for "ways we can make use of and be more hospitable to language differences and peripheralized discourses in composition" (p. 652). Indeed, Canagarajah (2006), in discussing world Englishes, notes that:

The classroom is a powerful site of policy negotiation. The pedagogies practiced, and texts produced in the classroom can reconstruct policies ground up. In fact, the classroom is already a policy site; every time teachers insist on a uniform variety of language or discourse, we are helping reproduce monolingualist ideologies and linguistic hierarchies. (p. 587)

More recently, Canagarajah (2023) emphasized that the process of academic writing at university supports knowledge creation “through distributed practice” (P. 5), and that the “knowledge we create should sustain the well-being of every entity and facilitate co-existence” (p.5).

Although the above relates to international varieties of English, similar notions of privileged, nativist academic writing can be seen in ableist conceptions of what should be acceptable as written discourse at university (Brown & Leigh, 2020; Dolmage, 2017). Further, the classroom is potentially an environment where new ways of thinking and different ways of writing,
which may be on offer from autistic students, can occur. In line with Canagarajah's (2006; 2023) ideas, autistic students and autistic researchers and their allies can work together to inform and educate instructors, who have already become aware of diverse ways of writing at university from the recent work on world Englishes in the academic community (Bawarshi, 2006; Canagarajah, 2006; 2023).

3.3 Academic Learning Across Modalities and Learning Platforms

In today’s universities, increasingly varied learning options are being made available to all students (Adams et al., 2019; Burgstahler, 2020; Hartwick, 2018; Levin, 2021). There has even been some interest into whether online learning would benefit autistic students even more than nonautistic students owing to the reduced need to be in busy, distracting social spaces (Adams et al., 2019; Levin, 2021). At this point, the results are mixed and may well reflect the great diversity of autistic people. To make this multiphase study useful for autistic university students enrolling in today’s universities, consideration of various learning modalities and platforms is essential.

Next, I review several concepts from rhetorical studies (or research which addresses topics relating to the use of language in context to achieve some purpose) which informed this research study and provided me with tools to explore the underlying nature and reasons for autistic university students’ lived experiences at university.

3.4 Rhetorical Concepts

Several concepts from rhetorical studies informed my exploration of the nature and reasons for the common misunderstandings between autistic and nonautistic people (cf. Milton’s DEP). Additionally, I drew on some recent ideas forwarded by scholars from the discipline of disability studies, including the notion associated with the reclaimed term, “crip time” (Kafer, 2013, p. 25) and Yergeau’s (2018) insightful discussion about autistic people’s rhetoricity and agency. Indeed,
although Milton’s (2012) perspective on the DEP identified the bi-directional nature of the common misunderstandings between autistic and nonautistic people, it did not specifically address the nature of the misunderstandings or why they might occur. The rhetorical concepts described below allowed me to explore this important research gap. Further, the DEP and the rhetorical concepts aligned well with each other because they both were concerned with supporting or enhancing appropriate and effective communication between rhetors, and in this case, especially those with different cultural backgrounds.

3.4.1 The Rhetorical Situation and Exigence

In 1968, Bitzer developed the concept of rhetorical situation. In Bitzer's view, only that situation was to be seen as rhetorical, which exhibited an imperfection, or exigence, that was (a) urgently in need of correction, and (b) capable of being partly or completely remedied by acts to which an audience could be led or moved by some piece of discourse (see Larson, 1970, p. 165). In other words, rhetorical situations were defined as those that invited a responsive utterance (cf. Bakhtin, 1986) in the same way as a question invites an answer (Larson, 1970). Specifically, Bitzer understood rhetorical situations as containing a defect in need of a repair, which could be provided by a "fitting" (p. 6) response. Later, Miller reconceptualized Bitzer's view of rhetorical situation, moving away from seeing rhetorical situation as having an imperfection; rather, she interpreted exigence as an “objectified social need” (p. 157, my italics) that required a response and indeed, as a “form of social knowledge” (p. 157). She also expanded on the idea of a social need, arguing that a rhetorical situation was not a material thing but rather “our construal of a type” (p.156) of a social situation. Following Schutz and Luckmann (1973), Miller restated that a rhetorical situation which recurred would become recognizable to its participants, based on their prior experiences (see also prior predictions in Bayesian accounts of autism, section 2.2.3.1 in this manuscript), or
typified over time, leading to the production of a recurrent, recognizable (or typified) response to such a situation. However, she emphasized that participants must mutually understand situations as somehow similar or comparable to other previous situations, although, as Miller conceded and Stebbins notes, "objective situations are unique--they cannot recur" (p. 156) completely.

3.4.2 Typification and Habitualization

Miller (1984) also argued that a rhetorical situation and its exigence are not only being perceived, but are defined, or socially constructed, from earlier, antecedent, and recurrent experiences (similar to the predictions, or priors, conceptualized in predictive coding studies, e.g., Palmer et al., 2017; Pellicano & Burr, 2012; Rapaport et al., 2022). Indeed, such a definition of the social needs or exigences invites a certain type of social response (verbal or nonverbal) which therefore becomes typified (Schutz & Luckmann, 1973). In other words, if a rhetorical situation recurred, it would become recognizable to its participants, based on their prior experiences, and would lead to the production of a recurrent, recognizable, or typified response to such a situation. However, Miller (1984) also noted, "recurrence is implied by our understanding of situations as somehow 'comparable,' 'similar,' or 'analogous'" (p. 156) to other situations. Further, if different rhetors diverge in the ways in which they recognize or define rhetorical situations, then they may well typify the kinds of appropriate social responses to a rhetorical situation differently. This notion is key in considering the differences in perception of physical and social spaces by autistic individuals as compared with their nonautistic counterparts.

Whether writing, speaking or otherwise acting rhetorically, people are always defining their social space and time (cf. Bakhtin, 1986; Holquist et al., 1981) by responding to the situations they construct as recurrent in typified ways (Miller, 1984; Schutz & Luckmann, 1973), thus ensuring that their rhetorical actions are appropriately enacted so that they can successfully participate in a
given community or culture. Owing to the differences in how rhetorical situations may be typified within different communities or cultures, including autistic and nonautistic communities, rhetorical expectations of culturally appropriate responses may differ. Further, when members of different cultures interact, their responses may appear unexpected to each other and, therefore, remain unrecognized by members of another culture, which may result in mutual misunderstandings as has been described in the DEP (Milton, 2012).

3.4.3 Uptake

Another rhetorical concept which informs this study is that of uptake. Austin (1975) first defined an uptake as any rhetorical response which takes up or responds to a given exigence in a timely and appropriate manner. Freadman (1994) later expanded Austin’s concept of uptake as “informed by one's sense of self, one's memory of prior uptakes, as well as by other affective, embodied and material factors” (Bawarshi, 2016, p. 189). Freadman (2012) draws on Austin (1975) and Speech Act Theory to point out that "no speaker or writer can completely secure an uptake" (p. 560) and that other factors, particularly timing, are key to successfully performing uptakes (Artemeva, 2004; Freadman 2012). Indeed, the matter of learning how and when to secure successful uptakes is key to success in mastering academic writing (Artemeva, 2005; Bawarshi, 2015; Freadman, 1994). Furthermore, the recurrent nature of uptakes requires that rhetors remember earlier episodes where similar exigences and circumstances needed particular uptakes (Artemeva, 2004; Bawarshi, 2015; Freadman, 1994; Miller, 1984; Schryer, 1993, 1999). Learning to perform successful uptakes in diverse cultural contexts (e.g., at university, in workplaces, in different disciplines, or in different countries) is challenging for all students (Dias & Paré, 2000; Dias et al., 1999; Swales, 1990), and I posit that this also includes minority autistic students within a majority nonautistic university culture.
3.4.4 Timespace concepts

Since the ancient Greeks, it has been argued that time carries two different qualities, namely, chronos and kairos (Artemeva, 2004; Yates & Orlikowski, 2002). According to Yates and Orlikowski (2002), chronos relates to objective, quantitative time such as on a clock or calendar, whereas kairos is described as timing, which is more subjective and qualitative in nature, and existing within the moments of communicative exchanges as opportunities to speak or act (Artemeva, 2004, 2005; Miller, 1992). Further, Bakhtin’s (1986) work emphasized the importance of the dimension of time space (or, timespace) as the “chronotope”, namely, that time and space are intricately related and inseparable. He further argued that “the primary category in the chronotope is time” (p. 84).

Bawarshi (2015) suggested that any successful uptake required more than an understanding of how to participate in a given communicative exchange, but also must include an accurate and sensitive awareness of time and timing (Bawarshi, 2015). Freadman (1994) further explained that to successfully perform uptakes is "to know when and where it is appropriate to do and say certain things, and to know that to do and say them at inappropriate places and times is to run the risk of having them ruled out" (p. 59). Yates and Orlikowski (2002) also emphasized Miller's (1992) assertion that kairos is both "constructed and discovered” (p. 109), revealing the highly dynamic nature of any uptake which demands an exquisite sense of time and timing.

The very discussion of these kinds of timespace concepts within uptakes suggests variability among rhetors in how they determine or define rhetorical situations and kairotic moments, or opportunities to respond. Indeed, studies have shown that writers progress in their learning of how to successfully negotiate kairos on their path to learning academic writing with some writers being more successful than others.
3.4.1 Crip Time. In recent years, neurodivergent and autistic rhetoricians and researchers have pointed out that disabled individuals report experiencing time and timing differently compared to nondisabled people (Cecil-Lemkin, 2020; Kafer, 2013; M. Price, 2011; Samuels, 2017). Kafer (2013) is credited with first using the reclaimed term “crip time” (p. 25) by drawing on the work on Gill (1995) and Zola (1988) who first discussed the role that time and timing differences played in disabled individuals lives. Price (2011) particularly studied classrooms as “kairotic spaces” (p. 58) for learning, with several aspects of time impacting disabled and autistic students’ access to learning opportunities. Price (2011) considered that learning opportunities which are in real-time, impromptu, social, and high stakes qualified as kairotic spaces. Indeed, she described how time impacted learning spaces in many ways such as being on time for class, processing information at similar rates as others, formulating responses to questions or making comments similarly timed as others, etc. Without access to such timespaces, she argued that students regularly miss critical learning. Further, Kafer (2013) pointed out that time and timing differences were not only because of disabled individuals’ distinct perceptual processing and response time. Rather, they argued that simply coping in a world which is not designed for disabled individuals meant that dealing with access problems (e.g., perceptual sensitivities or being in crowded spaces) or microaggressions (e.g., someone who stared negatively at them on the way to class and therefore depleted their available energy) might impact their time and timing. Both Kafer and Price argued that implementing flexible timing (e.g., the time when classes start, the timing or rate of presentations, the length of classes) was the only way to address the individualized time and timing issues any disabled person might have. In addition, they both argued that the usual practice of just being accommodated with extra time for assignments or exams could never address the full spectrum of disabled (and autistic) students’ needs. Further and
as is so often the case with such accommodations, it is likely that many other students may benefit from a more flexible approach to time and timing accommodations, for example, people working full-time, parents, and students from other cultures (Burgstahler, 2020; Tobin & Behling, 2018).

3.4.5 Rhetoricity and Agency

Any manuscript which addresses rhetoric and autism together would be remiss in omitting reference to Yergeau’s (2018) award-winning book, *Authoring Autism: On Rhetoric and Neurological Queerness*. In this provocative and insightful interrogation of rhetorical theory itself, Yergeau critically questioned many traditional rhetorical ideas and concepts including what counts for rhetoric, whether rhetoric is always voluntary or intentional, and if it has to include linguistic symbols, to name a few ideas (Jack, 2019). Yergeau particularly argued against dominant (ableist) populations describing marginalized groups like autistic people as being arhetorical because their ways of using language do not always align with normative language use. Together with Heilker (2011), Yergeau asserted that indeed “autism is a rhetoric” (p. 487), although they conceded that it may not be “value[d] highly in academic contexts” (p. 487). Further, using queer theory and a disability studies lens, Yergeau strongly argued that autistic rhetoric has agency. Additionally, Yergeau argued that clinical practices which have aimed to remediate autistic people (e.g., applied behavioural analysis) so that they behave in ways that are acceptable or comfortable for nonautistic people have denied the value, or even existence, of autistic rhetoricity and humanity.

3.5 Chapter Summary

In chapter three, I have presented concepts and ideas from the writing studies’ literature which are relevant to autistic university students’ experiences of learning to write at university. I have also described selected rhetorical concepts which I have used as part of the theoretical framework for this study. Finally, I have included new concepts and understandings recently
provided by autistic researchers and rhetoricians (e.g., Heilker & Yergeau, 2011; M. Price, 2011; Yergeau, 2018) which have importantly enhanced the theoretical framework as well.
Chapter 4: Reflections on Methods and Analysis

In this chapter, I present details of the research methodologies, methods, and analyses that are not included in the articles that follow. I particularly emphasize my learning and thinking processes as I progressively and iteratively designed and implemented this multiphase research project (with feedback from my supervisor and committee, my co-researchers, and editors and reviewers from the three publications presented in Chapters five to seven). For specifics of the methods of each study, see the chapters themselves. For an overview of the complete study design, see Figure 4.1.

Figure 4.1
Overview of Overall Study Design
As can be seen in Figure 4.1, I started this multiphase study with a pilot project with 12 autistic students aimed at exploring the lived experiences of autistic university students’ social and academic experiences at university, including their development of academic writing. Next, I expanded the pilot research to further investigate the academic acculturation and lived learning and teaching experiences of 20 autistic students, seven nonautistic instructors, and three autistic instructors. Finally, I conducted a study to explore the academic and social experiences of eight autistic students during the time of rapidly changing learning formats caused by the COVID-19 pandemic. All three studies were qualitative in nature, using two kinds of analysis. First, I used two approaches to thematic analysis (TA) which I define in this study to be an umbrella term for a group of qualitative analytic approaches which help researchers to develop patterns of meaning (i.e., themes and sub-themes) from their data. I also used composite narrative portraiture, a form of narrative inquiry (Willis, 2019), to interpret the findings. Composite narrative portraiture is a qualitative analytic presentation of data using combined stories (or, narratives) from individual accounts of a phenomenon under study to tell a single story as a composite portrait drawn from several participants (Willis, 2019). According to Willis (2018), this analytical approach can provide “the richness and complexity of individual accounts” (p. 481) while ensuring participants’ anonymity.

4.1 Ethics

The Research Ethics Board at Carleton University and University of Ottawa approved the various phases of this research project. For approvals, see Appendix E.

4.2 Unit of Analysis

Vygotsky (1986) defined the unit of analysis as that retaining all the basic characteristics of the whole, but which cannot be further reduced. Further, Maslow (2007) stated that units of
analysis are “necessarily shaped by the purpose of the researcher and the material of the study” (p. 308). The units of analysis are determined by the research question(s) (Teddle & Tashakkori, 2009). In this multiphase study, for the analysis of semi-structured interview data, I defined the over-arching unit of analysis to be a response of a participant to a single interview question concerning their lived experiences. For the discourse-based interviews, the unit of analysis was also the student's response to a single question, but in this case the questions were regarding the students' textual and rhetorical choices in their own writing samples. In practice, the participants in this study were very forthcoming in the interviews and expanded their responses considerably from the initial question, sometimes providing information which was tangential to the original question(s). Therefore, over the course of the study, the actual unit of analysis became what I have come to call a meaningful discourse chunk (cf. Lindlof & Taylor, 2002) which represented a complete thought or idea expressed by the participant. This was true for all the interviews (initial, member checks, and discourse-based).

4.3 Study Methodology and Methods

When I started my doctoral program, I realized an opportunity to answer a question which had intrigued me for more than quarter century of speech and language clinical work with autistic children and adults: what is the world like to an autistic person? It was clear to me in interacting with autistic children and adults that their lived experiences were somehow unique. Specifically, I wanted to learn their stories to explain what I had only observed from outside, or in other words, I sought the internal life narratives of autistic people. The autistic children and teenagers I had known clinically often lacked the language to express their experiences and perspectives, but as a graduate student, I had the opportunity to communicate with highly intelligent, insightful autistic
adults. Together with my clinical experiences, I anticipated that the internal experiences of autistic
students could yield some very useful insights. The question was how to best conduct this research.

4.3.1 Methodologies

The desire for stories and personal insights rather than numbers and inferential statistics led
me directly to qualitative research. Further, the need to explore the lived experiences of a
marginalized group of people effectively, and ethically, as an outsider led me to participatory
research and a serious examination of my own reflexivity, a process to which I have returned many
times over the course of this degree. Consequently, this multiphase study has taken the form of a
qualitative, participatory research project.

4.3.1.1 Qualitative Research. According to Creswell and Poth (2018), defining qualitative
research is not uncomplicated, and they suggested that the definition itself is evolving over time
(p. 7). For this research, however, I used it as an umbrella term which encompassed several
worldviews, methods, and approaches but which included “the voices of participants, the
reflexivity of the researcher, [and] a complex description and interpretation” (Creswell & Poth,
2018, p. 7) of participants’ meanings. These meanings were situated in their life experiences as
constructed through language or by other symbolic means (e.g., pictures, drama, music, etc.). In
this multiphase study, I used both categorizing (various forms of thematic analyses (Braun &
Clarke, 2022a), such as coding) and connecting (composite narrative portraiture (Willis, 2019))
strategies for the data analysis (Kerwin-Boudreau & Butler-Kisber, 2016; Maxwell & Miller,
2008). Broadly, categorizing strategies offered the means to find commonalities in data sets by
allowing me to see patterns by changing the natural order of the discoursal data, while connecting
strategies provided ways to reveal more situated, complex distinctions among data sets and gave
me the opportunity to present data as coherent narratives. Indeed, each strategy offered different, but complementary affordances.

Within the categorizing analyses, I increasingly became aware of the extent to which my own interpretations of the data must be explicitly acknowledged and consequently, I changed my thematic analyses from constant comparison/codebook methods (e.g., Charmaz, 2006; Saldaña, 2016) to more reflexive TA (Braun & Clarke, 2022b). According to Charmaz (2014), and as can be seen in Table 4.1, I started this multiphase study with a pilot project with 12 autistic students. I aimed at investigating the potential of using the DEP together with rhetorical concepts from RGS using codebook thematic analysis which is “a method of analysis that generates successively more abstract concepts and theories through an inductive process of comparing data with data, data with code, code with code, code with category, category with category, and category within concepts” (p. 342). Part of Charmaz’s (2014) method suggests that codes and categories and themes emerge from the data, and that coders and analysts should work towards consensus in their coding, categorizing, and theme development. Indeed, at first in the pilot study, I used inter-coding reliability measures between myself and an autistic researcher to demonstrate the trustworthiness of the analysis. However, as I increasingly worked together with autistic co-researchers with distinct life experiences and belief systems which included whether we were autistic or not, it was not credible to expect that we would describe and interpret the data in reliably replicable ways. It was the feedback from the editor of an autism journal who drew my attention to the inconsistency of this approach with my understandings of distinct constructions of social realities (cf. Berger & Luckmann, 1967) by autistic and nonautistic people. In fact, to suggest that autistic and nonautistic researchers’ interpretations of the data would consistently align was contrary to a central theme in this work; that is, constructivist understandings of each individual’s perception of the world most
likely would be different. Consequently, I increasingly conducted *reflexive TA*, using Braun and Clarke’s (2022b) six step, iterative approach to qualitative data analysis as described in Chapter six. Specifically, I define reflexive TA as an interpretative analysis which “foregrounds the active role of the researchers in coding and theme development” (Braun & Clarke, p. 293) and the subjectivity of analysis.
### Table 4.1

**Research Questions and Methods of Analysis**

<table>
<thead>
<tr>
<th>Articles/Chapters</th>
<th>Research questions</th>
<th>Methods of Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 5</td>
<td>• What is the nature of autistic university students’ experiences communicating with nonautistic and autistic interlocutors at university, as reported by the students themselves?</td>
<td>Codebook TA/Coding reliability</td>
</tr>
<tr>
<td>Chapter 6</td>
<td>• How do autistic university students' account for their academic and social experiences of learning to write academically in the university context?</td>
<td>Reflexive TA, Composite narrative portraiture</td>
</tr>
<tr>
<td>Chapter 7</td>
<td>• What factors have determined the nature and quality of autistic university students’ reported learning experiences during the rapid changes in academic delivery formats (e.g., from face-to-face to online electronic platforms)? • How have these factors affected the preferences of autistic students for in-person and online teaching delivery formats? • What possible underlying reasons for these reported experiences can we identify? • What supports for their pandemic-related learning experiences do autistic students report as effective in increasing their success at university?</td>
<td>Reflexive TA</td>
</tr>
</tbody>
</table>

Finally for this multiphase study, I chose to expand the connecting strategies to use composite narrative portraiture for three specific reasons:

- To protect the anonymity of the participants
• To allow situated accounts of the participants’ experiences
• To more deeply resonate the participants’ voices

4.3.1.2 Participatory Research. In this multiphase study, I originally aimed to use community-based participatory research (CBPR), in which the researcher(s) and members of the autistic community work together as equal and full members of the research team through all stages of the research (Raymaker & Nicolaidis, 2013). CBPR of the highest standards can be conducted only through consistent reflexivity of all members of the research team, especially, regarding power considerations such as who leads the research and what counts for knowledge creation (Kovach, 2009; Nicolaidis, 2019; Raymaker & Nicolaidis, 2013). Indeed, for these projects I wanted to work with autistic people as co-designers, co-producers, and co-authors of the research.

As the principal investigator in this doctoral research, however, I found that an uncomfortable situation arose in these projects because I was a student seeking to demonstrate my research competence at a doctoral level, and I needed to show that I personally could design, produce, and author the projects. In some ways, therefore, I found that my own goal to complete my doctorate was at odds with the highest standards of participatory research. And yet, I was committed to conducting research which incorporated the values, priorities, cultural experiences, and insights of autistic persons and therefore enhanced the research’s relevance and value to that community (Raymaker & Nicolaidis, 2013). In the end, it was a compromise, and this multiphase study has increasingly been participatory in the following ways:

• In the later projects, autistic co-researchers helped with the re-development of the research questions.
- The autistic consultants provided input on data collection methods including helping to formulate interview questions.
- The autistic consultants provided feedback with interpretation and analysis of the data.
- The autistic consultants read and edited the writing of the second two articles in this manuscript dissertation, particularly giving feedback on: use of respectful and appropriate language; the design of the project; and its usefulness.

The projects fell short of the gold standard of participatory research in that:
- The original idea for the project was my own.
- I performed the coding, analysis, interpretation, and writing largely on my own.
- Apart from a small honorarium for the autistic co-researchers, I did not pay the participants.

Although it was challenging to achieve a gold standard of CBPR, I continue to work on developing mutuality and reciprocity with autistic people around the world, but this is still a work in progress.

4.3.1.2.1 Reflexivity. As mentioned before, at the crux of gold standard participatory research is a sincere commitment to examining one’s reflexivity, which is described by Kovach (2009) as follows:

Knowing why we are carrying out research - our motive - has the potential to take us to places that involve both the head and heart. We need to know our own research story to be accountable to self and community (p. 120).
Further, *reflexivity* can be defined as "an attitude of attending systematically to the context of knowledge construction, especially to the effect of the researcher on every step of the research process" (Cohen & Crabtree, 2006, para. 1).

On a personal level, the following vignette is illustrative of my own reflexivity as a researcher.

It was in the early 1990s when I met two-and-a-half-year-old Cameron (a pseudonym) and his family for the first time. Cameron’s parents were concerned that he had not yet started speaking but rather spent most of his time repetitively lining up his toys and making little to no eye contact. Indeed, they reported a story that I was to hear many times over the next 25 years in very similar terms from other families in my role as a speech-language clinician. It was only a few months later that Cameron was diagnosed as autistic.

One day, I was working with Cameron in his home, and he was happily sitting in an old baby cradle. I was rocking him to his delight, but every now and then I stopped to encourage him to use verbal or signed attempts at "more" or "again" when he wanted me to continue. We were alone in the basement and as I repeated this exchange with Cameron many times, prompting him to expand his verbal attempts to two-word combinations such as "more rock", he suddenly stood up in the cradle and announced in clearly articulated speech, "I'm coming out now!" As one of my first experiences working with an autistic child, I was completely shocked and even did not fully trust my own hearing that he had indeed uttered this full sentence. As no one else was in the room, I did not even have a witness to his comment, but what is important to me, and my reflexivity now is how I personally reacted to his words. I was very excited and hopeful that this was a sign of his potential to progress, but somewhere in my mind, I recall that I interpreted the words to reflect that the "normal" little boy within him would ultimately emerge! Put it down to my training in a
medical school or just the general perspective of many people in the early 1990s, I was still well-ensconced in a deficit, biomedical perspective of disability and autism. It took more than two more decades and many thousands of intriguing and wonderful hours interacting with a great many autistic children, adolescents, and adults to move away from this kind of thinking. To be sure, I always had great respect for the children I worked with (especially as they have all been such amazingly hard workers), but it has taken some time to appreciate the enormous value of their views and experiences more fully and to deeply understand how their distinct perspectives provide such an invaluable resource. Indeed, I have personally lived through the shifting of paradigms (Kuhn, 2012) from the biomedical paradigm of autism as a pathology or deficit to the lens of neurodiversity and its emphasis on and celebration of all kinds of minds (Pellicano & Houting, 2021), a shift which continues to be ongoing.

Within the autistic community, the Academic Autism Spectrum Partnership in Research and Education (‘Search Results for “CBPR” – AASPIRE’, n.d.), which is co-directed by Nicolaidis and Raymaker (2013), brought together people from the autistic, academic and support communities to advocate for use of participatory research in order to advance research projects which are seen to be relevant for autistic persons. Within their framework of research, I locate myself as a member of both the academic and support communities of those interested in conducting relevant research which is steered by the perspectives of autistic adults. As mentioned in the vignette at the beginning of this section, I have been a speech-language clinician with more than 35 years of experience working with a variety of people experiencing communication disabilities, and I have thought deeply about my own motivations in doing this research. My personal reflections above show that my own understandings have evolved over time from viewing autism from a biomedical, pathologized approach to one fully invested in a socio-cultural
perspective of autism as a different rhetorical way of being (Acevedo, 2018; Heilker & Yergeau, 2011; Yergeau, 2018). From the outset, my goal was to study the academic writing learning experiences of autistic students with a view to understanding their distinct value for all members of the academic community including themselves. Indeed, I view all writing, but in this case academic writing, as a vehicle for sharing different ways of thinking, acting, and creating knowledge within different academic and social contexts. With this perspective, the university is the exact venue where unique and creative ways of socially acting to produce new knowledge should happen. At the same time, my clinical experiences have repeatedly taught me that many autistic individuals are prevented from sharing their perspectives or effectively acting with agency in various educational environments. My dilemma (and challenge) has been to make sure that my previous knowledge constructions about autism did not prejudice me to the perceptions of the participants concerning the lived experience of being autistic students on a university campus. Although my innumerable hours of working together with autistic individuals (more than 25 years of near daily interactions) have provided me with important insights, they are just that, my insights, and I continue to remain highly vigilant that they do not adversely affect the research process I follow.

4.3.2 Methods

In this multiphase study, I collected data in several ways including:

- Semi-structured interviews (see Appendix F)
- Member checks
- Discourse-based interviews
- Writing samples (see Appendix G)
- Reflexive journal writing (see Appendix H)
• Research memos

• Consultant meetings with autistic co-researchers (see Appendix I)

4.3.2.1 Semi-structured Interviews. The largest part of the data collection was in the form of semi-structured interviews (including experiential, member check, and discourse-based interviews). For my purposes, I used a prepared set of questions to guide the one-to-one interactions between the researcher and participant. Although I started with in-person interviews conducted in a quiet, empty room at the university, the onset of the COVID-19 pandemic necessitated conducting interviews virtually on web conferencing applications using either Zoom (Banyai, 1995) or Skype (Skype, 2020). During the multiphase study, I was advised by an autistic participant and consultant that the study methods would be improved by providing the interview questions to participants in written form before the actual interview which I did from that point on.
All interviews were audio recorded on the researcher’s encrypted and password-protected computer.

4.3.2.2 Member Checks. In this study, I initially defined *member checks* as practices (in each of the phases of this project, the second interview) wherein researchers ask participants to review written transcripts made of the initial interview and comment on the accuracy of the transcripts. Other researchers, particularly in participatory research, have expanded this definition to also include participant input about coding, and/or analyses as a method of increasing the trustworthiness of the research (Braun & Clarke, 2022b). Interestingly, the value of member checks as part of qualitative research is not universally endorsed (e.g., Braun & Clarke, 2022).

However, in participatory research with marginalized participants, researchers have a responsibility to be even more reflexive in their research conduct, and even more committed to ensuring that the voices of the participants are represented faithfully (Braun & Clarke, 2022b; Raymaker & Nicolaidis, 2013). To this end, there are also different stages in the research process where member checking may occur. For example, it can be used to ensure trustworthiness of the raw data (e.g., asking participants to review the accuracy of the transcribed interviews). It also can be done following coding and/or later stages of analysis. It even can be done in the final drafts of writing up the project.

In this multiphase study, I used member checking in several steps to increase confidence that the perspectives of the autistic participants are accurately presented. Indeed, I invited participants and/or autistic graduate students to provide input about the research process by

- reviewing transcripts of previous participant interviews and stating whether the transcripts represent the participants’ statements in an accurate and trustworthy way,
• generating further questions (which were unique to each participant) following closely reading the first transcripts to clarify and/or to confirm my interpretations of the participants’ intended meanings,
• requesting and incorporating feedback from a group of autistic graduate student advisors (who were initially participants themselves) concerning coding of the data,
• requesting and incorporating feedback from the autistic advisory group of the composite narrative portraits in Phase One,
• requesting editing and co-writing from the autistic advisory group for Phases One and Two.

4.3.2.3 Writing Samples. This research has focused on the lived experiences of autistic students when learning to write and writing at university rather than the products of their writing. Therefore, I did not perform extensive analysis of the students’ writing samples. However, to confirm the students’ reported experiences, I did request writing samples and reviewed them broadly as well as used them as artifacts from which to base the discourse-based interviews (our
third interview with each participant). I intend to complete discourse analysis of the writing samples as part of future research.

4.3.2.4 Discourse-based Interviews. To support the data further, I requested several academic writing samples from each participant at the conclusion of the first interview. Before meeting the participants again for the member check, I carefully read the writing samples. Although I did not perform an actual discourse analysis of the writing samples, I drew on Herrington (1985) and Odell et al. (1983) to develop an individualized discourse-based interview for each participant. These interviews were recorded and transcribed in the same manner as the first interviews; however, the questions posed related to specific rhetorical and lexical choices the participants had made during the writing of the samples. Further, the samples were used as a springboard to further discuss the participants’ feelings about their writing as well as to elicit their tacit knowledge of their writing processes.

4.3.2.5 Reflexive Journal Writing. I started writing a journal in the first year of my doctoral program and periodically returned to it to help me to remain as reflexive as possible as well as to clarify my thinking processes. Initially it was recorded in a word processing program, but later I moved it to an NVivo (QSR International Pty Ltd., 2021) file. The value of the journal was both in helping to clarify my thoughts when writing it and later to review how my thinking evolved over time. Indeed, it often helped me recall important insights which supported the clarity of my writing the initial drafts of the articles and the final dissertation.
4.3.2.6 Research Memos. I wrote memos (Saldaña, 2016) both electronically and manually as needed to help me to understand my own thoughts as well as to keep track of ongoing observations of data as well as emerging themes. They took the form of notes in the margins of paper transcripts and drafts of written material as well more formally in NVivo programs. Largely, they were personal aids to consider connections between the data and my theoretical framework.

4.3.2.7 Consultations with Autistic Co-researchers. In my efforts to approach the highest standard of participatory research possible for a doctoral research project, I worked with a group of co-researchers: four autistic graduate students (see Appendix I for examples of mind maps from meetings). My own understandings of the importance of avoiding tokenistic involvement of autistic people in my research deepened over time, and I believe it grew amongst other autistic and neurodivergent researchers at large as well. That is, during the time period of doing this research, understandings of participatory research were changing internationally among all researchers. Increasingly, anything less than the highest standards of participatory research where autistic (or other marginalized) people are involved from the initiation of the project through to its dissemination is unacceptable and is deemed tokenism by autistic people.

More specifically, the consultatory approach process in this project worked as follows:

- I independently completed coding up to 3 to 5 levels of the coding tree
- I provided the autistic co-researchers with copies of the interview transcripts and the coding tree as it was after my first round of coding
- The co-researchers reviewed the above material
- The co-researchers and I met on Zoom to discuss, define, and re-define codes, categories, subthemes and themes
• We built a working document of what we constructed as the codes, categories, subthemes, and themes
• We worked individually and independently again with this working document to consider other possible constructions of the data
• We met again on Zoom to discuss final codes, categories, subthemes, and themes
• I wrote the first draft of the manuscripts and disseminated this draft to all of the team
• All co-researchers read, edited, and made comments about the document
• I finalised the document and each member of the team re-read the document and gave their permission to submit the manuscript as it was to the journal.

Over the course of the last five years, this multiphase study has increasingly approached higher levels of participatory research, and going forward, it is my intention to continue in this way.

4.3.3 Data Analysis

My analytical choices over the years of my doctoral research reflected my own increasing understanding of autistic peoples’ lived experiences and how they develop distinct social constructions of reality (cf. Berger & Luckmann, 1967) in comparison with how nonautistic people do that. Specifically, I found that it was necessary to identify the nature and causes of the common social misunderstandings between autistic and nonautistic people as a first step in any analysis of the data. Consequently, my own role in the analysis of the data as well as that of the autistic graduate students who advised and informed my analysis evolved over the course of these projects.
4.3.3.1 Thematic Analysis. Braun and Clarke (2022a) describe three basic approaches to TA: coding reliability TA, codebook TA, and reflexive TA. In the pilot study, I used a combination of the first two forms and then used reflexive TA in phases one and two.

4.3.3.1.1 Coding Reliability and Codebook TA. According to Braun and Clarke (2022b), coding reliability has a “post-positivist orientation” (p.284) which uses an assumption that coding can be a reliable and, in some way, accurate interpretation of data. It employs definitions of codes within a codebook to support the reliability of the coding process and as such it is usually associated with the use of codebook TA.

In the pilot study, I used a codebook approach to the TA with both deductive and inductive coding with a constant comparison method (Charmaz, 2014). By using both inductive and deductive coding, I implemented both a bottom-up approach and a top-down framework based on the rhetorical concepts employed in the study. However, for both forms of coding, I worked with a codebook of definitions of the so-called emergent codes to increase reliability of my coding schemes with those of my supervisor.

As part of my doctoral studies, I had been introduced to reflexivity in qualitative research in general and was working to consistently reflect on my own values, beliefs, and understandings regarding the study design, data collection, and analysis, at the start of these projects. However, I had not yet fully understood the deep implications of my own construction of reality as a nonautistic researcher for the coding process and analysis in the first exploratory pilot study. I initially looked at using inter-coder reliability measures, but when I added autistic graduate student advisors to the research design to promote the participatory nature of the study, I realized that the underpinnings of this approach conflicted with an understanding of distinct ways of thinking and using language between autistic participants and nonautistic researchers (including myself).
Further, concepts such as reliability and generalizability do not fit within a qualitative methodology. As such, I moved to the well-structured, but more constructed approach of reflexive TA as described by Braun and Clarke (2022b).

4.3.3.1.2 Reflexive TA. Braun and Clarke (2022) defined reflexive TA as an approach to TA “located within a qualitative paradigm” which “foregrounds the active role of the researcher in coding and theme development, the inevitable subjectivity of these processes, and the importance of the researcher reflecting on their assumptions and practices, and how these might shape and delimit their data analysis” (p. 293). See Appendix J for an example of the NVivo (QSR International Pty Ltd., 2021) coding tree. Rather than aiming to gain a mathematically obtained reliability measure (i.e., inter-coder reliability measures), Braun and Clarke’s (2022) reflexive TA recommended a well laid out six-step process for the analysis of qualitative data. Braun and Clarke (2022) particularly suggested iteratively generating, negotiating, and defining themes and sub-themes as a consensual process. Further, reflexive TA has been increasingly used in indigenous and participatory action research (Braun & Clarke, 2021a; Byrne, 2021).

4.3.3.2 Composite Narrative Portraiture. Use of thematic, or categorizing (Maxwell & Miller, 2008), approaches has been criticized for separating data from its situated contexts so that meanings are amalgamated and individual differences are diminished (Kerwin-Boudreau & Butler-Kisber, 2016; Rodríguez-Dorans & Jacobs, 2020). To address this concern, I drew on aspects of narrative inquiry (Bruner, 2002; Johnston et al., 2021; Willis, 2019) to develop composite narrative portraits of autistic participants with the purpose to present and analyze anonymized data while including “the richness and complexity of individual accounts” (Willis, p. 481). The composite portraits were informed by reflexive thematic coding (Braun & Clarke, 2022b) of a series of semi-structured interviews with 20 study participants. In the article presented in Chapter
six, my autistic co-researchers and I presented four empirically informed, socially situated 
narratives of autistic university students’ lived experiences learning to write academically with 
their nonautistic instructors (see Chapter six for more details of the methods my co-authors and I 
used). As can be seen from Table 4.1, in this multiphase study, I used three different approaches to 
data analysis including codebook thematic analysis (TA), reflexive TA, and composite narrative 
portraiture. My progression towards more reflexive and narrative analyses was influenced by my 
increasing understandings of a core theoretical concept in this research; namely, that autistic and 
nonautistic people construct social environments distinctly.

4.3.4 Use of Multiple Data Sources and Analytic Approaches

As described above, I have used multiple data sources and analytic approaches in this 
multiphase study. My decisions about these aspects of the research design have related to my 
increasing awareness of the multiple social and contextual realities described by autistic 
individuals in this study, as well as my expanding awareness of my own active participation in the 
interpretation of the data, and how this would be at least somewhat different to the interpretations 
of my autistic co-researchers. Because of these insights, I have critically considered certain aspects 
of common qualitative research practices; in particular, triangulation, saturation, and sample size.
4.3.4.1 Triangulation. Qualitative researchers usually seek to demonstrate credibility of their findings to their audience by using multiple data sources and even multiple means of analysis. Generally, this is referred to as triangulation of the data and is associated with increasing the trustworthiness of the data and findings (Charmaz, 2014; Creswell & Poth, 2018; Saldaña, 2016). In addition, use of multiple data sources and analytic methods may be used to increase the richness of the data by providing so-called thicker data and findings (Braun & Clarke, 2021a; Charmaz, 2014; Saldaña, 2016; Varpio et al., 2017). However, much depends on a given researcher’s worldview and understanding of whether so-called truths exist or are constructed by the researchers’ own understandings of reality. Richardson (1994) first suggested that crystallisation may be a better description of the process of using multiple data sources and methods to increase the trustworthiness and richness of one’s findings by incorporating multiple perspectives, rather than homing in on a common truth which can be suggested by the concept of triangulation. She argued that from a non-positivist perspective, the almost infinite ways in which the data could be viewed through a metaphorical crystal enhanced the rigour of the findings (Richardson, 1994; Varpio et al., 2017). In this set of projects, I have crystallised the findings in several ways:

- Collecting multiple sources of data from multiple participants
- Eliciting participant feedback about data accuracy and interpretation through member checking
- Receiving feedback from autistic co-researchers regarding coding, theme development, writing and editing the projects for publication
- Using reflexive memos and journal writing
- Using multiple analytic approaches
• Using multiple theories (especially the DEP and several rhetorical concepts) to interpret the data.

The multiple strategies described above were carried out to enhance the richness, trustworthiness, and credibility of the findings. Additionally, as qualitative research using mainly reflexive TA, reflexive bias and that of my co-researchers has been acknowledged in each of the projects presented in the next three chapters.

4.3.4.2 Sample Size and Saturation. Sample size and saturation are also notions which have concerned qualitative researchers in their quest for credibility and rigour in their work (Braun & Clarke, 2021b; Varpio et al., 2017). Generally, the concept of saturation was drawn from Glaser and Strauss’s (1962) original grounded theory approach and was considered the point at which further data collection would not identify any new ideas or concepts to contribute to the developing theory (Charmaz, 2014; Varpio et al., 2017). However, determining both saturation and the associated appropriate sample size of one’s data is quite a nebulous pursuit, particularly from a post-positivist perspective and, especially, when conducting participatory research. Specifically, when the existence of multiple voices or perspectives is so highly valued and the phenomenon under study is as complex as neurodiversity and autism, the notion that no further ideas could be found is somehow incongruent. As Braun and Clarke (2022) argued, the interpretation of the data by even another co-researcher could yield new perspectives. That is not to say that sample size and saturation are not useful concepts for other qualitative approaches such as codebook TA, for example. It is just that when conducting research according to reflexive TA within participatory
methodologies, the concept of saturation does not align well with the strong emphasis on reflexivity and multiple perspectives.

4.4 Value of using Categorical and Connecting Strategies in Qualitative and Participatory Data Analysis

Over the time during which I conducted the phases of this doctoral project, I increasingly expanded the research to include more and different kinds of data, analyses, and co-researchers. Although this kind of thick description (Geertz, 1973) is characteristic of all qualitative projects of human experiences, it is perhaps even more so in working with as divergent a population as autistic individuals. Indeed, at this point in my growth as a researcher, use of reflexive TA and composite narratives appear highly effective and valid ways to build a rich and rigorous description of autistic students’ experiences at university.

4.5 Chapter Summary

In Chapter four, I have provided a picture of my development as a researcher including how I came to make decisions about which methodologies and methods to use to make this multiphase study as rich and credible as possible.
Chapter 5: Personal Inspiration and the Pilot Study

It was only months after I had closed my speech and language clinical practice in 2014 that I was first introduced to applied linguistics and rhetorical studies. I was particularly intrigued by new ways of constructing the idea of social language use, especially regarding the concepts of *rhetoric* and rhetorical studies. Indeed, these rhetorical ideas and concepts sparked memories of several social interactions in which I had engaged with autistic people during my clinical work.

Below is a transcript of my memory of a verbal exchange with two five-year-olds in a clinic room. Except for my name, all other names are pseudonyms.

Will: [Being guided into the room and prompted by his mother]. Hi Jacquie, how are you today?

Jacquie: I am fine; how are you?

Will: I am fine.

Jacquie: [I point to another child in the room]. Look, there’s Jason.

Will: Jason is a boy.

Jacquie: Look, Jason is playing with your favourite puzzle.

Will: I like puzzles.

Jacquie: Will, why don’t you say “hi” to Jason?

Will: [not looking at Jason]. Hi Jason, how are you today?

Jason: [continues playing with puzzle]

Jacquie: Will, why don’t you ask Jason if you can do the puzzle together?

Will: [long silence] I like puzzles.

In this vignette, it was apparent that neither child was recognizing the rhetorical situation or exigences in this social context. They also appeared unable to formulate effective language or
perform appropriate uptakes in a timely manner. However, their grammar and vocabulary were accurate. Only when prompted could Will produce a highly rehearsed greeting and response to a greeting, but he did not make eye contact with either Jason nor me, and in fact, he did not even notice Jason at first.

This memory was the impetus for me to learn more about rhetorical studies and other related theories. Further, it directly sparked the idea for the pilot study exploring whether rhetorical concepts in combination with Milton’s DEP (2012) might be useful in understanding autistic university students’ social interactions with others (both autistic and not). I presented information about this pilot study at the Tenth International Symposium on Text Genre Studies (SIGET X) at the University of Cordoba, Argentina in September 2019, after which I was invited to publish the following article in Revista da Anpoll.

In the pilot study, my intention was to learn more about the general social and academic experiences of a small group of autistic university students as articulated by the students themselves. I also aimed to develop research and interview questions which could lead to later studies on topics which the students themselves would consider to be relevant to their social and academic lives. Additionally, I explored whether the insights of the students would support the idea that rhetorical concepts might be a valuable framework to expand concepts developed according to the DEP (Milton, 2012). I had first encountered the rhetorical notions used in the pilot study in the context of Rhetorical Genre Studies (RGS) (Freedman & Artemeva, 2008) a theory that draws on Miller's (1984) “conception of genre based on conventionalized social motives which are found in recurrent situation-types” and her suggestion "that genre must be conceived in terms of rhetorical action rather than substance or form" (p. 151). I referred to RGS in this article. However, I later realized that the aim of my multiphase study was broader than a discussion of a
genre, and in future publications (e.g., Chapter six), I chose to refer to selected rhetorical concepts (some of which are also used in RGS), rather than to limit the work to rhetorical genre theory.
RELATOS DE ESTUDANTES UNIVERSITÁRIOS AUTISTAS SOBRE SUAS INTERAÇÕES COM INDIVÍDUOS NÃO AUTISTAS E AUTISTAS: UMA PERSPECTIVA DOS ESTUDOS RETÓRICOS DE GÊNERO

AUTISTIC UNIVERSITY STUDENTS’ ACCOUNTS OF INTERACTION WITH NONAUTISTIC AND AUTISTIC INDIVIDUALS: A RHETORICAL GENRE STUDIES PERSPECTIVE

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Resumo: Um número crescente de estudantes autistas tem se matriculado em universidades ao redor do mundo. Esses estudantes são ensinados majoritariamente por instrutores não autistas que tentam auxiliá-los durante seu aprendizado dos letramentos acadêmicos, sem entender completamente esse grupo de alunos neurodiversos. A maior parte das pesquisas sobre o desenvolvimento de letramentos acadêmicos, inclusive sobre escrita acadêmica, até hoje não investigou a experiência de ser um estudante autista em uma universidade. Nesse estudo piloto qualitativo e exploratório com um pequeno grupo, nos baseamos nos Estudos Retóricos de Gênero (ERG) para investigar os relatos de 12 estudantes autistas de duas universidades canadenses em relação às suas interações com indivíduos não autistas e autistas na universidade. A partir da análise da perspectiva de ERG, nós fomos capazes de estabelecer e desvendar a natureza retórica dessas interações. Entender a natureza retórica dessas interações fornece um primeiro passo para desenvolver auxílio efetivo para estudantes autistas que estão aprendendo a falar e escrever academicamente em um predominante contexto universitário de não autistas.

Palavras-chave: Autismo; Escrita acadêmica; Letramento acadêmico; Estudos Retóricos de Gêneros; Interações sociais

Abstract: Increasing numbers of autistic students are enrolling in universities worldwide. These students are taught by mostly nonautistic instructors who try to support them in their learning of academic literacies, without always fully understanding this emerging group of neurodiverse students. Most research on the development of academic literacies, including academic writing, to date has not explored the lived experience of being an autistic student at university. In this small-scale qualitative exploratory pilot study, we draw on Rhetorical Genre Studies (RGS) to probe into the accounts of 12 autistic students from two Canadian universities regarding their interactions with nonautistic and autistic individuals at university. By analyzing the data from the RGS perspective, we have been able to establish and unpack the rhetorical nature of such social interactions. Understanding the rhetorical nature of these interactions provides a first step towards developing effective supports for autistic students learning to speak and write academically in the predominantly nonautistic contexts of universities.

Keywords: Autism; University writing; Academic Literacy; Rhetorical Genre Studies; Social Interactions
Students from diverse disability cultures and, specifically, autistic students, have been increasingly enrolling in universities around the world (Alcorn-MacKay, 2010; White et al., 2016). Consequently, there has been a growing research interest (e.g., Heilker & Yergeau, 2011; Jurecic, 2006; Prince, 2013) in the processes of learning academic literacies (Lillis & Scott, 2007), including academic writing, by autistic students.

For researchers who investigate the development of academic literacies in autistic students in higher education, the interactions between such students and their autistic and nonautistic instructors and peers are seen as sites of critical importance. These interactions serve either as the promise for autistic students to become proficient users of relevant academic literacies or as the barriers which may prevent these students from accessing the post-secondary academic world. Historically, privilege and power have repeatedly blocked access to academia for autistic students (Dolmage, 2017; Prince, 2013); therefore, current research needs to strive to adopt research methods which reflect the lived experiences of autistic students themselves (Raymaker & Nicolaidis, 2013).

The existing (limited) research into academic literacy development by autistic university students reflects the challenges that nonautistic instructors experience working with these students, with some studies offering instructors’ personal accounts of strategies they found helpful (e.g., Gerstle & Walsh, 2011; Jurecic, 2006, 2007). In general, such publications often adopt a deficit-based or biomedical model, which views autism as a pathology requiring remediation or cure and argues that autistic students should learn according to traditional models based on nonautistic ways of communicating (e.g., Dolmage, 2017; Prince, 2013; Yergeau, 2018). And yet, autistic academics and their allies\(^1\) either argue that pedagogical strategies equally useful for all students, including autistic ones, have been developed already (Heilker & Yergeau, 2011), or question the dominant (or ‘ableist’) ways of communicating academically and call for greater flexibility in speaking and writing practices at university (Prince, 2013). These authors usually align themselves with an emerging view of autism known as the neurodiversity movement (Silverman, 2015) which holds that autistic individuals are part of the full range of human diversity, and should be celebrated for who they are (e.g., Clare, 2017; McGuire, 2016). Indeed, some proponents of this movement view autistic ways of communication as “a rhetoric; a way of being in the world through language, a rhetoric we may not have encountered or recognized frequently in the past, nor value highly in academic contexts, but a rhetoric nonetheless” (Heilker & Yergeau, 2011, p. 487).

The objective of a small-scale qualitative exploratory pilot study presented in this paper is to develop a theoretically-informed understanding of autistic students’ lived social interaction experiences at university. The research question that this study raises is:

**What is the nature of autistic university students’ experiences communicating with nonautistic and autistic interlocutors at university, as reported by the students themselves?**

This study is the first step in a large-scope multiphase participatory project where autistic students and both nonautistic and autistic instructors are invited to work together with the principal investigators to develop final research questions, research design, and approaches to data analysis; discuss findings, and produce recommendations (Kovach, 2009; Raymaker & Nicolaidis, 2013).

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1. Nonautistic people working alongside autistic academics and researchers as equal partners with common goals, reflecting the beliefs, values and needs of the autistic community.

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The paper continues with the discussion of the theories of autism and selected theoretical concepts. Further, the methods of data collection and analysis are presented, and major findings are discussed. The paper concludes with the implications of the study for future research and pedagogy.

1 THEORIES OF AUTISM

Although many explanations for autism have been proposed over time (e.g., cold parenting, vaccines), cognitively-based theories, which rely on a biomedical model of disability (e.g., Barnes & Mercer, 2010; Silberman, 2015), have been in the mainstream in past decades (Chown, 2016). While these theories have raised important considerations, they have not yet accounted for the diversity of autistic experiences. Perhaps the most prominent explanation so far has been the view, known as the Theory of Mind (ToM) account of autism, that autistic individuals lack the ability to understand the minds of other people (or empathize), or even understand their own minds (Baron-Cohen, 1997). However, more recently, Milton (2012) has observed that ToM accounts of autistic individuals have emphasized what was seen as a core autistic deficit, that is, the difficulties that autistic individuals might experience with understanding the perspectives or mental states of nonautistic people. And, yet, it has never focused on nonautistic individuals’ understanding of the perspectives or mental states of autistic people (Hacking, 2010; Milton, 2012; Sinclair, 1993). Milton (2012) was the first to describe this phenomenon as the double empathy problem (p. 883). He posited that researchers needed to consider the difficulties that both autistic and nonautistic people have in understanding the mental states of each other.

Indeed, as Carpenter (2011) observed, the biomedical model can “create false binaries, marginalize some and privilege others, and deny people rights and opportunities through the erection of physical and institutional barriers” (para. 10). Until recently, this meant that many autistic people were denied a university education (Alcorn-MacKay, 2010; White et al., 2016) and perhaps the opportunity to interact according to their own ways of communicating in spaces where ablest views of academic literacies have traditionally dominated (Dolmage, 2017; Prince, 2013).

2 RHETORICAL GENRE STUDIES

In contrast to ToM, a new lens, recently borrowed by disability researchers from the field of genre studies (Carpenter, 2011), promises to provide a necessary first step in “deconstructing hegemonic discourses” such as those found in the “reductive and oppressive categorization deployed by the medical model of disability” (Carpenter, 2011, para. 14). This new lens is further referred to as Rhetorical Genre Studies (RGS). Traditionally, in literary studies, genres have been defined by their text forms (e.g., sonnet, haiku). RGS grew out of a different perspective on genre developed by Miller (1984): rather than focusing on the form, Miller’s paradigm-shifting view of genre saw it as a typified response to recurrent social situations. RGS emphasizes the social action, which a text—defined as a verbal, written, or multimodal stretch of language within a context—carries out (Bawarshi & Reiff, 2010; Miller, 1984). Within this framework, human communication is seen as a chain of interconnected temporarily stabilized (cf., Schryer, 1993) utterances, or genres (Bakhtin, 1986). Genre is defined as “a typified rhetorical way of recognizing, responding to, acting meaningfully and

2 The term coined by Aviva Freedman (2006). Also known as North American, New Rhetoric, or rhetorical genre theory.
consequently within, and thus participating in the reproduction of, recurring situations. Genres both organize and generate kinds of texts and social actions, in complex, dynamic relation to one another” (Kill, 2010, pp. 212-213). The RGS perspective on human communication has the potential to shed light on the nature of interactions between autistic students and their autistic and nonautistic peers and instructors, as they seek to mutually create knowledge and meaning at university.

2.1 RHETORICAL SITUATION AND EXIGENCE

At the crux of the RGS work is the concept of the rhetorical situation defined by Bitzer (1968) as “a natural context of persons, events, objects, relations, and an exigence which strongly invites utterance” (p. 5). Miller (1984) argued that a rhetorical situation is not material but rather a “construal of a type” of social situation (p. 156). Furthermore, embedded within the rhetorical situation is an exigence, a “form of social knowledge” (p. 157), or an objectified social need, which requires a response (Miller, 1984). As the situation (or rather, our construal of it) recurs, it becomes typified (Miller, 1984; Schutz & Luckmann, 1973). Further, RGS views genres as “stabilized-for-now” or “stabilized-enough sites of social and ideological action” (Schryer, 1993, p. 200); that is, genres are not seen as static unchanging entities, but rather dynamic, ideologically motivated situated social actions responding to current objectified social needs.

2.2 GENRE UPTAKE

Freedman (1994) describes genre uptake as any rhetorical response to a given text "informed by genre knowledge, but also by one's sense of self, one's memory of prior uptakes, as well as by other affective, embodied and material factors” (Bawarshi, 2016, p. 189). Learning to perform successful uptakes in diverse contexts (e.g., at university, in workplaces) and provide them in a timely and appropriate manner is challenging for all students (Canagarajah, 2006; Dias & Paré, 2000; Swales, 1990).

2.3 TIME CONCEPTS AND UPTAKES

Since the ancient Greeks, it has been argued that time can be viewed as both sequential time, or chronos, and (the right) timing, or kairos (Artemeva, 2004; Yates & Orlikowski, 2002). Freedman (1994) explains that to successfully perform uptakes within a genre is "to know when and where it is appropriate to do and say certain things, and to know that to do and say them at inappropriate places and times is to run the risk of having them ruled out" (p. 59). Kairos (timing) is both discovered in the flow of chronological time and constructed by the rhetor (Miller, 1992; Yates & Orlikowski, 2002), thus revealing the highly dynamic nature of any uptake, which demands the social knowledge and a good sense of timing that allow the rhetor to recognize the potential of and seize opportunities to respond to kairotic moments (Artemeva, 2005).

The discussion of time-related concepts and genre uptake suggests variability among rhetors in how they define, recognize, and construct rhetorical situations and kairotic moments. Indeed, studies have shown that rhetors progress in learning how to successfully negotiate kairos on their path to mastery of genres, with some rhetors being more successful in that than others (Artemeva & Fox, 2010). Learning to recognize and seize kairotic moments on the path to developing various literacies in different academic disciplines is equally important and non-trivial for all students (Artemeva, 2005).
This study draws on the RGS concepts reviewed above in its investigation of autistic students’ accounts of how they handle interactions with autistic and nonautistic counterparts in the context of higher education, and how they recognize, create, and respond to kairotic moments.

3 METHODS

3.1 ETHICS

This small-scale qualitative exploratory pilot study was approved by the research ethics boards at two mid-size Canadian universities, where the research was conducted.

3.2 PARTICIPANTS

Eleven students were invited to take part in the project through an email invitation sent by each university’s student support services to students who had previously identified as autistic and provided accompanying documentation. One additional student volunteered independently upon hearing about the study; that student was self-diagnosed as autistic. In total, 12 participants were recruited, 8 males, 3 females and 1 transgender person, ranging from first to fourth year in their undergraduate academic study; the students majored in a variety of subjects (see Table 1).

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>Applied Linguistics</td>
<td>2</td>
</tr>
<tr>
<td>English Literature</td>
<td>1</td>
</tr>
<tr>
<td>English/Journalism (double major)</td>
<td>1</td>
</tr>
<tr>
<td>Cognitive Science</td>
<td>1</td>
</tr>
<tr>
<td>History</td>
<td>1</td>
</tr>
<tr>
<td>Law</td>
<td>1</td>
</tr>
<tr>
<td>Political Science</td>
<td>1</td>
</tr>
<tr>
<td>Information Technology</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: elaborated by the authors.

3.3 DATA COLLECTION

Two semi-structured interviews were conducted with each participant. The first interview (see Appendix for the interview guide), 45 to 120 minutes long, was conducted and audio recorded by the first author, a speech-language clinician with more than 25 years of experience working with autistic clients. All participants completed the first semi-structured interview.

The interview recordings were transcribed and a preliminary analysis confirming the accuracy of participant responses was conducted. The transcripts were then sent to the participants with a request to read and verify them prior to the second interview. At the beginning of the second interview, participants were asked to further confirm that the transcripts of the first interviews were accurate representations of their responses, thereby verifying the data. Nine out of twelve participants completed the second interview.
3.4 DATA ANALYSIS

The interview transcripts were uploaded into the qualitative coding software NVivo 12 Plus (QSR International Pty Ltd., 2019). Bottom up qualitative thematic coding of the interview transcripts was conducted (Saldaña, 2016) using an emergent, iterative approach, which started with low-level in vivo codes in the language of the participants (Saldaña, 2016) and progressed through a constant comparison method to a coding tree of emerging categories and high-level themes (Charmaz, 2006).

A top-down coding (Saldaña, 2016) was also conducted. This coding was informed by the Rhetorical Genre Studies framework in that key RGS concepts (e.g., rhetorical situation, exigence, uptake and kairos) were compared to the outcomes of the bottom-up thematic coding.

4 FINDINGS AND DISCUSSION

This study addresses the autistic students’ lived experiences with social interactions involving the students themselves, their nonautistic instructors, and autistic and nonautistic peers. In this paper, we have preserved the autistic students’ voices. The analysis and interpretation of student accounts were informed by Rhetorical Genre Studies. Below, we present and discuss main findings of the data analysis.

4.1 RECOGNITION OF RHETORICAL SITUATIONS

The study participants reported that for them, face-to-face verbal communication was associated with strong anxiety. For example, Participant 7 shared that when “everyone’s talking and there’s not a whole lot of coherence happening . . . [it’s] really overwhelming” (Interview, May 30, 2019). In other words, one of the prominent themes of students’ accounts that emerged through the RGS-informed analysis was difficulties with rhetorical situations that involved social interactions, especially with nonautistic interlocutors.

Nine out of twelve students reported that they developed precocious reading abilities as young children. For example, Participant 11 recalled that his mother had commented that he “was practically born reading” (Interview, January 26, 2018). Spending much time reading since the young age often resulted in having fewer opportunities to practise face-to-face social interactions, as illustrated by Participant 12 who observed that, as a preschooler, “it was mostly not me who initiated most social interactions at that age, but I read” (Interview, February 1, 2018). Participant 11 reported that he “would rather . . . read a quiet book rather than go out” (Interview, January 26, 2018). That is, autistic students in our study consciously used their strong interest in reading to avoid verbal rhetorical situations, which required their active communication primarily with nonautistic counterparts.

Spending time reading or being internally focused likely led to even less practice with recognizing and participating in different kinds of rhetorical situations typical in nonautistic interactions. And yet, as Milton (2012) argues, nonautistic individuals themselves spend even less time practising interactions with autistic people, which indicates that nonautistic individuals, including university instructors, are likely less skilled at recognizing rhetorical situations that involve autistic individuals and the social needs (exigences) within these situations. Therefore, both autistic and nonautistic interlocutors experience difficulty engaging in meaningful social interactions with each other.

Furthermore, all participants noted that unstructured social interactions with nonautistic individuals were either exceptionally confusing or “exhausting” (Participant 5,
Interview, May 27, 2019). In addition, they commented that they much preferred structured interactions such as answering questions in class or playing video or board/card games with clearly specified rules. Eleven out of twelve participants reported that they tried to limit unstructured interactions both because they were not sure how to join them, and they had difficulty engaging in them. For example, Participant 11 said that for nonautistic people, rhetorically appropriate interaction with their peers came naturally: “when they [nonautistic individuals] meet . . . you can just watch them, just click. It’s in their eyes, it’s in their voice—like their brain waves are synching.” He further noted, “I don’t necessarily do that” (Interview, January 26, 2018), thus reflecting that he did not think he could participate in that rhetorical situation in the same way. Indeed, he also reported that he avoided interactions with nonautistic people altogether because they were confusing to him. This information indicated that autistic university students in our study experienced difficulty in the recognition of or in participating in rhetorical situations involving nonautistic interlocutors.

However, autistic university students in our study reported that sometimes they, on their own initiative, sought assistance with social interactions that involved nonautistic people, either through participating in “social skills” groups at elementary or high school, or through observing nonautistic people closely, or by reading books on social skills. Four participants reported that they were taking drama classes to develop their communication abilities. For example, Participant 3 said that his drama teacher was “very helpful with communication and expression and pointing out what I was doing in terms of movements and pointing out where my unique thought processes, thanks to my autism, . . . was helping me and where it wasn’t” (Interview, January 14, 2019). Participant 5 shared how, over the years, he had “grown up having to engage with . . . socialization actively” unlike nonautistic people who may be “doing it passively. They’re just doing what is instinctual” (Interview, May 27, 2019). He described his own approach to understanding and taking part in social situations involving nonautistic people:

I have to look at the situation and be like, okay. These are the cues, this is what I’m observing, these are the responses that are appropriate. These are the responses that are ideal. That might sound to some people that interactions with me could be disingenuous, and that’s not the case. It’s that it’s taught me to engage with a social situation critically. And . . . carefully. There’s a certain degree of calculation, but not in a Machiavellian way, if that makes sense (Interview, May 27, 2019).

In other words, some autistic students made active attempts to learn how to recognize rhetorical situations involving nonautistic individuals and how to respond to them appropriately. The recognition of and participation in rhetorical situations with both autistic and nonautistic interlocutors appears to be crucial for the overall involvement of autistic university students in interactions on campus and beyond.

4.2 AUDIENCE AND EXIGENCE AWARENESS

To notice or determine a social need in a conversation, an individual must at least be somewhat aware of their interlocutor and the interlocutor’s social needs; that is, they need to have an awareness of their audience. For most people, this is even more difficult in written communication (Giltrow et al., 2014). The study participants varied widely in their reports of their awareness of audience when writing. Some had been instructed about the nonautistic emphasis on audience in writing and either actively looked to do this or had learned to perform their written uptakes very well for nonautistic readers. In this way, they were not unlike many novice nonautistic undergraduate students (Giltrow et al., 2014). Others reported that the audience was a new concept for them, or it was not necessarily important to them, or they were
unaware of it. For example, Participant 11 said, “I’ve never thought of an audience much before. I always think about purpose and meaning, what does this story mean — that kind of helps me write” (Interview, January 26, 2018) or, as Participant 3 put it,

I never really thought in terms of [audience] or in terms of who I was writing something for. I really just wrote, if anything, here’s what I am wanting to write, and this is for anyone who is willing to read such a thing (Interview, January 14, 2019).

These comments appear to reflect what Flower and Hayes (1981) described as writer-based prose, or writing without considering an audience. Furthermore, these authors suggested that this type of writing was on the learning trajectory towards a more reader-based prose.

In face-to-face conversations, however, rhetorical situations require a much quicker response time than in writing. Participants have reported different steps they took to develop the ability to produce such prompt and appropriate responses to nonautistic interlocutors. For example, Participant 1 reported joining a sorority on campus to learn more about how to hold conversations. She observed that the experience provided “good information for me to know, and to grow from that. It’s like . . . its own ecosystem that’s built on the idea of like bonding and friendship, and it’s interesting to see how that manifests as an actual thing” (Interview, January 26, 2018). Further, participants referred to the difficulties in working on group assignments. For example, Participant 3 reported struggling with group work when socially interacting with peers, saying “I thought I had a clear understanding of what I was supposed to do, but I didn’t” (Interview, January 14, 2019). Indeed, he reported that his course instructor had acted as an intermediary to help him understand the social needs of the group. In the interview for this study, Participant 5 showed concern about whether he had understood what the interviewer (the first author) was saying, and frequently interjected, “Did I answer the question?” (Interview, May 27, 2019), suggesting a lack of confidence in the appropriateness of his response. He continued by sharing his awareness that he did not fully understand and “appreciate some of the social cues . . . and other aspects of socialization that other people . . . tend[ed] to appreciate naturally” (Interview, May 27, 2019). All participants reported that they had learned to determine social needs in order to engage with nonautistic peers or instructors but could do that only through explicit practice and training. Because it was still difficult and exhausting to be part of such interactions, our participants tended to avoid them.

Understanding the effort and energy that autistic students put into seeking guidance from nonautistic instructors, especially in face-to-face engagements, is very important for developing strategies for more effective interactions, but the effort to adjust should be approached from both autistic and nonautistic sides.

4.3 PERFORMANCE OF UPTAKES

All participants reported that their uptakes (Bawarshi, 2016; Freadman, 1994, 2002) in conversations were not always well-received and that writing was often easier for them than engaging in face-to-face interactions. For example, Participant 1 observed, “I know from my [autistic] diagnosis testing . . . that I read and write at a way higher level, like visually processing things, at a way higher level than I do hearing” (Interview, January 2019). She also reported that when needing to communicate very effectively, she would write a letter rather than have a conversation with someone, even within her own family. Online or other written interactions appear to be more successful for some, if not most autistic students.

Other participants reported that in face-to-face interactions, they were either “monologuing”, thus dominating conversations, or would provide too much detail by “going
into the weeds” (Participant 10, Interview, February 8, 2018). Participant 5, for example, reported finding light social “small talk” particularly difficult. He said, “I have a really hard time having superficial interactions with people. I can do small talk, but it is more exhausting than having an engaged conversation like this [the interview for this study]. Exponentially more” (Interview, May 27, 2019). Some students indicated that they had developed very strong interests in particular topics (e.g., computer games, military history, politics) and struggled to respond to others without digressing to their area of expertise; for example, Participant 10 shared that he tended to dominate conversations:

the way I speak and the volume of information that I hit people with, they think that I'm doing it for myself and that has been the number one detriment in all my romantic relationships. At a certain point, my girlfriend does not want to listen to me talk any more (Interview, February 8, 2018).

Participants also noted that even in their classes, they tended to dominate the discussion, as one of them said, "Every one of my teachers would tell you that I am one of the loudest, most participative students, almost too much so” (Participant 11, Interview, January 26, 2018).

Participants also reported that at least some of their difficulties would arise from not sharing common interests with nonautistic interlocutors. For example, Participant 1 who joined the sorority to learn more about communicating with nonautistic people said, “It's like been challenging and interesting, but . . . definitely a lot more difficult than being in areas where I'm comfortable and share interests with a bunch of dudes.” She described herself as a “nerd” and reported coping much better with other “nerds” interested in computer games; she observed, “I think most of my friends are nerdy in some way or another” (Interview, January 7, 2019).

Some participants reported that they found social interactions with other autistic people to be much easier for them:

When I speak to my autistic friends, it's like we're speaking a different language . . . I just feel like communication just becomes so easy because we're on the same wavelength, like we're thinking the same weird stuff. It's affected my identity, like jokes and the sort of social communication is so freeing and it feels so great” (Participant 6, Interview, May 14, 2019).

Participant 9 also shared that many of his friends whom he enjoyed spending time with might be autistic. He said, they were “not diagnosed, but I have my suspicions” (Interview, December 4, 2019).

4.4 TIME AND TIMING

Saying the right thing at the right time (Freadman, 1994, p. 50) is perhaps the most critical characteristic of a successful rhetor. Difficulties determining and responding at the right time during conversations, or recognizing kairotic moments (Artemeva, 2004, 2005), were reported by all participants. Research has shown that response time in autistic people compared to nonautistic individuals is typically different and usually slower (e.g., Maister & Palsted-Grant, 2011; Romeo et al., 2018) and that this may be a major factor in being able to perform successful verbal uptakes in social interactions with nonautistic individuals. For example, Participant 1 explained her experience of time processing in conversations this way:

It's like a huge difference, and that makes it hard sometimes interacting in person and I absolutely hate phone calls, it's the worst . . . a lot of the time people will ask me a
question, and it feels like it takes me 5 years to figure out what they said, but it's like a second, but often times that's like too slow compared to what people are expecting, or a classic one is somebody will say something and I'll say "what?" and one second later my brain figures out what they said, and then I answer (Interview, January 7, 2019).

Meanwhile, Participant 4 shared that “It’s like I had a thought but then I don’t have the words to describe what I’m thinking, like fast enough” (Interview, January 16, 2019). Many participants reported difficulties with the timing of their responses (perhaps leading to a preference for written and online communication as quick timing is less critical there), with Participant 6 reporting, “almost all of my closest friends are also autistic, and a lot of them I met through the neurodiverse movement through the internet” (Interview, May 14, 2019). The students themselves appear to be aware of the difference in their sense of timing from that of nonautistic individuals, which may serve as a barrier for them in seeking support from university services such as writing centres, staffed with unfamiliar nonautistic mentors or instructors.

It would be useful to nonautistic instructors to become aware of the differences in the timing of autistic students’ uptakes as compared with those of nonautistic students. Further, nonautistic instructors may rely on the understanding that autistic students may find it easier to communicate online and in writing to develop pedagogical strategies that can better support autistic students. For example, instructors or mentors may provide more time when they are waiting for an autistic student to respond or choose to write down the main points of the class or an individual discussion as it is unfolding.

5 CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

In this small-scale pilot study, we have relied on RGS in our investigation of autistic university students’ accounts of their interactions with nonautistic and autistic individuals in the context of higher education. We consider such interactions to be critical sites wherein lie both the possibilities for as well as the potential obstacles to accessing opportunities which universities offer. The design of the study fronts the accounts provided by the real experts of lived autistic experiences—autistic university students themselves. Even though each interaction between an autistic student and a nonautistic instructor or peer may be unique, together the accounts provide a coherent perspective on the overall phenomenon. Acquainting themselves with what the students have to say about their interactions at university in the process of acquiring academic literacies may help nonautistic instructors who, in cooperation with the students themselves, may develop supports for such students.

The participants’ accounts have been analyzed and interpreted from the RGS perspective, which allows researchers to identify the rhetorical nature of students’ experiences. We have begun to investigate how autistic students recognize and respond to rhetorical situations, exigencies, and kairotic moments, as well as how they perform uptakes. Our observations suggest that autistic ways of communicating may be a matter of a rhetoric different (cf., Heilker & Yergeau, 2011) from the rhetoric of nonautistic individuals; it may be a matter of the differences in the concepts and practices of social interaction (in various modalities) rather than that of a deficit. This information contributes to a growing understanding of how autistic ways of interacting are different from nonautistic ways.

Further research conducted in collaboration with the autistic community is necessary to understand both the differences and similarities between autistic and nonautistic communication experiences. It may be that Heilker and Yergeau (2011) are correct in saying
that “faculty already possess all the tools and experience they will need to . . . respond . . . [to the needs of autistic students] with cultural sensitivity, ethical care, and pedagogical complexity” (p. 487). By viewing autism as a distinct rhetoric and by acknowledging Milton’s (2012) understanding of the double empathy problem, universities may start to recognize the value of both autistic and nonautistic rhetorical ways of being.

In future studies, we intend to invite autistic and nonautistic instructors to our participant population and enrich our work with their voices. In conclusion, we would like to encourage autistic students, and autistic and nonautistic scholars and instructors who have experiences teaching academic literacies to autistic university students to provide feedback on our discussion.

ACKNOWLEDGEMENTS

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**APPENDIX**

**Semi-structured Interview Guide**
1. Can you describe your memories of first learning to read?
2. Can you do the same for learning to write?
3. Do you remember any particular feedback you received regarding your writing from your teachers or anyone else?
4. What kinds of writing have you been asked to do since entering university?
5. Which kinds of writing are your favourite?
6. Can you describe your writing process since entering university?
7. What have you found easy?
8. What has been more challenging?
9. Can you share any feedback you have received on your writing from your professors, teaching assistants or anyone else?
10. At this point, how would you rate or describe your writing skills?
11. What support do you think would help you to develop your writing skills even more?
12. Do you have any other personal experiences of writing which you can share with me to help me better understand your experiences as an academic writer?

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Aceito em: 20 de maio de 2020
Publicado em Setembro de 2020
Chapter 6: Autistic University Students’ Distinct Rhetoric (Phase One)

Having listened to and coded hundreds of hours of interviews concerning the social and academic experiences of autistic university students based on questions drawn from the DEP and rhetorical theory, my attention homed in at the exchanges of social and academic communication between autistic students and their autistic or nonautistic instructors. Rhetorical theory had proved to be useful in providing insights into the actual sites of both momentary interactive communication between autistic students and their instructors (e.g., in meetings or emails), but also in more formal communication such as responding appropriately to assignment prompts. In the pilot study, distinct ways of recognizing rhetorical situations and their embedded social needs or exigences, as well as distinct uptakes and differences in time and timing of uptakes were reported by the students in describing exchanges with autistic or nonautistic instructors and peers. Additionally, the value of using rhetorical concepts to expand the understandings from the DEP was confirmed. Although this may be the case for all learners, the particularly unique perceptual experiences of autistic (university) students could result in differently typified ways of being, thinking, and communicating which may not be recognized or valued by nonautistic instructors. This concept was explored and expanded upon in the second manuscript which follows below. I particularly wanted to publish this article in a journal which was widely read by university writing instructors so that they could further deepen their understanding of the unique academic acculturation that autistic students go through, particularly, in how they construct the learning environments common in university classrooms. The manuscript was accepted for publication by the journal College English on June 27, 2023 (see Appendix A), and as it is still undergoing the final stages of publication, I provide a final copy sent to the journal. Please note that College English uses the Modern Language Association (MLA) citation formatting style.
Following the article, I present two further sections which discuss issues which arose following the submission of this article, and which I believe may be the basis of future research.
A Distinct Rhetoric:

Autistic University Students' Lived Experiences of Academic Acculturation and Writing Development

ABSTRACT

Traditional autism research has prioritized external observations of autistic people by nonautistic scholars. Consequently, many nonautistic instructors may be unaware of autistic students' internal lived learning experiences at universities worldwide. We conducted a participatory, qualitative study drawing on semi-structured interviews with 20 autistic students, and three autistic and seven nonautistic instructors from universities in Australia, North America, and Europe. We then used reflexive thematic analysis and composite narrative portraiture for data analysis and presentation. Our findings indicate that in their academic writing, autistic university students use a distinct rhetoric based on their unique typifications of the social world. The study confirms that autistic students and nonautistic instructors experience common misunderstandings, which are mutual and bidirectional, as predicted in Milton’s Double Empathy Problem.

Key words: academic acculturation, autistic university students, Double Empathy Problem, lived experience, typification, rhetoric
Lately, the student body at universities around the world has been characterized by a growing variety of cultural groups (Volet and Ang). Although most people usually consider different cultural groups as hailing from different geographical regions, disabled individuals have self-identified their own cultural groups as well (e.g., Deaf culture). Similarly, autism spectrum disorder (ASD), or autistic adults have recently self-identified as a unique culture (Milton, *Neurodiversity Reader*, Murray). On university campuses, autistic university students report that their ways of learning and thinking are often different from those of nonautistic students (Cage and McManemy; Gillespie-Lynch et al.; Cheriyan et al.; Davis and Crompton). Consequently, many, if not most, autistic university students appear to undergo a distinct process of navigating the university and learning how to meet its expectations, hereafter referred to as academic acculturation (cf. Lakey).

Furthermore, traditional autism research and clinical practice have historically prioritized the external observations of autistic people by nonautistic people including diagnosticians, teachers, and parents (Raymaker and Nicolaidis; den Houting et al.; Jurecic, ‘Mindblindness’; Jurecic, ‘Neurodiversity’). Indeed, autistic peoples’ accounts of their own lives (Williams; Milton, *Mismatch*) were often discounted because autistic people were viewed as unable to reliably perceive, understand, or communicate knowledge of their own selves (Baron-Cohen). In other words, as Williams, an autistic author, observed, “Right from the start, from the time someone came up with the word ‘autism’ the condition has been judged from the outside, by its appearances, and not from the inside according to how it is experienced” (14). This study aimed to emphasize the internal, lived experiences of autistic university students.
THEORY OF MIND AND THE DOUBLE EMPATHY PROBLEM

The perils of conducting research without data on the internal, lived experiences of autistic people are exemplified in Milton’s Double Empathy Problem argument (‘Ontological Status’) which responds to an account of autism known as Theory of Mind (ToM) (Baron-Cohen; Frith and Happé). ToM has been defined as the ability to perceive the perspectives of the minds of other people, and even the ability to reflect on one’s own thinking (Baron-Cohen; Frith and Happé). A critical consideration of research conducted in the ToM tradition reveals its deficit-based nature, as such studies have focused on difficulties that autistic individuals may experience with understanding the mental states of nonautistic people, but not vice versa (Milton, Mismatch). Indeed, ToM does not address the difficulties that nonautistic people may experience with understanding the mental or emotional states of their autistic interlocutors (Chown; Milton, ‘Ontological Status’).

Milton (‘Ontological Status’), an autistic researcher, was first to describe interactional challenges experienced by autistic and nonautistic people as the Double Empathy Problem (DEP). He argued that “different dispositional outlooks” (884) in both groups’ worldviews led to mutual incomprehension and that successful communication could be only bidirectional and reciprocal, that is, characterized by shared meaning making. From the DEP perspective, autistic and nonautistic ways of communicating are considered equally valid, with both groups responsible for effective communication (Milton, Mismatch). And yet, even the DEP has not yet fully addressed the exact nature of the moment-to-moment human social interactions in the contexts of mutual misunderstandings between autistic and nonautistic interlocutors.

So far, with external perspectives on autism dominating traditional autism research, there has been only limited input from autistic people (see, Gillespie-Lynch et al.; Tomlinson and
Newman) into the discussion of autistic university students' academic acculturation and writing development. To better understand autistic people's experiences in academia, it is time to turn to the personal accounts of autistic university students and instructors. The study presented in this article expands on an earlier pilot study into the interactions between autistic students and their instructors (Ballantine and Artemeva) and contributes to the limited, but growing body of knowledge of the lived academic acculturation experiences of autistic students acquired on university campuses.

THE ROLE OF RHETORIC

In 2011, Heilker and Yergeau suggested in *College English* that Autism itself is a rhetoric, a way of being in the world through language, a rhetoric we may not have encountered or recognized frequently in the past nor value highly in academic contexts, but a rhetoric nonetheless (487).

Our previous work in writing studies and academic acculturation (Ballantine and Artemeva) resonates with this statement. As well, the Heilker and Yergeau quote suggests that certain concepts borrowed from speech act theory (Austin; Freadman) as well as some rhetorical concepts (Bitzer; Miller, *Social Action*; Artemeva) may help us unpack autistic students' and their autistic and nonautistic instructors' accounts of communicating with each other in academic contexts, including in writing. More recent insights from autistic or autism rhetoricians¹ (Yergeau; Heilker and Yergeau; Price; Kafer; Hitt; Gaeta; Hubrig) have promised to enrich current understandings of autistic university students' social and academic experiences by looking at some rhetorical concepts through a disability studies lens. This approach will help to

¹ Some of these rhetoricians openly identify as autistic, and others do not. In autism research, “autistic” refers to people who identify as so, while “autism researchers” may be nonautistic, but working in the field.
expand our knowledge of the nature of and reasons for the mutual misunderstandings identified in Milton’s (*Mismatch*) work as they occur in communications between autistic university students and their instructors.

This enriched understanding should serve to support autistic students and their nonautistic instructors in recognizing and understanding each other’s distinct social and academic rhetoric. Specifically, we draw on Yergeau’s insightful observation that although an autistic individual’s agency in multimodal forms of communication (including embodied actions such as writing, hand waving, etc.) is rhetorical in nature, autistic rhetoric may be unfamiliar to and not recognized by nonautistic rhetors. Further, following Milton’s conclusions based on the DEP, it becomes crucial to study and unpack the *distinct rhetoric* of autistic communicators to assist in the development of the mutual comprehension of autistic and nonautistic interlocutors including readers and writers in the academy. Indeed, we believe that rather than penalizing autistic students for their distinct social and academic rhetoric, universities need to become more aware of and make space for different ways of communicating in all modalities. As Gerstle and Walsh suggested, the pedagogical goal should not be

one of disciplining ASD students to behave “normally”; rather, it is one in which the unique abilities of ASD students can productively transform the traditional composition classroom by breaking its margins and multiplying its perspectives in order to make writing education more accessible for all. (8-9)

Speaking from a similar position, Prince (*All Things*), an internationally recognized autistic primatologist, voiced her concerns about the restrictions that she felt academic writing had imposed on her when she was becoming a scholar. For Prince (*All Things*), the expectations of
academic writing were too constricting, not allowing her to fully express her identity as an autistic author:

As I have become more and more ensconced in academia, following its rules and learning to speak its language, I have always been aware that I and all the things and perhaps even people I am are lost in its translation. I have become increasingly disturbed that there is only one “me” that is welcomed and embraced in this erudite and tamed country in the lingua franca [of the academia]. (319)

Prince also discussed how writing in more normative ways interfered with her own identity as a person and author, a critical aspect of academic acculturation and writing development as identified by such scholars as Hutchings and Ivanič.

Based on this brief overview, the aim of this article is three-fold: (a) to explore the nature of autistic students' accounts of their lived experiences of academic acculturation, including their experiences interacting with autistic and nonautistic instructors; (b) to better understand autistic students' academic writing, and (c) to investigate possible underlying reasons for autistic students' lived experiences of academic acculturation and writing development.

DESCRIPTION OF STUDY

To achieve the aims of this qualitative study, we drew on a participatory methodology (Raymaker and Nicolaidis). Ethics approval was obtained from a mid-sized Canadian university and conducted in person until the onset of the COVID-19 pandemic required we use virtual conferencing platforms to collect data (Ballantine et al.; Ballantine and Artemeva). We then extended recruitment to participants from the United States, Australia, Europe, and elsewhere in Canada. In total, we conducted semi-structured interviews with 20 autistic university students,
and 5 autistic and 7 nonautistic instructors. Please see tables 1 and 2 for the participants’ demographic information.

Table 1
Demographics of Student Participants

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>20 or younger</td>
<td>4 (20%)</td>
</tr>
<tr>
<td>21 - 30</td>
<td>13 (65%)</td>
</tr>
<tr>
<td>31 - 40</td>
<td>2 (10%)</td>
</tr>
<tr>
<td>41 - 50</td>
<td>1 (5%)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>10 (50%)</td>
</tr>
<tr>
<td>Women</td>
<td>6 (30%)</td>
</tr>
<tr>
<td>Nonbinary</td>
<td>4 (20%)</td>
</tr>
<tr>
<td>Diagnosis</td>
<td></td>
</tr>
<tr>
<td>Formally diagnosed</td>
<td>16 (80%)</td>
</tr>
<tr>
<td>Self diagnosed</td>
<td>4 (20%)</td>
</tr>
<tr>
<td>Major</td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td>1 (5%)</td>
</tr>
<tr>
<td>Cognitive science</td>
<td>1 (5%)</td>
</tr>
<tr>
<td>Computer science</td>
<td>4 (20%)</td>
</tr>
<tr>
<td>Engineering</td>
<td>1 (5%)</td>
</tr>
<tr>
<td>Linguistics</td>
<td>6 (30%)</td>
</tr>
<tr>
<td>Social sciences</td>
<td>6 (30%)</td>
</tr>
<tr>
<td>Technology</td>
<td>1 (5%)</td>
</tr>
</tbody>
</table>
Table 2

Demographics of Instructor Participants

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>1 (10%)</td>
</tr>
<tr>
<td>Women</td>
<td>8 (80%)</td>
</tr>
<tr>
<td>Nonbinary</td>
<td>1 (100%)</td>
</tr>
<tr>
<td>Formal Diagnosis</td>
<td></td>
</tr>
<tr>
<td>Autistic</td>
<td>3 (30%)</td>
</tr>
<tr>
<td>Nonautistic</td>
<td>6 (60%)</td>
</tr>
<tr>
<td>ADHD</td>
<td>1 (10%)</td>
</tr>
<tr>
<td>Role(^2)</td>
<td></td>
</tr>
<tr>
<td>Lecturer</td>
<td>4 (40%)</td>
</tr>
<tr>
<td>Tutor</td>
<td>5 (50%)</td>
</tr>
<tr>
<td>Both</td>
<td>1 (10%)</td>
</tr>
</tbody>
</table>

We conducted three different interviews with each student. We designed the first student interview (see Appendix 1 for the interview guide) to elicit personal narratives concerning the students’ reading and writing histories from childhood up to and including their university studies, as well as their learning interactions with instructors. Later, we interviewed the students twice more: to run a member check (Saldaña), we conducted the second interview to confirm and clarify their responses in the first interviews, and then the third interview to ask about autistic students’ rhetorical and lexical choices made in writing samples which they had supplied to us after the first interview (cf. Odell et al.).

We then conducted two consecutive semi-structured interviews with autistic and nonautistic university instructors. In the first instructor interview (see Appendix 2), we elicited the instructors’ personal narratives regarding their experiences teaching autistic students. We

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\(^2\) In this study, we defined lecturers as those instructors who taught multiple students in classrooms while tutors were those who engaged in individualized instruction with the students.
interviewed the instructors once more to confirm and clarify any questions the interviewer still had concerning their first interviews (again, a member check).

Concurrently with the interview data collection, we performed an interpretative and constructed (Braun and Clarke) qualitative thematic analysis, which informed the development of the composite narrative portraits (Willis; Johnston et al.) of autistic university students presented below. We also focused on the constructed themes that related to differences between autistic and nonautistic instructors’ experiences of interactions with autistic students, including those in writing.

*Author positionality*

The collective of the co-authors of this article includes autistic and nonautistic researchers. The first author is not autistic. She worked as a speech-language clinician with autistic children and adults over more than 25 years. As the principal investigator in her doctoral studies, she is committed to conducting relevant and useful research steered by autistic peoples’ perspectives and needs. She conducted the study and developed its interpretation in collaboration with a group of three autistic co-researchers, who themselves were graduate students at the time the study took place, and another nonautistic co-author. The autistic co-authors contributed to and supplied feedback on ongoing coding and interpretation of the data and theme development and provided a check on the accuracy of the composite narrative portraits below. They also assisted in writing and editing the article. The second co-author is the first author’s doctoral supervisor. She supported the first author in the study design, provided support and feedback at all stages of the study, and contributed to the writing of the article.
COMPOSITE NARRATIVE PORTRAITS OF AUTISTIC UNIVERSITY STUDENTS

As part of the data analysis, we constructed four composite narrative portraits (Willis) from the original data collected from 20 autistic university students in order to ensure that fully anonymized data are presented while including “the richness and complexity of personal stories” (Willis 479). We used the following four practices suggested by Willis (474-475) to provide a “clear link between the original transcripts and the final narratives” (Willis 475):

1. Each composite portrait was based on source interviews from at least three actual participants.
2. All quotations came directly from the interview transcripts.
3. All other details for each portrait came directly from at least one of the source interviews.
4. In writing the narrative on which each portrait is based, we avoided any value judgements of the source data.

The original portraits were drafted by the first author and then reviewed by the co-authors who suggested revisions. In the final stages of article preparation, all co-authors made further edits. Although these four portraits represent the participants in this study, we acknowledge that they do not encompass the full diversity of autistic university students.

Portrait one: Anna (based on six participants)

Anna, a 23-year-old woman in her final undergraduate year studying Computer Science, was diagnosed as autistic by a psychiatrist following a breakdown in her second year of university when she became depressed and overwhelmed by course expectations. She reports that other people are usually surprised to find out she is autistic, but she finds her sensory
experiences (e.g., tactile sensitivity of her feet and her aversion to loud or complex sounds) “always remind” her of her diagnosis.

As a young child, Anna was a precocious reader, and even before entering kindergarten, preferred “textbook-like books” with diagrams and facts. She still enjoys reading for information and has tried to educate herself on social interactions with nonautistic people through “how-to” books. When reading or researching, Anna reports she is drawn to “all the details”, particularly when learning about her own passionate interests such as photography and cybersecurity.

Anna was a high-achieving high school student. She reports she is “definitely more careful and … organized” than other students, and she describes herself as “very, very, very … driven in school.” Consequently, she receives very high grades in all her courses.

Socially, Anna reports that she is usually able to recognize speaking opportunities in structured situations like a classroom or a meeting; however, in less formal situations, she usually does not “assume that people [are] going to talk to [her]”. Sometimes, this results in important miscommunications in which Anna believes other people are often misleading her with their intentions which she calls “gaslighting.” She still finds small talk to be “draining,” admitting she often diverts conversations to “something that is of interest” to her. Other (nonautistic) people sometimes judge her way of responding to be “abrasive,” which is hurtful and confusing to her. Anna finds she usually answers “too slow compared to what people are expecting” and this can also result in miscommunications.

Anna recalls being relieved when the English teacher told the class, “There’s a logical formula” to writing essays which Anna understood as an explicit, step-by-step approach to writing. Nevertheless, Anna reports often feeling unsure of the expectations of the professor, and
she always prefers when instructors give the students clear rubrics so she can respond specifically to each point which was written in the rubric.

**Portrait two: Brendan (based on three participants)**

Brendan is a 21-year-old man who was diagnosed as autistic and having a language-based learning disability as a preschooler. He started speaking late and still sometimes stutters. He lives at home with his autistic mother and sister, and his nonautistic father.

Brendan is majoring in information technology and often feels overwhelmed on campus and has “trouble thinking” when this happens. He often feels “exhausted” after classes because of his efforts to understand professors in large and noisy classrooms. Although he tries to meet with his professors regularly to help him understand their expectations, he finds they usually “don’t have the time” to help him enough and often refer him to the teaching assistants (TAs). Unfortunately, Brendan finds TAs often lack the education, experience, or motivation to help him effectively. Brendan also says he often pretends to understand TAs’ explanations when he does not and reports giving up trying to get TAs to understand him, explaining he does not feel like “bashing [his] head through a brick wall anymore.” Brendan admits he is “not very organized”. During the pandemic, he struggled with online learning, and dropped out of university, at least for a time.

Brendan could decode, but not fully understand written texts by the age of three. By first grade, he liked to read encyclopaedias and the provincial driving manual. Socially, he says that he does not really understand how he is “expected to respond” in conversations. He acknowledges his “ideas seem kind of scattered” which is just “how [his] brain works,” but that he does not “know how to fix that one.” He notes that misunderstandings with nonautistic people are more common verbally than in written communication.
Although Brendan is comfortable writing lab reports which are very patterned, he still struggles with writing mechanics. He prefers when professors provide clear rubrics, but even if a rubric is provided, he reports sometimes misunderstanding what the instructors expect. Often, he receives feedback that his writing is “going too much into the weeds” by being overly detailed. Brendan also reports that he likes to write on his own time and is currently writing a fantasy novel with an autistic protagonist.

*Portrait three: Carson (based on seven participants)*

Carson is a 28-year-old man, diagnosed in high school with attention deficit hyperactivity disorder (ADHD). When he was 25 years old, he was diagnosed as autistic by a psychiatrist. At university, his major is history, and he regularly takes part in military enactments with a group of friends who have similar interests. He says he has a very highly developed sense of what is right and wrong.

As a child, Carson remembers enjoying reading encyclopaedias and newspapers. People used to describe Carson as a “little professor” because his vocabulary and general knowledge were far in advance of his chronological age. Before entering school, he was excited to attend, but quickly became bored as he already knew most of what was being taught. He struggled to engage with other children, and they often bullied him. As Carson grew older, he spent more time on the internet researching his passionate interests including politics and history, and he would often lose track of time because he was so intensely interested in the information.

Carson reports experiencing important challenges with sensory sensitivities, saying “everyday stimuli that other people don’t even notice” affect him “deeply”, which he finds “emotionally and mentally exhausting.” Also, Carson describes a strong tendency to “systematize” incoming information such as mentally developing detailed hierarchies of
information. Carson also struggles to be organized, describing moments when he becomes “stuck” between his own ways of thinking about a project and what he believes his instructors expect of him.

Socially, Carson hates small talk but finds deeper conversations to be “invigorating.” When Carson was asked whether he had difficulties knowing if someone was talking to him, he simply replied, “All the time.” Carson says he often feels misunderstood and reports once a professor “kicked [him] out of class” because of “what [his] responses were like.” With nonautistic people, Carson reports feeling he is “always behind in interacting” because nonautistic people are “operating on different speeds” and autistic people take “a little longer to … read the situation, particularly socially”. In contrast, he feels interacting with autistic people is “just not a problem.”

Owing to his extensive reading, Carson has acquired deep stores of knowledge concerning his interests. Carson reports he has often been called a “walking encyclopaedia”. He finds he is usually much more informed than his (nonautistic) peers, who misinterpret his responses in conversations as “showing off.” He, however, believes he is only supplying solid evidence for his arguments.

Carson reports instructors often praise his ideas and the excellent connections he makes in his writing. However, he struggles to sustain his efforts when writing reports on large course projects and becomes highly anxious at these times. He finds himself becoming distracted by tangential issues and not being able to stop himself from writing about his preferred interests.

**Portrait four: Dale (based on four participants)**

Dale is a 26-year-old nonbinary person who loves music and theatre. As a child, Dale remembers adopting several different personalities at school, even dressing up like Sherlock
Holmes to go to school. Dale self-diagnosed as autistic just before leaving high school and does not see a need for a formal diagnosis to “satisfy others”.

Dale is doing a double major in anthropology and psychology and is very interested in different cultures, languages, and travel. Dale prefers to work independently and likes to form strong bonds with empathic instructors, often visiting professors during office hours to clarify assignment expectations. However, Dale thinks they are sometimes bothering the professors.

Dale reports they always use their earphones when away from home to cope with loud or aversive sounds. Dale also reports they are usually well-organized, and they are consistently able to complete work on time and maintain a very high-grade point average.

Socially, Dale enjoys interacting with other people who are “really, really passionate” about anything even if their interests do not coincide with Dale’s. Dale also says they believe conversations between autistic people are more “honest” than with nonautistic people. Dale describes they are “much more on guard” and not “as expressive” when communicating with nonautistic people especially because of taking “too long to respond,” and particularly in group situations.

Dale reads extensively, especially fantasy novels. Their favourite places are bookstores or libraries where even the smell of the books makes Dale feel calm and happy. Dale shares that it took a while to learn what they call "the formula" for academic writing (similar to Anna’s description), but since they mastered it, Dale's instructors have provided highly positive feedback on their writing. Dale also believes rubrics are essential to fully understand their instructors’ expectations. Dale enjoys writing fiction and has already written three novels on their own time, two of which they completed in high school.
In summary, these portraits show that autistic students in this study shared commonalities such as sensory sensitivities, anxiety, expansive reading habits, and love of detailed information, all of which are important factors affecting their academic acculturation and writing development. We now turn to other recurrent findings and themes that we constructed from our data.

**MUTUAL MISUNDERSTANDINGS**

Both autistic students and their autistic and nonautistic instructors taking part in this study confirmed Milton’s description of the DEP in that the autistic students and the nonautistic instructors both reported that mutual misunderstandings were common. For example, Brendan described how hard he had to work to avoid misunderstandings (in all modalities) with nonautistic people. He also stressed that if he did not adapt his style of communication when interacting with nonautistic counterparts, it was "just going to be a breakdown of communication". In contrast, when interacting with other autistic people or instructors, a misunderstanding "would happen, but it would never last long".

Nonautistic instructors also confirmed common misunderstandings with some autistic students in the classroom, including email communication and writing assignments. In several cases, these misunderstandings led to conflict whose resolution required individualized, face-to-face interaction.

*Sites and moments of mutual misunderstandings*

Using an analytical lens based on a combination of speech act theory and rhetorical concepts (Austin; Bakhtin, *Speech Genres and Other Late Essays*; Larson; Freadman; Miller, *Social Action*; Price, *Mad at School*; Yergeau) has allowed us to identify some of the contexts
wherein misunderstandings between autistic university students and their nonautistic instructors regularly occurred.

Recognizing rhetorical situations

In his discussion of the nature of rhetorical situation, that is, a social situation\(^3\) accompanied by the creation of rhetorical discourse, Bitzer suggested that by definition, a rhetorical situation invites a responsive utterance (cf. Bakhtin) in the same way as a question invites an answer (Larson). By drawing on Bitzer’s discussion, Miller (Social Action) introduced the notion of an “objectified social need” (157, our italics) that calls for a response to a rhetorical situation. Misinterpreting this social need may lead to a response that does not fit the rhetorical situation and may create misunderstandings between the rhetor and the audience.

For example, in our study, both students and instructors confirmed that misunderstandings occurred in a wide variety of contexts which included spoken and written interactions, synchronous and asynchronous communication, in person and virtually, and in dyads and larger groups. Specifically, Carson reported that in verbal interactions, he “might not actually understand what the situation or, what [the] kind of the context is for, even though it seems obvious to the other [nonautistic] person.” He also said that his anxiety in social situations interfered with his ability to recognize what was happening in such interactions: “I’ve learned [that] because of the social anxiety, I don’t appreciate some of the social cues and other aspects of socialization that other people will tend to appreciate naturally.”

\(^3\) For the purposes of this article, we follow Carr’s definition of social situation:

A social situation may be defined as an emergent pattern, or configuration, formed by the … conjunction of six variables: (1) people; (2) culture traits; (3) specific meanings and relationships; (4) dynamic processes; (5) a specific time; and (6) a specific place. The conjunction of these variables produces a dynamic pattern which is the situation. (p. 138).
Further, the autistic students in this study consistently reported that more complex and fast-moving spoken and in-person group interactions were particularly problematic. For example, Anna shared that “if everyone's talking and there's not a whole lot of coherence happening, then it can be really overwhelming”. When feeling overwhelmed by large groups or crowds, Dale reported that they retreated within themselves, and so recognizing rhetorical situations was not possible because they were “not paying attention”. In other words, these autistic students shared that they often did not recognize rhetorical situations and the associated social needs when interacting with nonautistic people, especially verbally and in larger groups. The only situations in which the autistic students felt they were more successful were the ones involving structured communications in familiar settings such as meetings or smaller classroom discussions which were more predictable.

Further, even when they recognized the situations that called for a response, autistic students in the study reported that they sometimes struggled to understand what their interlocutor needed or expected in both verbal and written communication. Verbally, this could result in autistic students struggling to understand information in lectures, in consultations with professors or TAs, or in engaging with peers. This could also happen when the autistic students were trying to understand verbal and written assignment prompts provided by instructors. Specifically, many students described assignment prompts as “vague”. For instance, Carson shared:

[When] we're given instructions for a task and . . . [instructors]’ll just say it quite quickly, and I'm like, "Okay, but that could be eight different things," but I'm almost too embarrassed to ask people to repeat, so I just try and figure it out by myself, which I won't, and so eventually I'll have to go [to see the professor]. And then I go, and I feel like they think I'm vague! That happens all the time.
Many autistic students reported that compared to verbal information, written information was easier for them to understand. Students shared that they believed that written assignment prompts, clearly defined rubrics, and emails were very important to their academic success. Furthermore, many autistic students in this study reported that written transcripts or subtitled videos were very helpful in understanding what was expected of them. For instance, Anna noted that “when ... [instructors] give the [lecture] transcript, I retain it; I understand it!” She also shared that she always used closed captioning when listening to lectures at home because the written script helped her “break ... [the speech] into streams of input” and she could understand information better.

Several nonautistic instructors confirmed that autistic students commonly misunderstood their assignment prompts. One such instructor shared that when a certain autistic student needed “to just write a short answer that answers the prompt, he ... [could] hardly ever do it”. Rather, the student would “read and think and write all this stuff that’s so loosely related to the original thought”, which the instructor interpreted as irrelevant to the original assignment prompt. That is, the nonautistic instructors interpreted some of their autistic students' written responses to writing prompts as a manifestation of their lack of understanding of what the instructors expected from them in the assignments.

In summary, the autistic students indicated that they often did not recognize rhetorical situations involving interactions with nonautistic instructors and, even if they did recognize them, they reported frequent difficulties in understanding what their nonautistic instructors expected from them, especially when it concerned written assignment prompts. In these situations, several autistic students commented that they could think of many ways in which to respond, and they struggled to identify how they could properly take up the assignment prompt
and provide what would be considered an expected response, according to the nonautistic audience.

**Performing uptakes**

In speech act theory, Austin used the term *uptake* to describe a response, whereby a listener takes up a speaker's utterance by addressing both the conventional meaning of the words uttered or written and the speaker's intention in saying or writing them.

In this research, most autistic students reported feeling insecure when interacting with their nonautistic counterparts, particularly during so-called small talk because they were not sure about *how* to respond. For instance, Carson reported finding interactions with nonautistic people “awkward”:

It happens all the time, even with people I’m super comfortable with. They’ll say something, and I just have a pause where I’m, “What should I say?”

Carson further described how consciously he approached interactions with nonautistic people, saying, “I have to look at the situation and be like, okay. These are the cues, this is what I’m observing, these are the responses that are appropriate. These are the responses that are ideal.”

Additionally, an autistic instructor described that one of her autistic students had a tendency “to just spin on his chair” when she was speaking to him. She understood that “he was listening” to her because she recognized that “he was able to provide the appropriate responses when that was necessary”. However, she worried that nonautistic instructors would not be able to recognize the appropriateness of his responses and think, “This kid just doesn’t care about what I’m saying” because of the difference in his behaviour from that of nonautistic students.
DISTINCT TYPOIFICATION

Following Schutz (Schutz and Luckmann), Miller (Social Action) reiterated that if a rhetorical situation recurred, it would become recognizable to its participants, based on their prior experiences, or typified over time, leading to the production of a recurrent, recognizable, or typified, response to such a situation. However, she noted, "Recurrence is implied by our understanding of situations as somehow "comparable," "similar," or "analogous" to other situations, but, as Robert A. Stebbins notes, "objective situations are unique"—they cannot recur" (156).

Whether humans are writing, speaking or otherwise acting rhetorically, they are defining their social space and time (cf. Bakhtin; Holquist et al.) by responding to the situations they construct as recurrent in typified ways (Miller, Kairos; Schutz and Luckmann), thus ensuring that their rhetorical actions are appropriately enacted so that they can successfully participate in a given community or culture. Further, due to the differences in how rhetorical situations are typified within different communities or cultures, rhetorical expectations of culturally appropriate up takes may differ. When members of different cultures interact, their up takes may appear unexpected and, therefore, remain not recognized by members of another culture, which may result in mutual misunderstandings as described in the DEP.

In both verbal and written communication, the autistic students in this study acknowledged that, despite their best efforts to socially act in the ways which would be recognized by nonautistic people⁴, they often did not succeed in producing utterances recognized

⁴ Autistic individuals’ acting in the ways acceptable to a nonautistic audiences (that is, by attempting to hide their true autistic nature) is known as camouflaging (Cook et al.).
as appropriate by their nonautistic interlocutors. For instance, Carson described his view of nonautistic interactions:

If you’re in a group of people you’ve never met before – you can just watch them, just click. It’s in their eyes, it’s in their voice – like their brain waves are synching. I don’t necessarily do that. I get along with people, I just maybe don’t click.

In this, Carson was expressing that his use of rhetoric was distinct from its use by nonautistic individuals. He also shared knowing that “there is usually a typical response, but I don’t find it super-obvious”, and that among nonautistic people, “everyone else seems to get it just fine”.

Carson also shared that he always saw “multiple possibilities” of responding. In other words, Carson and other autistic students in this study were very aware that they did not respond socially or rhetorically in the ways constructed as typified by their nonautistic counterparts. In academic writing, the autistic students reported that their highly in-depth research and very detailed and extensive writing was often not well received by nonautistic readers because of not conforming to traditional nonautistic academic expectations, a finding which was confirmed by the nonautistic instructors.

In her discussion of "successful communication", Miller (Social Action) noted that it requires "that the participants share common types" (157). In this regard, recently, Crompton et al. found that dyads of autistic people and dyads of nonautistic people communicated effectively when transferring information, while mixed dyads that included autistic and nonautistic people were less successful in this task. The autistic students and instructors in our study explained that although mutual misunderstandings between autistic and nonautistic people were common, communication between autistic interlocutors (including student-instructor interactions) was easier and more successful because the expectations of the interaction participants were aligned
(cf. Crompton et al.). For example, one autistic instructor shared a successful email exchange she had with an autistic student, which went as follows:

Student's email: One, two, three, four.
Instructor's response: Five, six, seven, eight.
Student's answer: Thanks!

When she received the autistic student's email, the autistic instructor understood that the student was reaching out for reassurance and took up the student's utterance in an expected and, therefore, reassuring way. And yet, for most nonautistic people, the meaning and purpose of this exchange may not be obvious, as it does not coincide with their construction of the rhetorical situation "an email request for reassurance" and their definition of a typified and appropriate response.

So why do autistic and nonautistic students and instructors seem to choose different uptakes of the same situation? One clue may lie in the well-documented differences between autistic and nonautistic people’s sensory and perceptual processing with autistic people often referring to their enhanced processing of perceptual details (i.e., sound, light) in the physical environment (Mottron et al.; Borgolte et al.; Happé and Frith). Another reason for distinct typification may relate to the differences in how autistic and nonautistic people experience time (Price, *Mad at School*; Cecil-Lemkin; Hubrig). Below, we discuss both the enhanced processing of perceptual details and the differences in time perception.

“All the details”

Enhanced attention to detail in autistic people has been reported in the literature for several decades (Happé and Frith; Mottron et al.). The autistic students in this study reported that they always attended to “all the details” when processing information of any kind. Differences in
sensory and perceptual processing may include enhanced auditory perceptual processing such as excellent pitch perception or visually noticing edges of objects like pages or tables or other visual details which are not usually noticed by nonautistic people.

As Miller (Social Action) observed when discussing typification, "What recurs is not a material situation (a real, objective, factual event) but our construal of a type. The typified situation, including typifications of participants, underlies typification in rhetoric" (157). One may think that if autistic individuals focus on the extensive perceptual details, they perceive each situation as unique (cf. Miller 156). However, it appears that a perceptual style where the person is highly aware of details does not mean that typification is not possible; on the contrary, nonautistic people may develop a different "construal of a type" (Miller 157), that is, typify situations in the ways distinct from autistic people's typifications. In other words, perceiving a very high level of detail may not be a deficit of autistic people; rather, this highly detailed perception may result in distinct typification. These differences, in turn, may lead to the differences in uptakes.

Another factor which may contribute to different typifications of situations by autistic and nonautistic rhetors is their distinct processing of time and timing.

Kairos and Crip Spacetime

In the literature, the notions of uptake, time/timing, and space have been closely connected (cf., Devitt; Freadman). Thus, according to Freadman, to perform an uptake successfully is "to know when and where it is appropriate (our italics) to do and say certain things, and to know that to do and say them at inappropriate places and times is to run the risk of having them ruled out" (59). This notion of opportune time has been known as kairos since ancient Greece. More recently, rhetoricians have explored the centrality and depth of the concept
of kairos as it relates to rhetoric (Sheard; Trapani and Maldonado; Yates and Orlikowski; Harker; Miller, *Kairos*). For example, Sheard turned to Burke who had indicated that the notion of kairos went beyond timing and included both temporal and spatial dimensions as well as

the occasion itself, the historical circumstances that brought it about, the generic

conventions of the form … required by that occasion, the manner of delivery the

audience expects at that time and place, their attitudes toward the speaker (or writer) and

the occasion, even their assumptions about the world around them, and so on. (291-292)

Although the conversation concerning the exact nature of kairos has been ongoing (e.g., Trapani

and Maldonado; Harker), only recently have rhetoricians started to look at kairos from a

disability studies perspective (Price; Hubrig et al.; Cecil-Lemkin). In this regard, autistic and

autism rhetoricians have emphasized that autistic (and other neurodivergent) people experience
time and timing in distinct ways which differ from that of nonautistic (and neurotypical) rhetors
(Rodgers et al.; Samuels; Kafer; Price).

In this study, all autistic students reported experiencing time and timing differently from
their nonautistic counterparts, particularly in verbal conversations. Brendan, for example,
observed that saying “the right thing at the right time always gets me”. However, different
students associated their timing challenges with different reasons. Some suggested that they
needed extra time to understand spoken language. For instance, Anna said,

A lot of the time people will ask me a question, and it feels like it takes me five years to
figure out what they said, but it’s like a second, but oftentimes that’s like too slow
compared to what people are expecting, or a classic one is somebody will say something,
and I’ll say “what?” and one second later my brain figures out what they said and then I
answer.
Others reported that they struggled to verbally formulate their thoughts in a timely way. Brendan described his experiences as follows, “It’s like I had a thought, but then I don’t have the words to describe what I’m thinking, like fast enough.” And Carson added that in a conversation, he “can’t find a place where [he] can kind of jump in. And when there is a place where [he] can jump in, the discussion has already moved on somewhere else.” Difficulties with timing of email responses were also reported. For instance, Carson reported that his emails were often not well-received either because he did not respond immediately due to his anxiety concerning emails or because they were too long and took too much time to read. In other words, autistic students reported considerable difficulty in responding in timely ways in verbal or written exchanges with nonautistic people, although verbal exchanges, especially in large groups, were usually more challenging. Autistic students also shared that these frequent mutual misunderstandings with nonautistic instructors were costly for them, especially for their mental health and energy.

In writing classrooms, Price has identified the importance of distinct autistic time and space experiences, or kairotic spaces, as moments wherein autistic and other neurodivergent students may miss important learning opportunities. Indeed, she has described these time spaces as synchronous (in real time), unplanned, social, and high stakes. Further, Price refers to autistic experiences of time and timing as crip spacetime (cf. Bakhtin; Speech Genres; Holquist et al.). By using this concept, she describes how traditional classrooms operate according to strict timing including expectations for students to arrive on time, process information at a given speed, and perform within time constraints (Price). For example, students are expected to respond to questions in discussions in an appropriate time, giving enough, but not too much or too little information.
The usual university accommodation of providing autistic students with extra time for exams and assignments, argues Price, is insufficient to address the complexity of the different ways that autistic students experience space and time/timing in classrooms. Only a flexible approach to timing will meet the needs of individual students while still allowing them access to academia. Kafer and Price (Mad at School) both argue that a move towards greater flexibility of time expectations is needed in society at large including within classrooms and other learning spaces.

Autistic and autism researchers (Rodgers et al.; Brown; Price; Cecil-Lemkin; Gaeta; Hubrig et al.) are currently contesting normative nonautistic ways of thinking and writing at university. New transformative pedagogical approaches that allow both students and instructors to change and learn are being lauded (Hutchings; Freire; Hubrig et al.; Cecil-Lemkin; Price; Tomlinson and Newman). The question is, are academic institutions ready to accept neurodivergent, transformative pedagogies and distinct ways of communicating knowledge rather than try to guide autistic and other neurodivergent students to behave (and think and write) in normative nonautistic ways? In academic contexts, including different minds from various cultures that process and present information in diverse ways may be highly beneficial, and meaning making and knowledge creation can be greatly enhanced and strengthened by diversity (Brown). However, in the current neoliberal climate, normativity and, often ableism are a highly prized commodity frequently associated with the common adage “doing more with less” and increasing productivity in less time (Rodgers et al.). Although the challenge is considerable, everybody may benefit if instructors and students alike start from a position of trying to understand one another’s internal lived experiences.
THE VIEW FROM WITHIN

The long-ignored internal experiences of autistic people may be the most critical omission in our understandings of autistic people’s experiences (Williams). The purpose of this article is to provide readers, including nonautistic university instructors, with insights into such internal experiences, so they can better understand and support autistic university students’ academic acculturation and acquisition of academic writing.

Understanding that autistic and nonautistic people’s perceptions, definitions of social needs and appropriate uptakes, typification, and timing of social exchanges are different is a step toward a better understanding of why autistic students and instructors typify their responses (uptakes) to rhetorical situations distinctly. Further, autistic and autism scholars can only learn about such distinct autistic experiences by working together with autistic people, academics, and researchers. Without this knowledge, common mutual misunderstandings with nonautistic interlocutors will continue to interfere with autistic students’ learning on at least two levels. First, autistic students will continue to struggle to understand assignment prompts and other course expectations which can impede their successful academic performance. Second, autistic students will miss countless kairotic moments or learning opportunities with instructors and peers, because of their distinct ways of socializing, typifying rhetorical situations, and using language, and thus will not be able to acculturate to academia fully and successfully. The traditional nonautistic expectations of academia will continue to clash with the distinct rhetoric used by autistic university students. Further, post-secondary learning environments will continue to interfere with the opportunity to mutually engage with autistic students, instructors, and researchers who can contribute to knowledge creation and meaning making from their distinct social perspective.
CONCLUSION

We conducted the study presented in this article to elicit and unpack autistic university students’ accounts of their internal, lived experiences of academic acculturation. One of our goals was to uncover possible underlying reasons for frequent misunderstandings that arise in the interactions between autistic students and their nonautistic instructors and peers, and significantly affect their learning and academic writing.

Using a participatory, qualitative methodology, we interviewed autistic students and autistic and nonautistic instructors, and used composite narrative portraiture and thematic analysis to interpret the data. Overall, we found that a combination of the Double Empathy Problem perspective and selected rhetorical concepts provided a useful theoretical framework that shed light on both the autistic students’ distinct lived academic experiences and underlying reasons for them.

Specifically, we have discovered that autistic students and instructors use distinct ways of processing the social world with high attention to details in all modalities and distinct experiences of time and timing, which led to differences between autistic and nonautistic ways of typifying rhetorical situations, including occasions for academic writing, and their uptakes. Our findings confirm Heilker and Yergeau’s observation that autism is a distinct rhetoric. Further, we believe this distinct rhetoric is of important value to academia in leading to more diverse perspectives on knowledge creation and meaning making. As Singer explained, just as biodiversity strengthens our natural world, so neurodiversity strengthens our social world and expands our knowledge.
WORKS CITED


**APPENDIX 1**

*Semi-structured interview questions for students*

1. Can you describe your memories of first learning to read?
2. Can you do the same for learning to write?
3. Can you describe your experiences in high school when you first learned to write an essay?
4. Were there any challenges with this task?
5. Do you remember any feedback you received regarding your writing from your teachers or anyone else?
6. What kinds of writing have you been asked to do since entering university?
7. Which kinds of writing are your favourite?
8. Which kinds are more difficult? Why?
9. How many essays have you written since entering university?
10. Can you describe your writing process since entering university?
11. What have you found easy?
12. What has been more challenging?
13. Can you share any feedback you have received on your writing from your professors, TAs, or anyone else?
14. At this point, how would you rate or describe your writing abilities?
15. What are your strengths? And weaknesses?
16. What do you think would help you to develop your writing abilities even more?
17. What do you think may be barriers to improving your writing abilities?
18. Do you like to write, academically or otherwise?
19. Do you have any other personal experiences of writing which you can share with me to help me better understand your experiences as an academic writer?
20. Think of an instructor who was very helpful to you. Can you describe some of the things that they did which were helpful?
21. What did they do that was not particularly helpful?
22. Think of an instructor who was not at all helpful. Can you describe some of the things they did which were not helpful?
23. Did they do anything that was helpful?
24. Have you ever experienced difficulties knowing when or if someone was speaking to you? Was your conversation partner autistic?
25. Have you ever experienced not understanding what someone was expecting from you in a conversation? Was your communication partner autistic or not?
26. Have you experienced a time when what you said was not well-received by your communication partner? Please describe.
27. Have you experienced difficulties with timing your participation in conversations? Was your conversation partner autistic or not?
28. In general, can you contrast your experiences when interacting with autistic individuals compared to those who are not autistic?

APPENDIX 2

Semi-structured interview questions for instructors

1. Do you identify as autistic or nonautistic?
2. What role do you play in instructing autistic students?
3. How many autistic students have you instructed?
4. What positive experiences can you report in working with these students?
5. Have there been any challenges? Please describe.
6. How would you describe the overall writing abilities of the students?
7. Did you notice any differences in communicating effectively in different modalities (e.g., through email, in class, in individual consulting/mentoring?)
8. Have you ever found that a student was not responsive to any part of a conversation (in any modality) or did not seem to know that you were addressing them?
9. Have you ever experienced a student not understanding or responding to your comments/questions during a conversation? How did you deal with it?
10. Has a student given a confusing or unusual response to a comment or question? In what way? How did you handle it?
11. Have there been any differences in the timing in conversations with the student (e.g., taking more/less time to respond than you expected, being off topic, talking too much or too little)?
6.1 Perezhivanie and the Environment: An Enhanced Understanding of the Findings

Following the above article’s submission, I drew on Vygotsky’s (2020) concept of perezhivanie and the role of learning environments and found this concept to be central in bringing together this multiphase study. The notion of perezhivanie proved expansive of my understandings of “lived experience” by incorporating the affective and emotional components of individual experiences as well as emphasizing everyone’s distinct perceptions of the environment. As such, perezhivanie is at the very heart of autistic university students’ acculturation at university, including their social and learning experiences as they interact with (usually nonautistic) instructors and peers in academic spaces.

More specifically, autism research has repeatedly reported the unique sensory, perceptual, cognitive, and emotional experiences of autistic people (Attwood, 2007; Fletcher-Watson & Happé, 2019; Prizant, 2015) and thus confirmed the distinct perezhivaniya of autistic people when interacting socially. In the case of autistic university students, their distinct perezhivaniya engage with learning environments which have been designed with nonautistic students and instructors in mind. However, there may still be some common, shared experiences among autistic students, especially related to affective and emotional experiences such as their levels of anxiety and exhaustion as they negotiate their perezhivaniya of learning at university. Indeed, when autistic university students try to acculturate to learning environments which were not designed for them, they frequently encounter difficulties (Acevedo, 2018; Horder et al., 2013) which are often interpreted as pathological according to the hegemonic biomedical deficit model (see section 2.1.1). However, the theoretical framework of this study has allowed me “to shift critical attention from description to explanation [my italics], a necessary first step in deconstructing hegemonic discourses” such as are found in the “reductive and oppressive categorization deployed by the
medical model of disability” (Carpenter, 2011, para. 14). More specifically, I have used a theoretical framework, which comprises the DEP, selected rhetorical concepts, as well as the perezhivanie lens to provide a neurodivergent, social, and cultural perspective on different ways of learning, socially acting, and writing in the academic world. This theoretical framework has also afforded the potential to explore the exchanges between autistic and nonautistic cultures as individuals from each culture seek to mutually create knowledge and meaning at universities. Indeed, it is only by understanding how interactions between autistic students and nonautistic instructors and peers work that the opportunity to suggest effective supports to promote autistic students’ success at university can be achieved.

Next, I describe the concept of typification as it relates to findings from neuroscience and predictive coding studies (Palmer et al., 2017; Pellicano & Burr, 2012; Rapaport et al., 2022).

### 6.2 Predictive Coding and Typification

In this multiphase study, I have described autistic peoples’ distinct sensory and perceptual experiential learning (Mottron et al., 2006; Pellicano, 2013; Rapaport et al., 2022; Stevenson et al., 2014), especially their reports of noticing greater detail in their physical and social environments.

Specifically, I have explored the possibility that this kind of lived experience (or, perezhivanie) might lead to autistic students typifying social learning experiences differently compared to nonautistic people. Indeed, this finding aligns with neuroscientific and predictive coding accounts (or, Bayesian statistics, see section 2.2.3.1) of autistic peoples’ distinct predictions and constructions of their physical environment (Palmer et al., 2017; Pellicano & Burr, 2012; Rapaport et al., 2022). That is, neuroscientific techniques together with advanced statistical modelling as is used in predictive coding studies have found that autistic people’s predictions or expectations (or, typifications) of their physical environment are distinct from that of nonautistic people (Pellicano
Although predictive coding research has yet to fully investigate such predictions or typifications of autistic peoples’ constructions of social environments as compared with those of nonautistic people, I suggest that there is an alignment of research aims in these different research fields. Indeed, knowledge of applied linguistic research (such as this dissertation and the studies which comprise it) can inform and be informed by predictive coding and neuroscientific studies to more deeply and insightfully understand distinct constructions of the social world by different groups of people, including autistic university students.
Chapter 7: An Unexpected Opportunity to Expand the Research (Phase Two)

In the spring of 2020, I encountered (along with the rest of the world) a time of great upheaval which impacted the direction of my doctoral work – the COVID-19 pandemic. At the end of the pilot project, I had concluded that rhetorical concepts held promise for expanding understandings of the nature of communication between autistic and nonautistic people. In particular, rhetorical concepts provided an additional theoretical framework to delve more deeply into Milton’s (2012) DEP perspective. I needed to find out more about the existence of episodes of mutual misunderstandings between autistic students and nonautistic people at universities and explore how, when, and why these moments came about. Using rhetorical concepts made sense to me, given my clinical experiences with Will and Jason, as depicted in Chapter five, and my emerging understanding of new constructions of autism, particularly those related to the social and cultural models of disability which were well aligned with the neurodiversity paradigm. The onset of the pandemic provided the impetus and funding to expand my doctoral research to explore autistic university students’ lived experiences in a time of great uncertainty and anxiety, as well as comparing autistic university students’ reported learning experiences within in-person or online environments. Research concerning the pandemic also provided further information which could expose some tired tropes about autistic people, namely, that they all prefer using technology, being alone, and that they would thrive online. The second phase of this study draws on the DEP and rhetorical concepts to explore the social and academic experiences of autistic students during this time of unprecedented change on university campuses. I particularly wanted to publish this manuscript in the journal *Autism in Adulthood* which addresses concerns of autistic adults, including university students and instructors. Having presented at several conferences on autism research in 2021 through 2023, I was also being asked by researchers from the autism and autistic
communities where they could learn more about the combined theoretical framework that drew on the DEP and rhetorical concepts. Note that this journal uses the citation style from the American Medical Association, version six.
“Change Isn’t Exactly Easy”:
Autistic University Students’ Lived Learning Experiences
During the COVID-19 Pandemic

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Abstract

Background: The COVID-19 (coronavirus disease 2019) pandemic-related isolation measures caused significant unexpected changes in learning experiences for all university students, including autistic students. So far, there has been a lack of information on autistic university students’ lived learning experiences caused by the changes in the teaching delivery formats from face-to-face to online during this time. Our study addressed this gap by investigating eight autistic students’ reported learning experiences during the rapid changes caused by the pandemic and discussing student-advocated learning supports.

Methods: The participants in this qualitative study were eight formally or self-diagnosed, English-speaking, autistic undergraduate and graduate university students from a mid-sized Canadian university. Participants took part in semi-structured interviews that focused on their learning experiences and preferences before and during the pandemic, including what supports they found helpful. To analyze and interpret the data, autistic and nonautistic researchers used reflexive thematic analysis and a consultative participatory approach.

Results: Our findings suggest that individual (i.e., organizational skills, mental health), interactional (i.e., prior experiences interacting with instructors and teaching assistants), and environmental (i.e., sensory environments, class sizes, virtual learning environments) factors, which were interrelated, determined the nature and quality of these autistic students’ learning experiences and their academic preferences during the pandemic. We also found that each autistic student reported unique learning experiences and needed individualized supports for their learning.

Conclusions: Several interrelated factors (individual, interactional, and environmental) affected the nature and quality of autistic university students’ experiences during the pandemic. Each student had unique experiences and needed individualized supports.

Keywords: autistic university students, pandemic, lived learning experiences, learning supports

Community Brief

What was the purpose of this study?

During the COVID-19 pandemic, all university students experienced rapid unexpected changes in teaching and learning formats when they had to switch from face-to-face learning to online platforms. There is almost no published information on autistic students’ learning experiences during the pandemic. The purpose of this study was to understand eight autistic university students’ reported lived learning experiences during the COVID-19 pandemic and to discover potential academic supports that the students identified.

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What did the researchers do?

We interviewed eight Canadian autistic university students (five undergraduates and three graduates) about their lived academic experiences before and during the pandemic, focusing on their experiences with changes from face-to-face to online learning. We also asked them about effective academic supports that universities could provide. Autistic and nonautistic researchers worked together to analyze the participants’ responses.

What were the findings of the study?

The study found that individual, interactional, and environmental factors combined to affect these university autistic students’ lived learning experiences and their preferences for either online or in-person learning. Specifically, first, we found that each student’s ability to study independently in an organized way and their personal mental health concerns such as anxiety management were key in deciding their learning preferences. Second, each student’s prior success in socially interacting with instructors and teaching assistants was important in their preferences for online or in-person learning. Third, each student’s sensory experiences on campus and at home including factors such as having to attend large noisy classes or the availability of quiet home-based learning environments were important. We also found that each autistic student experienced learning uniquely and required individualized supports. In this study, the three graduate students reported wanting to return to in-person learning as soon as possible, whereas most undergraduate students preferred online learning.

What are the potential weaknesses in the study?

We were not able to recruit as many or as diverse a group of students as we would have liked. Additionally, although autistic co-researchers took part in the coding, analysis, and writing of this study, they did not contribute to the earlier design or data collection. In the future, we plan to fully involve autistic co-researchers from the start to ensure we produce research that addresses the expressed needs of autistic people.

How do these findings help autistic adults?

This study provided evidence of eight autistic university students’ lived learning experiences and preferences during the pandemic and described supports that the students indicated were important in helping them learn effectively at university.

How do these findings advance the literature?

This small-scale study provided early evidence about these autistic university students’ preferences for online or in-person learning and the reasons for these preferences. These findings can be used to expand this study to include a greater number and diversity of students to investigate how other factors such as race, economic status, presence of co-occurring conditions (e.g., learning disabilities), and others may also influence autistic university students’ learning preferences.

Introduction

In early 2020, the onset of the global COVID-19 (coronavirus disease 2019) pandemic heralded unprecedented changes in daily routines around the world and a time of great uncertainty. Even though each autistic person is unique, research repeatedly has shown that dealing with uncertainty can be especially challenging for the majority of autistic people. Indeed, at the start of the pandemic, relevant literature raised concerns about its possible effects on autistic students’ mental health and the consequences of changes in instructional formats from face-to-face to online learning.

Before the pandemic, online options for postsecondary education were becoming increasingly available at universities around the world and, given the trope of autistic people preferring isolation and being highly focused on technology, many researchers thought that online learning might be ideal for autistic students. In reality, autistic students have reported that online learning experiences are both positive and negative, sometimes facilitating learning and other times setting up barriers. To date, the literature on autistic students’ learning experiences with online platforms during the pandemic has been predominantly limited to school-aged students or framed from the perspectives of nonautistic people working with autistic students.

Only one study, conducted before the pandemic, discussed the perspectives of autistic university students about online learning in Australia and identified that fewer than 40% of autistic students favored online learning because such learning excluded social interactions with instructors and peers. Less than 20% of autistic students believed that online learning would be more effective for them. Furthermore, autistic students in the Australian study reported that the nature of interactions with instructors and peers played an important role in finding success online because such interactions could serve as either a barrier or a facilitator to effective online learning. Additionally, the study identified autistic students’ abilities to
effectively engage with learning materials and electronic course sites as key to their online success.\textsuperscript{9}

At the start of the pandemic, some researchers suggested that autistic people might prefer aspects of social isolation, one of the most radical pandemic-related changes that negatively affected many people.\textsuperscript{1,2,13} In turn, this might support autistic students' preferences for learning online from quiet and familiar home environments.\textsuperscript{4,5} However, increased anxiety about the unpredictable changes caused by the pandemic might have been more difficult for autistic students to endure.\textsuperscript{14,15} and autistic students might prefer being able to meet in person with their instructors and peers. Furthermore, as Pellicano\textsuperscript{16} has argued, "hidden inequalities"\textsuperscript{17} such as domestic abuse, inaccessibility of health care, mental health concerns, and economic inequalities, which had already existed within autistic populations before COVID-19, could interact with autistic students' experiences, positive or not, during the pandemic. To the best of our knowledge, so far, there have been no publications on how the changes to instructional formats affected university autistic students' lived experiences during the pandemic.

In the current study, we investigated the reported lived experiences of eight autistic university students with respect to how the rapid changes caused by the pandemic affected their learning, particularly their preferences for online versus in-person learning. To investigate these autistic university students' lived learning experiences with face-to-face and online modes of teaching delivery before and during the COVID-19 pandemic, we posed the following research questions (RQs):

1. What factors have determined the nature and quality of these eight autistic university students' reported learning experiences during the rapid changes in academic delivery formats (e.g., from face-to-face to online electronic platforms)?
   a. How have these factors affected autistic students' preferences for in-person and online teaching delivery formats?
   b. What possible underlying reasons for these reported experiences can we identify?
2. What supports for their pandemic-related learning experiences do these autistic students report as effective in increasing their success at university?

Methods

To investigate the RQs posed above, we used a qualitative, experiential, and interpretive design with a reflexive thematic analysis.\textsuperscript{17,18} We incorporated autistic peoples' input into the design of the interview guide, coding, theme generation and definition, and writing and editing. The research ethics board (REB) at Carleton University, Canada, approved this online study.

Participants

In response to recruitment posts distributed on various social media websites, eight formally or self-diagnosed autistic university students (18 years and older) from Canada volunteered to take part in this qualitative study. Two of the graduate student participants later became co-researchers who contributed further as described below. Please see Table 1 for the participants' self-reported demographic information. All participants had been attending university in person until the lockdown in March 2020 because of the COVID-19 pandemic. At that point, their classes were changed to online delivery (including both synchronous and asynchronous instruction). Individual instructors had variable abilities and prior experiences in online teaching, and consequently, the online delivery formats were somewhat different for each instructor.

Researchers and their positionality

Our research team included the primary investigator (PI) who is nonautistic and a retired speech-language clinician with more than 25 years of experience, a group of three autistic graduate university students who served as co-researchers, and the PIs academic supervisor. As we used a reflexive thematic analysis, we acknowledge the active role that each of us played in the coding and theme development of this project.\textsuperscript{19} The impact of having both autistic and nonautistic researchers on our team provided an invaluable check on our interpretation of the data, the generation of our codes and themes, and the conclusions of the study.

Data collection and analysis

In an earlier pilot study,\textsuperscript{20} we developed an interview guide focusing on autistic students' general university experiences unrelated to the pandemic by drawing on the input from 12 autistic students. For the current study, the first author drew on the feedback and data from the original 12 participants to develop questions to specifically address COVID-19 pandemic issues, especially focusing on online and in-person learning experiences (see Supplementary File S1 for the new interview guide). Two participants from the pilot study also took part in the current study, which focused on a new research topic.

The first author conducted online semi-structured interviews with the participants on Zoom\textsuperscript{21} because the REB prohibited in-person data gathering at the time of the COVID-19 pandemic. We supplied a written copy of the interview guide in advance of the interview to students who requested it. We audio-recorded the interviews onto a password-protected encrypted computer. A trained team (including the first author) transcribed the more than 21 hours of recordings using either ELAN (Version 6.0)\textsuperscript{22} or NVivo 12 Pro\textsuperscript{23} transcription tools, whichever the transcriber preferred.

Next, the first author listened to each recording again while reading the transcripts to confirm their accuracy. She also developed further questions for follow-up interviews to clarify each participant's expressed meanings. Finally, we sent participants copies of the transcripts to review and asked them to confirm on Zoom if they believed that the transcripts were accurate representations of their original intended meanings.\textsuperscript{2} Additionally, the first author requested expanded explanations of any points that she had identified as unclear or needing deeper examination. The follow-up interviews

\textsuperscript{*}We included self-diagnosed participants in the study to make sure that we included students who had decided not to seek a formal medical diagnosis. This was based on the social/cultural view of disability that we espouse.

\textsuperscript{1}We could not reconnect with one participant to do this.
Table 1. Demographics of Interview Participants

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>Academic Program</th>
<th>Diagnosis</th>
<th>Major Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Man</td>
<td>Graduate</td>
<td>Formal</td>
<td>Arts</td>
</tr>
<tr>
<td>P2</td>
<td>Man</td>
<td>Undergraduate</td>
<td>Formal</td>
<td>Arts</td>
</tr>
<tr>
<td>P3</td>
<td>Woman</td>
<td>Undergraduate</td>
<td>Formal</td>
<td>Arts</td>
</tr>
<tr>
<td>P4</td>
<td>Man</td>
<td>Undergraduate</td>
<td>Formal</td>
<td>Technology</td>
</tr>
<tr>
<td>P5</td>
<td>Man</td>
<td>Undergraduate</td>
<td>Formal</td>
<td>Arts</td>
</tr>
<tr>
<td>P6</td>
<td>Woman</td>
<td>Graduate</td>
<td>Formal</td>
<td>Arts</td>
</tr>
<tr>
<td>P7</td>
<td>Woman</td>
<td>Graduate</td>
<td>Self</td>
<td>Arts</td>
</tr>
<tr>
<td>P8</td>
<td>Nonbinary</td>
<td>Graduate</td>
<td></td>
<td>Arts</td>
</tr>
</tbody>
</table>

continued until no further questions or comments from either the participants or the interviewer arose. In total, the first author interviewed each participant twice.

Data analysis

In the analysis of the transcripts of participants’ interviews, we drew on a six-phase process for reflexive thematic analysis. To start, the first author listened to and reread the interviews to become familiar with the language and lexicon used (Phase 1). In the first iteration, she completed the initial coding using NVivo 12 Pro. Specifically, she performed an inductive process coding iteratively starting with in vivo codes (i.e., initial codes based directly on the interviewees’ texts), which she further developed through interpretive methods to create a coding tree of up to nine levels (Phase 2).

Please see Supplementary File S2 for an example of part of the coding tree. In the second iteration, she shared mid-level codes and transcripts with the whole research team, and we worked together to generate initial themes and then refine, name, and define the overarching themes and subthemes (Phases 3–5). This process continued iteratively until the group generated no added codes or themes. We further refined our themes through drafting the final report, which again was an iterative process with all team members contributing to writing and/or editing (Phase 6) with the first author acting as the lead.

Results

Below, we first report the findings of our reflexive thematic analyses of the students’ transcripts in answering our RQs concerning these eight autistic university students’ learning experiences and preferences during the pandemic, as well as their suggestions for effective supports. We found a set of three interrelated themes (Table 2), which contributed to the participants’ reported learning experiences (RQ1), their preferences for online versus in-person learning opportunities (RQ1a), and possible causes for these experiences and preferences (RQ1b).

These themes included personal/individual experiences, interactional experiences, and environmental experiences. In this study, we defined personal/individual factors as those endogenous to a particular person such as their perceptual, cognitive, or emotional experiences. We defined interactional experiences as social engagements with instructors, peers, or other personnel at university. Finally, environmental experiences related to the physical or virtual environments where learning takes place. The boundaries between these factors, however, were not always clear because, as mentioned previously, they were interrelated importantly.

RQ1: Interrelated factors contributing to autistic students’ learning experiences and preferences for online versus in-person learning opportunities.

For any given participant, different factors (or subthemes) within the themes contributed to their learning experiences.

Table 2. Major Themes and Subthemes

<table>
<thead>
<tr>
<th>Theme</th>
<th>Subtheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual/personal experiences and preferences</td>
<td>Organizational abilities</td>
</tr>
<tr>
<td></td>
<td>Mental health experiences</td>
</tr>
<tr>
<td>Interactional experiences and preferences</td>
<td>Experiences before the pandemic</td>
</tr>
<tr>
<td></td>
<td>Instructors’ and peers’ attributes</td>
</tr>
<tr>
<td>Environmental experiences and preferences</td>
<td>Sensory spaces on campus</td>
</tr>
<tr>
<td></td>
<td>Online learning environments</td>
</tr>
<tr>
<td>Individual/personal supports</td>
<td>Expanded and customized supports</td>
</tr>
<tr>
<td></td>
<td>Improved mental health supports</td>
</tr>
<tr>
<td></td>
<td>Improved education for instructors and teaching assistants</td>
</tr>
<tr>
<td></td>
<td>Increased pedagogical flexibility</td>
</tr>
<tr>
<td>Interactional supports</td>
<td>Access to quiet and familiar learning environments</td>
</tr>
<tr>
<td></td>
<td>Options for ways to engage in learning</td>
</tr>
</tbody>
</table>

Themes are defined in this study as “a shared, multi-faceted meaning ... unified by a central organizing concept or idea; developed initially in reflexive TA by clustering together codes.”

Subthemes are defined in this study as “the smallest part of the (final) analytic structure in any reflexive TA; used, if needed, to capture and highlight an important facet (or facets) of the central organizing concept of one theme.”
and preferences for either online or in-person learning. All quotations are reported in the language used by the participants.

**Individual/personal experiences**

Two personal factors that affected participants’ learning experiences and preferences were each student’s organizational abilities and their mental health experiences.

**Organizational abilities.** The ability to manage time and stay organized while in the unstructured environment at home was an important determinant of the participants’ preferences for online versus in-person learning. Most participants noted that managing deadlines and organizational abilities was “tricky” [P5] for them. One student observed that when online, “The learning itself becomes a lot more self-directed and … the organizational tasks fall more heavily on the student” [P5]. Another shared, “I ended up abandoning that [online] course because I couldn’t coordinate it” [P4]. Several other students, however, reported that using calendars and/or having someone in their personal life (e.g., a partner or parent) who supported their organizational abilities was helpful [P1, P2, P5, P6]. Other students, who reported having strong organizational abilities, described enjoying online learning and being successful doing it [P3, P7, P8].

**Mental health experiences.** Being able to manage one’s mental health also affected students’ learning experiences and preferences. Indeed, most students reported struggling with the unexpected and rapidly changing global pandemic situation. For example, Participant 7 reported, “I was so anxious … I was in constant panic mode; I couldn’t process anything.” Another student shared, “It was a little bit unnerving; change isn’t exactly easy” [P4] while a third student described the changes as “pretty harrowing” [P6]. However, those students who were later able to set up new routines, including daily exercise and study schedules, reported that they preferred online learning to traveling to and from campus and the sensory intensity of being on campus [P2, P3, P4, P5, P6, P8]. For instance, Participant 4 shared that “Once a few weeks were gone, it began to get easier because it started to feel more like the usual routine.”

**Interational experiences with instructors and peers**

Participants reported that their instructors’ and peers’ personal attributes affected their learning experiences and preferences as did any interactional difficulties the students had experienced on campus before the pandemic.

**Instructors’ and peers’ personal attributes.** Several students [P1, P2, P4, P7, P8] shared that professors or teaching assistants (TAs) often “didn’t seem to understand the problems” [P4] that autistic students experienced. For example, Participant 4 preferred communicating with professors than with TAs, finding that communication with TAs was “iffy” or unreliable. And yet, most participants reported trying to have strong one-to-one relationships with professors and missing being able to interact with them in person during the lockdown. For instance, Participant 4 reported that he enjoyed “talking with [his] professors to have them wholly understand the problems that [he’s] having” and missing this interaction during the pandemic.

Several students noted that they especially valued engaging with neurodivergent instructors and mentors. One student said that one of his neurodivergent mentors was “incredibly helpful” because who’s better to help you than people who have more understanding of what you go through?” [P5]. Other participants reported that individualized instruction with any caring instructor was equally important, regardless of the instructor’s neurotype (or way of perceiving and acting in the world). Thus, another student shared an experience with a helpful non-neurodivergent instructor, saying, “She was really understanding, she made huge efforts to accommodate and understand the experience [of being autistic] and … she was excellent” [P2].

**Experiences interacting with instructors and peers before the pandemic.** Before the pandemic, participants also reported feeling a strong need to camouflage or hide their autistic nature and conform to nonautistic ways of behaving such as making eye contact or keeping physically still. One student said, “I can’t be myself because that would be too weird” [P4]. However, they described camouflage as “exhausting” [P2] and, because of that, feeling “so burnt out after school” [P2]. Consequently, when learning online, many participants reported feeling relieved to not have to camouflage their autistic traits.

During the early weeks of the pandemic, all participants reported feeling relieved to avoid the need to interact socially every day. One participant said, “By far and away, the best thing about it [the pandemic] so far has been the relieving of the expectation and the obligations of actually going out and interacting in personal spaces” [P2]. Another stated, “At the beginning … it was great! You weren’t even allowed near people” [P6]. Over time, however, most participants [P1, P3, P4, P5, P6, P8] reported struggling with isolation. For instance, one student said that as the pandemic “dragged on,” he started to feel “a lot lonely” [P4].

**Environmental factors related to different learning contexts**

Environmental factors associated with being on campus or at home importantly affected students’ lived learning experiences and preferences. These included sensory experiences on campus and physical and virtual experiences associated with online learning from home.

**Sensory experiences on campus.** Participants described many difficult experiences when being physically on campus before the pandemic. For example, students reported increased anxiety and discomfort when other people unexpectedly touched them [P7], when coping with heat [P5], when being in crowded spaces [P5, P6], and when dealing with noisy environments [P1, P4, P5, P6]. One student reported his experiences as follows:

From waking up to going to sleep, no matter how positive a day you have, you are still going to be contending with the fact that these everyday stimuli that otherwise don’t even register are affecting you deeply … It’s the every-moment-of-every-
day, for your entire life. And that’s emotionally and mentally exhausting [P2].

To avoid these aversive environmental experiences, many autistic undergraduate students shared that they enjoyed being able to learn online during the pandemic, and one undergraduate even said, “I’m pretty okay not going back to campus until graduation” [P5]. Although most undergraduate students in this study were happy with their online learning experiences, the three graduate students reported missing being on campus, having enjoyed their academic working spaces on campus before the pandemic (e.g., smaller classrooms; meeting in person with familiar instructors). Indeed, one graduate student stated that being on campus put him “in the right mindset to work” [P1]. Another shared that in smaller classes, they could “engage in meaningful exchanges” [P8], which were “a bit better in person” [P8]. Yet another student shared that “just being in a place which wasn’t so freeform, an actual academic environment, I’m not sure why it helped solidify the knowledge more, but it did” [P1].

Online learning environments. Several aspects of online learning environments affected students’ experiences and preferences. These included access to visual forms of content (e.g., subtitles), various technological concerns, and the unstructured experiences of learning in home environments.

Visual forms of content. Participants described the value of increased online opportunities to access a visual form (or permanent audio copy) of course content (e.g., through subtitles on conferencing platforms, having access to a script of the lecture, listening to recordings of lectures several times, or controlling the speed of delivery of the lecture). For example, Participant 7 shared that access to course content in written form improved her understanding of the material and rate of learning. She said, “When they give the transcript, I’m done! I retain it; I understand it” [P7].

Technology concerns. Students also reported that environmental challenges related to technology affected their learning experiences and preferences. Specifically, students who either experienced unreliable internet access [P4] or who found that instructors were struggling with the sudden changes to teaching online [P1, P7] were less satisfied with online learning. Additionally, teleconferencing platforms could feel overwhelming for some autistic students, as if class participants on the screen had invaded their personal space. One student [P7] shared that “the interactive element has been completely injected into the technology,” and she experienced “panic attacks in [her] house” and felt “invaded” when seeing so many unfamiliar faces on the screen.

Several students also reported struggling with learning management systems at their universities [P1, P2, P4]. Participant 1 described them as “not intuitive at all” and “unnecessarily complicated.” Participant 2 found them “difficult to navigate most of the time” and that he experienced “anxiety” using them. He reported that one successful strategy in coping with this had been to ask the professor in person to explain the information to him (something that was not available when learning online).

Finally, some students [P2, P4, P7] reported a dislike of using email, which online learning increasingly required. For example, Participant 2 shared, “It’s hard to express … just how anxiety-inducing I find checking an email inbox ... it’s not rational,” but he added that much of the anxiety related to “social expectations” from the authors of the emails that seemed not explicit enough to him and, therefore, hard for him to understand. Additionally, Participant 2 also shared that he was afraid of opening his email and finding out he was “suffering the consequence” of some important information he had missed.

Learning in home environments. Although most students reported enjoying being in their homes and not having to deal with the sensory challenges on campus, not everyone found it easy to study in their home environments [P1, P2, P4, P7]. This was most often related to the lack of structure in the home environment, which could be “too freeform” [P1] to support consistent study habits. Other students [P1, P5] reported that having separated their home environments (where they relaxed and did not study) from being on campus (where they cued them to work) before the pandemic, they found it difficult to start studying in their home environments. Alternatively, the presence of other people in the home environment (e.g., parents) was often distracting [P1].

RQ2: Interrelated supports that autistic students found helpful or believed would be useful.

Participants reported benefiting from individualized supports, both online and in person, with any given student potentially requiring a distinct combination of supports. Once again, our data related to the three themes of personal/individual, interactional, and environmental supports, as we had generated when addressing the first RQ (Table 2).

Individual/personal supports

Participants particularly emphasized the need for student support services (SSSs) to expand and customize their supports for autistic students, especially by improving mental health services.

Expanding and customizing supports. Participants reported needing greater help with organizational abilities and learning strategies, including support in understanding assignment prompts [P1, P2, P4, P5, P6]. Although these concerns existed before the pandemic, the need for stronger organizational abilities became more critical with learning online from home as described above.

Students further suggested that SSSs did not have enough overall experience with autistic students and recommended that SSSs have an autistic mentor or counselor available to help autistic students [P2, P4]. Other students shared that if they had experienced good support from a particular professor in the past, they would often stay connected with that professor and seek out their guidance, even if they were no longer enrolled in their classes [P1, P2, P3, P7].

Improving mental health supports. Participants called for improved mental health supports, particularly regarding distinct autistic experiences such as “getting unstuck,” ** or autistic inertia** when trying to complete work while very

**Autistic inertia is defined in this study as “difficulties both starting and stopping activities, which are commonly experienced by autistic people.”**

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anxious [P1], coping with “autistic burnout” [P2], and dealing with anxiety and depression associated with highly emotional breakdowns, sometimes described by autistic people as “meltdowns” [P2, P3]. Indeed, several students (all undergraduates) reported that they received most of their learning and emotional support from their parents [P3, P4, P6].

**Interational supports**

Participants reported needing more support for their interactions with instructors and peers, particularly the need for universities to better educate instructors and TAs about neurodiversity and pedagogical flexibility. This need was present before the pandemic, but it continued to be a concern.

Better neurodiversity education for instructors and TAs. As described above, participants reported having frequent misunderstandings with their instructors and peers. For instance, Participant 1 shared that a professor had “kicked [him] out of class” because of a misunderstanding during a class discussion. In this case, the student reported that to cope with his own distractibility, he often researched topics of class discussion while simultaneously taking part in classes. The professor, unfortunately, interpreted this behavior as disrespectful. Other students [P2, P6] reported similar experiences when they tended to draw pictures or doodle in class to help them focus, which instructors sometimes interpreted as not paying attention. Additionally, several students recommended providing education to faculty and students about autistic students’ ways of interacting and learning [P1, P4, P7]. For instance, Participant 4 suggested that universities should teach professors and TAs “how to ... properly educate ... students who are LD [learning disabled], or Asperger’s or autism.”

Increased pedagogical flexibility. To accommodate different challenges with interpersonal breakdowns between students and their instructors and peers, participants suggested that they would appreciate more “choices and options” [P1] in ways to interact with instructors and peers. Specifically, Participant 1 said, “... for some people, chat rooms work well, or you know, Zoom calls work well, or for some people message boards work well. Why not ... make those optional?!” Other participants again called for accommodations for specific course requirements such as reduced expectations for group work or insistence on class participation marks. Several students [P1, P5, P8] shared that they “hated” group work and when lockdown occurred, it was a “big relief” [P8] to not have to complete group projects. Two students also shared their strong dislike for classes that awarded class participation marks because verbally interacting in class was not an effective way for them to engage with the learning materials or their professors and peers.

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**Environmental supports**

Participants also described different environmental supports that influenced their learning experiences and preferences. We found two important environmental supports to be recurrent factors. These were access to quiet and familiar learning environments and access to options for different ways of engaging with learning.

Access to quiet and familiar learning environments. The three graduate students particularly reported missing in-person learning in small quiet classes. For example, Participant 7 shared that since she was “finally getting more complex knowledge, ... in-person ... actually would be helpful” and that “just being in a place which wasn’t so freeform, an actual academic environment” was helpful and that “it helped solidify the knowledge more” [P7].

In contrast, undergraduate students [P2, P3, P4, P5, P6], who were more likely to be in larger louder classes where they did not know their peers, who endured crowded spaces when traveling between classes, and who needed to seek out new unfamiliar classrooms (especially for elective courses) more often preferred being at home in quiet and familiar places and learning online.

Options for ways to engage with learning. When learning online, students reported benefiting from options for different learning approaches and platforms [P2, P3, P5, P6, P8] such as access to subtitles [P7], asynchronous learning versus synchronous learning [P1, P3, P7], and ways to take part through written chats instead of verbally [P1]. Additionally, students said that access to reliable technology was very important [P4, P5], particularly having quick and consistent internet access without which students were less likely to prefer online learning.

**Discussion**

This study identified important and specific aspects of the nature and quality of the learning experiences before and during the COVID-19 pandemic for this group of autistic university students. Furthermore, the students shared how these experiences affected their preferences for online versus in-person learning. Although we conducted this research during a time of rapid change and stress, most findings are likely relevant in less exceptional circumstances. In addition, we identified learning supports that these autistic university students recommended to facilitate their learning experiences (online and in-person). Below, we compare our findings with the relevant literature and discuss the unique contributions of this study.

**Finding 1: Several interrelated factors affect autistic students’ learning experiences and preferences**

Although previous studies generally described diversity in autistic students’ online and in-person learning experiences, this study specifically identified three interrelated factors associated with autistic university students’ diverse learning experiences during the pandemic: individual/personal, interactional, and environmental. We also found that learning experiences are importantly aligned with autistic students’ preferences about online versus in-
person learning and the kinds of supports they require. We further identified important components of each of the three interrelated factors in determining the nature and quality of their lived learning experiences and their preferences for online versus in-person learning (Table 2).

Specifically, students described organizational abilities and mental health concerns as important individual/personal factors. They also reported that their social experiences before the pandemic and the individual attributes of instructors and peers were important for their interactional success and preferences. Finally, they reported that the kinds of sensory spaces that were available on campus as well as the online learning environments (e.g., the nature of the learning management systems) affected the success of their academic learning and preferences. Previous reports had already identified some of these components (e.g., organizational abilities, sensory spaces) but not how these components related to each other or how they formed the three main factors.

Finding 2: Each student is unique in their experiences and will require different supports

Before the pandemic, researchers wondered if the opportunity to learn online from home would be met with universal enthusiasm by autistic students. Our research confirms that while some autistic students may prefer online learning, this is not the case for everyone. Indeed, we have shown how the interrelated nature of three factors described above is unique to each individual autistic student. Far from being able to offer a universal approach to learning strategies for all autistic students, our findings suggest that instructors must continue to be sensitive to the specific learning strengths and challenges of each autistic student.

For instance, we found that while most undergraduate autistic participants were happy with online learning, graduate autistic students in this study voiced strong motivation to return to in-person learning. Additionally, some undergraduate autistic students in this study, especially those who reported experiencing difficulties with organizational abilities and struggling with the independent learning nature of online learning, preferred to return to in-person learning. Conversely, students who reported greater difficulties with in-person interactions appeared more relieved to be able to work from home and not return to campus.

Furthermore, the kinds of supports that individual autistic students needed were distinct, and by focusing on the personal/individual, interactional, and environmental factors unique to each student, we can best design effective strategies for each of them. Although this requires instructors and counselors to know each student personally, the design of flexible and individualized supports to address the diversity of learning experiences among autistic students is the key. In this, we agree with earlier research that suggested “options [be] tailored to the individual and not to the diagnosis.” Indeed, several of the factors that affected these autistic students’ learning experiences are not unique to autistic people.

For instance, many nonautistic and learning-disabled students experience challenges with organizational skills and mental health as well as preferences for smaller class sizes. However, for instructors and peers of autistic students, understanding that individualized learning supports are required is a step forward in meeting each autistic student’s learning needs. Additionally, autistic students in this study reported intuitively knowing that they needed individualized (and sometimes face-to-face) engagement with instructors to fully understand course content and expectations. However, important concerns regarding the success of these interactions must still be addressed.

Finding 3: Universities need to provide instructors and students with better education concerning academic and social interactions with autistic students

It is encouraging that the participants in our study said that they independently sought out more personalized relationships with their instructors. However, the participants reported several instances where misunderstandings with instructors or peers had occurred. This finding aligns with previous research by Milton in his description of the Double Empathy Problem or DEP that has identified that bidirectional misunderstandings between autistic and nonautistic people occur frequently. In the past, research suggested that autistic people’s deficits in understanding the minds and feelings of others were the cause for such interactional breakdowns. Milton, however, emphasized the mutual and reciprocal nature of autistic/nonautistic interactions. Indeed, he argued that both autistic and nonautistic people equally struggle to understand the perspectives of each other and that autistic and nonautistic people should share the responsibility for ensuring meaningful and successful interactions between them.

Earlier study of the interactions of autistic university students and their instructors has acknowledged the role that the DEP plays in students’ academic and social experiences. Specifically, autistic students have reported being more successful in identifying situations when engaging in small groups where they could better communicate and understand the intentions or expectations of others. Additionally, when engaging with other neurodivergent people or those who recognized autistic people’s ways of thinking and communicating, autistic university students felt that they were more likely to have their (sometimes distinctive) responses understood. Such factors, which appeared to alleviate the DEP, also served to reduce the anxiety, stress, and isolation of autistic university students and provided them with more equitable access to academic and social opportunities at university. This information on autistic students’ ways of communicating and how to support mutual understanding should be shared with all who interact with autistic university students to ensure their equitable access to learning in both online and in-person contexts.

Study limitations

As with any study, this one has a few limitations. First, we did not recruit as large or as diverse a group of participants as we had originally aimed to. The participants were self-selected; however, they were mostly White and all from Western countries. Although a good deal of published research includes such groups of participants, we must strive to increase the diversity of our samples to further improve the validity of the conclusions made in future studies. Second, as
a qualitative study with eight participants, the aim was not
generalization, and we cannot know how our findings gen-
eralize to broader groups of autistic people.

Third, the autistic co-researchers were not fully involved
from the inception of the research and only contributed to the
coding and analysis of the study, and the writing of the final
article. In the future, we plan to conduct research with all co-
researchers taking part fully from the inception of the study to
ensure that our research addresses the most valued priorities
of autistic people.

Conclusions

In this study, we investigated eight autistic university
students’ lived learning experiences and preferences for
different aspects of online versus in-person learning. We
further described supports that the students suggested were
effective in helping them succeed at university. By using
reflexive thematic analysis to explore in-depth semi-
structured interviews with these university students, we have
defined three factors that determined students’ learning
experiences and preferences and that these factors were
interrelated and specific to each student.

We also found that autistic students advocate for better
education for nonautistic instructors, TAs, and peers about
autistic students’ lived learning experiences and preferences
as well as how to interact with them more successfully. In the
future, we call for more in-depth research into these factors
and how widespread the experiences, preferences, and sup-
gested supports are among all autistic university students
including those from different ethnic groups, cultures, and
those having co-occurring disabilities, an endeavor we plan
to undertake as well.

Authorship Confirmation Statement

J.B. was the lead in all phases of the study. J.R., J.M., and
G.R. took part in coding, interpretation of the data, theme
generation and definition, and writing. N.A. provided guid-
ance regarding the study design, coding, and writing. All
authors approved this article, and it is only under consider-
ation at Autism in Adulthood.

Author Disclosure Statement

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Supplementary Material

Supplementary File S1
Supplementary File S2

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Supplemental File One

Questions for Semi-structured Interviews

1. How have you been finding all the changes since the Coronavirus pandemic started?
2. What has been easiest? What has been hardest?
3. What is your current living situation?
4. What has been easiest? What has been hardest?
5. Have you done online learning before?
6. Can you describe those experiences?
7. How do they compare with your experiences learning online since the Coronavirus pandemic physically closed the university?
8. Do you have any particular people who are supporting you academically?
9. Are they autistic, nonautistic or both?
10. Are you meeting them virtually or any other way?
11. What is your favourite learning platform to use? Why?
12. Do you prefer virtual or face-to-face support? Why?
13. Do you have any particular people who are supporting you socially?
14. Who are they and how do they help?
15. Are they autistic or nonautistic or a mix of people?
16. How do you contact them?
17. What are your expectations of success for this term?
18. How do you feel about academic supports that the university provided to help students this term?
19. Is there anything else you would like to see the university provide?
20. Have you had any written assignments since online teaching started?
21. Have you needed help?
22. How were you able to get help (if you were able to and wanted help)?
23. How are the writing projects going?
24. Are you doing any online exams? How do you feel about them? Are they better or worse than in-person exams? Why?
25. Is there anything that has been positive for you about your online learning?
26. Is there anything that has been positive about being at home and not coming into campus?
27. Please share anything else about how the physical shutdown of the university has affected you that has been important to you.
Supplemental File Two

FIGURE 1: EXCERPT FROM NVIVO 12 CODING TREE

<table>
<thead>
<tr>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
</tr>
<tr>
<td>Experiencing different kinds of learning</td>
</tr>
<tr>
<td>Experiencing in person learning</td>
</tr>
<tr>
<td>Helpful aspects of experiencing in person learning</td>
</tr>
<tr>
<td>Unhelpful aspects of in person learning</td>
</tr>
<tr>
<td>Experiencing online learning</td>
</tr>
<tr>
<td>Having both positive and negative experiences with online learning</td>
</tr>
<tr>
<td>Helpful aspects of experiencing online learning</td>
</tr>
<tr>
<td>Unhelpful aspects of experiencing online learning</td>
</tr>
<tr>
<td>Factors affecting learning preferences</td>
</tr>
<tr>
<td>Experiencing academic and social interactions</td>
</tr>
<tr>
<td>In person</td>
</tr>
<tr>
<td>Online</td>
</tr>
<tr>
<td>Experiencing different instructors</td>
</tr>
<tr>
<td>Experiencing physical environments</td>
</tr>
<tr>
<td>Controlling physical environment reduces stress</td>
</tr>
<tr>
<td>Experiencing classes in person</td>
</tr>
<tr>
<td>Liking being online for classes</td>
</tr>
<tr>
<td>Needing a familiar context where I can engage predictably</td>
</tr>
<tr>
<td>Experiencing uniquely personal ways of being</td>
</tr>
<tr>
<td>Experiencing differences in EF skills</td>
</tr>
<tr>
<td>Experiencing sensory sensitivities</td>
</tr>
</tbody>
</table>
Chapter 8: Creation of the Website

8.1 Purpose of the Website

As part of the third phase of this study, which was funded by the Carleton University COVID-19 Rapid Research Grant in May 2020, I committed to disseminate the findings of the research quickly and online. Consequently, I agreed to present the findings on a university-based website to provide both interim and results of the study in a timely manner. See Figure 8.1 for the editing tool used for developing this website.

Figure 8.1

*Editing Dashboard for the Website*
As I was also conducting several other related studies on social and academic interactions between autistic and nonautistic students and instructors at university, I included information on those studies as well. I named the website Autism Research at the School of Linguistics and Language Studies with the URL http://carleton.ca/autism_cu/. I further established a dedicated email address for any interested parties to contact us.

8.2 Target Audience

The target audience for the website included:

- Autistic university students
- University instructors (professors, instructors, tutors, etc.)
- Staff of the university support services for autistic students.
- Parents and relatives of current and future autistic university students
- Academic audiences
- General public

To date, I am aware of university staff and students who have accessed the website and reached out to us as well as academic audiences and the public. In particular, the Ottawa Adult Autism Initiative (https://ottawaadultautism.com), a support and research group for autistic adults in the Ottawa, have shared our URL on their website. I have also received several email requests for information and support over the few months that the website has been available.

8.3 Description of Content

The content of this website comprises a home page shown below in Figure 8.2 which links to four main content pages as well as other subsidiary pages. The four main sections are entitled:

- Autistic People and Autism
- Autistic University Students and Academic Writing
Autistic University Students’ Experiences during the COVID-19 Pandemic

News, Recruitment, and Study Recruitment

Other pages include Acknowledgements, Grant Information, Contact Information, and various summaries.

**Figure 8.2**

*Home Page of Website*

![Image of Home Page of Website]

### 8.3.1 Autistic People and Autism Section

This section ([https://carleton.ca/autism_cu/autistic-people-and-autism/](https://carleton.ca/autism_cu/autistic-people-and-autism/); see Figure 8.3) discusses the contested nature of the concept of autism with particular emphasis on a description of the three models of disability and autism (i.e., the biomedical, social, and cultural models). It further provides information about the neurodiversity paradigm shift in autism science, with links to other articles and presentations. It also describes the main theoretical frameworks which are
used in our autism research within the School of Linguistics and Language Studies at Carleton University. Finally, it provides links to research journals and other local, national, and international organizations which work together with autistic people and conduct autism research.
8.3.2 Autistic University Students and Academic Writing Section

This section (https://carleton.ca/autism_cu/autism_and_academic_writing/) highlights our research investigating autistic university students’ lived experiences of learning to write at university, particularly emphasizing the social nature of learning to write. See Figure 8.4 below.
I provide links to power points and videos of actual presentations I have made and articles which my co-researchers and I have written, some of which are already published in peer-reviewed journals. Again, I provide links to other relevant research journals and end with a description of our current and future activities.
8.3.3 Autistic University Students’ Experiences during the COVID-19 Pandemic Section

This section (https://carleton.ca/autism_cu/autism_and_covid/) summarizes our findings from the second in the multiphase study presented in this dissertation. See Figure 8.5 below. This page also provides a link to the published article as well as links to several presentations I have already made on this study, including a YouTube video interview link created following a presentation to the III Conferencia Estatal sobre educacion formacion y trastorno del espectro del autismo (TEA), Spain in 2020. The section concludes with a description of current and future activities.
Section on Autistic Students’ Experiences during the COVID-19 Pandemic

8.3.4 News, Events, and Study Recruitment Section

This section (https://carleton.ca/autism_cu/news/) provides links to upcoming conferences (including those where I will be presenting) as well as contact information for our participatory research team and notices of recruitment for any current studies my co-researchers and I are conducting. See Figure 8.6 below.
8.4 Chapter Summary and Future Directions

In Chapter eight, I described the purpose and target audience for a website developed to quickly and efficiently disseminate the findings from the research conducted for this dissertation. I
also described and provided examples of the webpages making up the website. In the future, I want to continue to expand this website to include further research on autism and speech and language studies within the School of Linguistics and Language Studies at Carleton University. Indeed, there are several students and professors who may want to support it.
Chapter 9: Conclusions: What This All Means

The growing numbers of autistic students on university campuses (White et al., 2016) have the potential to provide distinct and valuable contributions to academic conversations, but their success depends on effective communicative exchanges with their instructors and peers (Heilker & Yergeau, 2011; Price, 2011; Prince, 2013). In this multiphase, multimethod, qualitative, and participatory study, my overall research question has asked how autistic university students account for their lived experiences learning and engaging with nonautistic and autistic instructors and peers at university. To answer this umbrella question, I designed a study, which incorporated multiple semi-structured interviews with autistic students regarding their lived experiences of learning at university, including their development of academic writing. I also conducted semi-structured interviews with their autistic and nonautistic instructors regarding their experiences teaching autistic university students. The COVID-19 pandemic provided me with an unexpected opportunity to investigate how autistic university students reacted to different learning experiences according to different instructional formats (i.e., online vs. in-person). I also asked autistic university students what academic supports they considered effective. Through the website that was designed (Chapter eight), this information has and will continue to be communicated to autistic university students and their parents as well as university policy and decision makers and instructors who could then implement the effective supports suggested by the students themselves. Indeed, we have been contacted by many members of both the Carleton University community and the Ottawa community based on this website. In addition, it has encouraged autistic students to join our research team, thereby helping to promote future participatory research projects.

This manuscript dissertation includes three articles (Chapters five through seven) and a description of the website I created (Chapter eight). By means of these articles I present the
findings of each phase of the study and discuss how these findings relate to current literature. In this concluding chapter, I briefly review the main research findings of the overall study. I also describe how the theoretical framework, especially the combination of Milton’s (2012) Double Empathy Problem (DEP) complemented by the rhetorical concepts employed in this study, contributes to addressing research gaps in applied linguistics, rhetoric, and autism studies by integrating conversations from these fields. In closing, I discuss the research limitations of the three studies presented in this dissertation and propose directions for future research for myself and others with whom I hope to collaborate.

9.1 Major Conclusions from this Multiphase Project

In the pilot study (Chapter five), I found early evidence that autistic university students reported experiencing distinct academic interactions with their nonautistic instructors and that misunderstandings with nonautistic instructors and peers were common. Such misunderstandings between autistic and nonautistic people had been predicted by the DEP (Milton, 2012, 2020). It also became clear during the pilot study that a theoretical framework based on the DEP enhanced by selected rhetorical concepts was valuable in expanding the DEP predictions to describe the nature and underlying reasons for such common misunderstandings. The pilot study significantly contributed to my understanding of the importance of aiming for gold standard participatory research methodology, which made me issue a call inviting autistic students and instructors to join me as co-researchers for the next two phases of the study.

Following the pilot study, in the first phase of my research (Chapter six), I drew on the invaluable feedback that I had received from several editors and reviewers of my first publication and expanded the original pilot study design to include autistic and nonautistic instructors, as well as to use new methods of analysis (i.e., reflexive thematic analysis and composite narrative
portraiture). I also expanded the participatory nature of the work to include input from a group of autistic graduate students who became co-researchers and co-authors for the Phases One and Two of this study.

In the first phase of the study (Chapter six) following the pilot study, I discovered that autistic students reported distinct ways of sensing and perceiving the physical and social world, as well as distinct ways of processing time and timing. It followed that perhaps these sensory and perceptual differences as well as timing differences could lead to the autistic university students’ typification of social and academic interactions being distinct from that of nonautistic students and instructors. For example, autistic students described that they did not often recognize when and what instructors expected of them in both verbal and written interactions; that they struggled to know how to give appropriate responses; and that their response timing as well as their rate of information processing caused them difficulties in their interactions with nonautistic instructors and peers. Learning that misunderstandings were common between autistic university students and nonautistic instructors and peers, when and where the misunderstandings occur, and gaining insights into why they occur was the first step to ameliorating the negative impact of such misunderstandings on autistic students’ success at university.

The COVID-19 pandemic allowed me to further test the usefulness of using the theoretical framework of the DEP expanded by selected rhetorical concepts to explore the relationship between the rapidly changing instructional formats (online vs. in-person) and the nature of common mutual misunderstandings between autistic university and their nonautistic instructors and peers. The second phase of the study (Chapter seven) revealed the diversity of individual autistic student’s academic learning experiences and academic acculturation. My autistic co-researchers and I found that a unique interaction of three main types of factors (individual,
interactional, environmental) determined the nature of any given student’s learning preferences, particularly regarding online versus in-person learning. Indeed, I found that some tropes from the literature about autistic students such as that they would prefer to be alone or prefer learning online (den Houting, 2020) were not supported by the obtained empirical evidence (Ballantine et al., 2023). Rather, the unique experiences of each individual student relating to their personal characteristics, previous and ongoing success in interacting with nonautistic people, and sensitivity to the physical and/or virtual learning environment were key to determining the instructional format preferences.

9.2 Major Contribution of the Combined Theoretical Framework to Autism Research, Applied Linguistics and Rhetorical Studies Research

 Traditionally, most theories of autism have used nonautistic clinicians’ and researchers’ descriptions of the overt behavioural manifestations of autism such as social isolation, differences in communication, and repetitive movements. Specifically, these theories included Theory of Mind (e.g., Baron-Cohen, 1997; Frith & Happé, 1994), executive function deficits (e.g., Hill, 2004; Hughes et al., 1994), weak central coherence (e.g., Happé & Frith, 2006), and context blindness (i.e., Vermeulen, 2013). Further, these traditional theories have mostly employed a deficit-based, biomedical model of autism (Acevedo, 2018; Bertilsdotter Rosqvist et al., 2019). Indeed, because their fragmented and external descriptions of autism did not include input from autistic people, nonautistic researchers theorizing about autism could not hope to characterize the existence or lived experiences of autistic people completely or comprehensively. Therefore, they may have identified several autistic traits that may be experienced by some autistic people, but they fall very short in describing an essence or complete understanding of autistic people’s lived experiences.
Only in the last few years, the distinct *internal* sensory and perceptual experiences of autistic people have been investigated and given appropriate emphasis in the research literature (Fletcher-Watson & Happé, 2019; Grinker, 2008) and participatory research approaches have been endorsed (den Houting et al., 2021; Raymaker & Nicolaidis, 2013). That is, it is only since the true experts of autism, autistic people, have contributed to the research that more comprehensive understandings of autism have been revealed.

This multiphase study, which has emphasized the voices of autistic university students, has addressed important research gaps in autism research, applied linguistics, and rhetorical studies. By putting the spotlight on the internal experiences of autistic university students and instructors through participatory, co-researched studies, I aimed for these studies to help all researchers to avoid producing incomplete explanations and theories such as the ToM (Baron-Cohen, 1997) and other such deficit accounts of autism.

Within the autism research community, the rhetorical concepts used in this research have never, to my knowledge, been employed to explore and expand the common misunderstandings that occur between autistic and nonautistic people in general (as predicted by Milton’s 2012 DEP), and, specifically, in the case of interactions between autistic university students and nonautistic instructors and peers. Indeed, the combined theoretical framework adopted in this multiphase study has allowed me not only to identify important and distinct internal, lived rhetorical experiences of autistic students as they interact with the physical and social environment at universities. It has also offered insight into the complex nature of *each* autistic learner’s cultural, historical, sensory, perceptual, cognitive, and affective lived learning experiences as these factors integrate with how each student constructs their learning environments. As such, it has expanded applied linguistics and rhetorical studies by introducing concepts related to autistic peoples’ distinct typifications of
rhetorical situations, exigences, uptakes, and timing, including their distinct rhetoric. It has also emphasized that the social construction of learning environments at university is unique for each autistic person, and indeed for everyone.

9.2.1 Emphasis on Social Exchanges Between Autistic Students and their Instructors

Although my intention was to complete a discourse analysis of the writing samples which the students provided following their initial interviews, the critical importance of an in-depth analysis of the social and academic interactions between autistic students and their instructors became clear as this project progressed. In fact, it became apparent that to progress to an analysis of the written samples provided by the students required that I first complete as full an exploration of the social exchanges between autistic students and their instructors as was possible. Therefore, a discourse analysis of the extensive academic writing samples provided by the students was deferred for a subsequent study.

9.3 Methodological Contribution of this Project

As mentioned in Chapter four, I underwent a steep learning curve regarding the most effective and valuable ways to analyse the data. Over the course of the project, I came to the conclusion that in a qualitative, participatory design where the unique lived experiences, or perezhivaniya, of the students were the prime focus, only reflexive thematic analysis (Braun & Clarke, 2022) could accomplish the task appropriately by fully acknowledging the reflexivity of all the researchers. The value of using both categorical and connecting analytic strategies in this kind of research design was also very important. Consequently, the use of compositive narrative portraiture (Willis, 2019) added an invaluable connecting and contextual analysis to the categorical nature of the reflexive thematic analysis. I would encourage other researchers conducting similar qualitative and participatory studies to consider these analytical tools in the future.
9.4 Limitations of the Study

Although I was able to recruit participants from Canada, the United States, Australia, and Europe, the study remained limited regarding the diversity of participants in terms of race, ethnic background, and other intersectional ties, including the co-occurrence of other disabilities with autism. In addition, there is a strong move within autism research to expand research beyond only those autistic people who speak, to those who do not (Lebenhagen, 2020). All the participants in this study were speaking, but it is likely that there are nonspeaking autistic individuals (or, autistic people who do not speak because of motor control problems, verbal formulation challenges, or any other physical or affective reasons) who currently are struggling to access the university environment. Seeking out those participants should be prioritized in future studies of autistic university students, as well as beyond.

The participatory nature of this research has been helpful, especially in incorporating the input of autistic graduate students to review coding, thematic analysis, writing, and editing the manuscripts. And yet, their earlier inclusion in the process and greater participation by autistic co-researchers would have been even more beneficial, and will be part of my future research design, data collection, analysis, etc. Although it has been a long time in coming, participatory research is slowly becoming more mainstream (Keating, 2021; Pellicano, 2020; Raymaker & Nicolaidis, 2013), but there is still a long way to go, especially directing funding to more participatory projects.

Another limitation of this research has been the categorical lens I have used to couch the findings. That is, I have compared autistic to nonautistic experiences and understandings throughout this research. Although this is common in current autism/autistic research and I have justified my decision to follow this type of analysis in Chapter one, I do believe that going
forward, new understandings of divergent students’ learning experiences may be better served by treating autism as a multi-factorial phenomenon characterized by different levels of specific autistic traits such as anxiety, executive function challenges, abilities to camouflage social behaviours, and so on. In that way, it may be possible to identify and understand more accurately the underlying factors which impact individual students’ experiences aside from categorical diagnoses (in whatever way these have been made, e.g., formally, self-identified, etc.).

9.5 Implications for Pedagogy

In this study, autistic students reported that their access to informed, experienced, and empathic instructors (autistic or not) who were able to design learning tasks in incremental and appropriate ways, and who had sensitivity to autistic students’ distinct ways of being, learning, and communicating was critical to the students’ success. This study has provided university instructors with some insights regarding at least some autistic university students’ experiences with acculturation and learning to write at university. Specifically, understanding that autistic university students are likely constructing social learning environments differently from their nonautistic counterparts may help instructors to support autistic students more effectively.

9.6 Future Research Directions

Future research on autistic university students’ acculturation and development of academic writing should include work with more diverse populations to address the intersectional nature of each student’s lived experience. In particular, the effects of race, gender, socioeconomic status, and even whether a given autistic student has co-occurring disabilities (e.g., learning disabilities) are important to investigate.

In addition, the idea of distinct typification of social and academic interactions on the part of autistic university students and their use of a distinct rhetoric can be explored further with a
view to addressing normative or ableist policies within writing composition classrooms and the university as a whole. Further, exploring the nature and underlying reasons for common misunderstandings occurring within autistic/nonautistic social interactions in any number of environments including schools, workplaces, as well as public services such as health care and beyond, may provide greater access and participation of autistic people in society in general.

Finally, an in-depth discourse analysis of the writing samples should be completed.

9.7 Final Thoughts

Throughout history, people have engaged in conflicts with other people who experience the world differently from themselves. This tendency has seeped into every aspect of human experience and caused a great deal of suffering. However, when people have laid themselves open to understand differences in human experiences and celebrated the outcomes of engaging with diverse cultures, many positives have ensued (Dolmage, 2017; Silberman, 2015). Understanding the lived learning experiences, or perezhivaniya, of autistic students at university as a path to supporting their equitable access to academic conversations is, I believe, just such a circumstance. Undoubtedly, everybody who participates in post-secondary academic conversations will benefit from working to understand autistic students’ lived learning experiences and supporting their contributions to meaning making at the university level.
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https://doi.org/10.46692/9781447354123.016


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https://doi.org/10.1016/j.jeap.2022.101181


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https://doi.org/10.18061/dsq.v37i3.5824


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Appendices

Appendix A: Publishers’ Permissions to Reproduce Published Copyright Material

Permission to report the article from Phase 1

Ballantine, J, Artemeva, N., Rocheleau, J., Macarios, J., & Ross, G.

Permission to report the article from Phase 2

Appendix B: List of Public Presentations of this Work

- Academic Interactions between Autistic University Students and Their Instructors: What Can We Learn from Autistic and Neurodivergent Instructors? Poster presentation at the International Society for Autism Research (INSAR), Stockholm, Sweden. (May 4, 2023)
- A Distinct Rhetoric: Autistic University Students' Accounts of Interactions with Instructors and Peers. CRAM Presentation to School of Linguistics and Language Studies, Carleton University, Ottawa, Canada. (January 2023)
- (Re)connecting Autistic Students and their Instructors: A Study of the Lived Interactional Experiences of Autistic Students in Higher Education. Society for Teaching and Learning in Higher Education, Ottawa, ON (June 2022)
- Autistic University Students and the Double Empathy Problem. Three Minute Thesis Competition, Carleton University, Ottawa, ON (April 2022)
- Participatory Action Research. Guest Presentation, School of Linguistics and Language Studies, Carleton University, Ottawa, ON (March 2022)
- Interventions, Supports, and Autistic People’s Experiences. Guest Presentation, School of Linguistics, Carleton University, Ottawa, ON (January 2022)
- Social and Academic Interactions between Autistic University Students and their Non-autistic Lecturers and Colleagues: A Rhetorical Genre Studies Investigation. ARCAP (Australian Autism Spectrum) Conference, Sydney, Australia
• Identifying effects of COVID-19 pandemic-related changes on academic and social experiences of autistic university students. III Conferencia Estatal sobre educación formación y trastorno del espectro del autismo (TEA), Spain (December, 2020)

• Towards a Socio-Cultural, Non-Deficit Perspective on Academic Writing by Autistic University Students, Panel presentation at the Conference on College Composition and Communication, Milwaukee, WI (March 2021)

• Towards a Socio-Cultural, Non-Deficit Perspective on Academic Writing by Autistic University Students, SIGET X, University of Cordoba, Argentina (September 2019)

• Autism and Academic Writing Genres: A Pilot Mixed Methods Study, Poster Presentation at Geneva Centre for Autism International Conference, Toronto, ON (November 2018)

• Autism and Academic Writing Genres: A Pilot Mixed Methods Study, Canadian Association of Studies in Discourse and Writing, Congress 2018, Regina, SK (May 2018)

• Autism and Academic Writing Genres: A Pilot Mixed Methods Study, Paul Menton Centre, Carleton University (August 2019)
Appendix C: Supervisor Letter of Permission

July 12, 2023

To Whom It May Concern:

As Jacquie Ballantine’s doctoral supervisor, I attest that she is the author of this dissertation and was the lead author in all the published manuscripts included herein. She was fully involved in all aspects of the research that comprises this dissertation, specifically in designing and conducting the studies; eliciting data; analyzing, presenting, and discussing results; and preparing and writing the material presented in both the co-authored articles and the online website integrated in this dissertation.

Further, I attest that I reviewed and confirmed information presented by Jacquie Ballantine in this Preface with regard to her specific contribution and those of all other co-authors of published manuscripts integrated in this dissertation.

Signed: __________________________________________

Professor Natalia (Natasha) Artemeva, PhD,
Thesis Supervisor
Applied Linguistics and Discourse Studies
School of Linguistics and Language Studies
Carleton University, Ottawa, Canada
Appendix D: Co-authors Letters of Permission

June 25, 2023

To whom it may concern,

As per article 12.4, section C of Carleton University’s Graduate Calendar, I hereby give Jacque Ballantine permission to use the published works entitled “Change isn’t exactly easy”: Autistic University Students’ Lived Learning Experiences during the COVID-19 Pandemic and A Distinct Rhetoric: Autistic University Students’ Lived Experiences of Academic Acculturation and Writing Development as two chapters in her dissertation. I can confirm that I contributed to the manuscripts as a co-author and assisted in the analysis of data and writing of the manuscripts. I affirm that Jacque was lead author and fully involved in setting up and conducting the research, obtaining data, and analyzing results, as well as preparing and writing the material presented in the article.

Signed: __________________________

Jess Rocheleau
June 25, 2023

To whom it may concern,

As per article 12.4, section C of Carleton University’s Graduate Calendar, I hereby give Jacque Ballantine permission to use the published works entitled “Change isn’t exactly easy”: *Autistic University Students’ Lived Learning Experiences during the COVID-19 Pandemic* and *A Distinct Rhetoric: Autistic University Students’ Lived Experiences of Academic Acculturation and Writing Development* as two chapters in her dissertation. I can confirm that I contributed to the manuscript as a co-author and assisted in the analysis of data and writing of the manuscripts. I affirm that Jacque was lead author and fully involved in setting up and conducting the research, obtaining data, and analyzing results, as well as preparing and writing the material presented in the article.

Signed:  

Jasmin Macarios
June 25, 2023

To whom it may concern,

As per article 12.4, section C of Carleton University’s Graduate Calendar, I hereby give Jacque Ballantine permission to use the published works entitled “Change isn’t exactly easy”: Autistic University Students’ Lived Learning Experiences during the COVID-19 Pandemic and A Distinct Rhetoric: Autistic University Students’ Lived Experiences of Academic Acculturation and Writing Development as two chapters in her dissertation. I can confirm that I contributed to the manuscripts as a co-author and assisted in the analysis of data and writing of the manuscripts. I affirm that Jacque was lead author and fully involved in setting up and conducting the research, obtaining data, and analyzing results, as well as preparing and writing the material presented in the article.

Signed: [Signature]

George Ross
Appendix E: Ethics Clearance Forms

CERTIFICATION OF INSTITUTIONAL ETHICS CLEARANCE

The Carleton University Research Ethics Board A (CUREB-A) has granted ethics clearance for changes to protocol to the research project described below and research may now proceed.

CUREB-A is constituted and operates in compliance with the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2).

Ethics Clearance ID: Project # 109650

Project Team Members: Dr. Natalina Artemeva (Primary Investigator)
Jacqueline Ballantine (Co-Principal Investigator)

Project Title: Towards a Socio-Cultural, Non-Deficit Perspective on Academic Writing by Canadian University Students with Autism

Funding Source (if applicable):

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<td>Towards a socio-cultural, non-deficit perspective on academic writing by Canadian university students with autism</td>
<td>Active</td>
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</tbody>
</table>

Effective: October 15, 2019

Upon reasonable request, it is the policy of CUREB, for cleared protocols, to release the name of the PI, the title of the project, and the date of clearance and any renewal(s).

During the course of the study, if you encounter an adverse event, material incidental finding, protocol deviation or unanticipated problem, you must complete and submit a Report of Adverse Events and Unanticipated Problems Form, found here: https://carleton.ca/researchethics/forms-and-templates/

Please email the Research Compliance Coordinators at ethics@carleton.ca if you have any questions.

CLEARED BY:                                      Date: October 15, 2019

Janet Mantler, PhD, Vice-Chair, CUREB-A
CERTIFICAT D'APPROBATION ÉTHIQUE | CERTIFICATE OF ETHICS APPROVAL

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| Type de projet / Project Type | Recherche de professeur / Professor's research project |
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<table>
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<tr>
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</tr>
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Conditions spéciales ou commentaires / Special conditions or comments
Appendix F: Sample of Transcripts of Interviews

Sample of Initial Student Interview with Questions developed for Member Check

P2. Um, yeah, I still, when things were… emerging, when information was first coming out, I do in-home tutoring with students with dyslexia and ADHD and stuff like that.
   00:03:13.477 - 00:03:34.342

P2. At first, I wasn’t sure what to do but we, pretty early on, moved everything online.
   00:03:35.285 - 00:03:46.529

P2. I thought it was going to be difficult and the teaching itself hasn’t been difficult, but the organization has been difficult, and remembering, because the times aren’t always consistent, remembering when to, when a lesson is and stuff like that, and keeping on top of things...
   00:03:47.256 - 00:04:10.078

I. All organizational skill things, hey?
   00:04:09.543 - 00:04:11.243

P2. It’s been a pain.
   00:04:11.776 - 00:04:13.799

P2. But it’s gone well, and it’s been a positive experience overall, but there’s been a lot to do.
   00:04:15.248 - 00:04:27.555

I. Yeah.
   00:04:27.409 - 00:04:28.481

P2. So for me, even though I’m not going out and doing things as much, I’m still very busy around the house and stuff.
   00:04:28.706 - 00:04:40.736

I. Cool, yeah. So then what would you say has been the easiest thing about the COVID, because some people have actually liked aspects of the lockdown, you know. But what was the easiest thing about it?
   00:04:41.065 - 00:04:54.433

P2. The, by far and away, the best thing about it so far has been the relieving the expectation and the obligations of actually going out and interacting in personal spaces.
   00:04:54.524 - 00:05:16.387

P2. Like that was, I think we talked about in the past about the energy levels, and how quickly you can become exhausted and in not having, like I said, there is the sense of obligation and stuff
Sample of Initial Instructor Interview with Questions developed for Member Check

11 Yes, indeed, actually. You know, yourself, because you've taught at U1 right? So, you know, you get those letters from the SSC and you know, that they don't normally necessarily say if the student has a specific type of...
00:09:03.366 - 00:09:29.212

1 In fact, they don't at all.
00:09:28.093 - 00:09:30.124

11 Yeah, and then but they tell you what accommodations they need, and then I have had the odd student who has sort of revealed to me certain issues. There was one that comes to mind, recently, who has very severe anxiety and also has ADHD.
00:09:29.259 - 00:09:55.116

11 And like I have ADHD and so they confided in me and we had sort of chatted, and I sort of wondered a little bit about that student, but also given my experience with my grandson's autism and my reading there, I sort of know that there's frequently a crossover between ADHD and autism and so sometimes students who may sort of be at one end, maybe they're on that spectrum a little bit.
00:09:55.332 - 00:10:26.995

1 Exactly.
00:10:10.756 - 00:10:12.142

1 Do you, and apart from your grandson and this person who self-identified, have you known other autistic people, or do you have friends or like anything like that?
00:10:29.018 - 00:10:43.130

11 Actually, in my undergraduate degree, there was this student, I took one or two classes with him, and I'm pretty sure they had Asperger's, although I don't think that label is used anymore.
00:10:42.475 - 00:11:02.794

1 Yes, since 2013, it's not used in North America. Other countries do use it and people had a strong response to the DSM removing it as a label, so some people like to use it anyway, instead.
00:11:02.545 - 00:11:19.226

11 Right, yes, and this was prior to that, and at that point, I didn't even have a grandson, like back when I was, like that was in about 2010, 2011, and so I was in a couple of classes with them.
00:11:19.150 - 00:11:33.723
Appendix G: Samples of Student Writing

Student Writing Example 1:

To whom it may concern / 謹啓,

My name is Participant 5 (Passport Number: *Redacted*) and I am seeking a visa to enter Japan. Ever since I was a child I’ve been fascinated by the natural splendor of Pacific East Asia, especially that of Japan. I’m eager to explore the meandering mountain trails and lush forests that define the Japanese countryside and appear prominently in all forms of Japanese artistic expression.

I also look forward to seeing urban colossi such as Tokyo and Osaka. The contrast in Japanese culture between ancient tradition and cutting edge modernity is enthralling and has spurred my interest in the Japanese culture and Language. While in Japan I hope to witness firsthand how the Japanese people reconcile the demanding, often implacable, pace of modern society with the reserved dignity expected by the culture.

Here in Canada I have done my best to prepare to be an unobtrusive guest in Japan by studying the Japanese language at university; learning what is expected of visitors to Japan from Japanese people; and participating in traditional cultural activities such as Chado (茶道) and Japanese embassy functions.

Some specific locations I hope to visit are:
1. 八海山 Kōya-san 阿政山
2. 火無山 Aso-san 火無山
3. 越前山 Tate-yama 越前
4. 重点 Akihabara 富山
5. 京極 Toyama-jo 大坂城
6. 大阪城堡 Osaka Castle
7. 五條 Goryōkaku

Thank you very much for your consideration. I look forward to witnessing the beauty and complexity of Japan firsthand. どうぞよろしくお願いします。

Sincerely / 敬具
Participant 5
Student Writing Example 2:

**BIOL XXXX - Case Study Assignment**

The condition being described is likely Amyotrophic lateral sclerosis (ALS). ALS is a motor neuron disease, affecting both upper motor neurons (located in the motor cortex of the brain) and lower motor neurons (located in the brain stem and the spinal cord). [2] The specific cause is generally unknown, although the disease has been noted to be genetically heritable. [2] It is also often associated with inclusion body aggregation, which is in accordance with the patient’s high blood concentration of glutamate. [2] The patient’s abnormal presence of a Babinski reflex is also associated with ALS. [2] ALS often onsets in midlife, which is in accordance with the admitted patient being in his mid-40s. [2] The patient’s symptoms - in particular, the abnormal muscle spasticity, difficulty controlling the muscles in the mouth/throat, and denervation (visible in EMG) - suggest death of motor neurons. [2]

Benign fasciculation syndrome (BFS) is an autoimmune disease that often manifests similar symptoms to ALS, however BFS returns a normal EMG scan, and the patient had an abnormal EMG reading. [3] Other neuromuscular conditions like multiple sclerosis, brain/spinal cord injury, and stroke could cause similar symptoms, but the plaque demyelination associated with multiple sclerosis would have been visible through MRI, as well as any physical injuries. [2, 3, 9]

The cause of the patient’s denervation is likely glutamate excitotoxicity. [6, 8] Glutamate is a neurotransmitter that opens up sodium channels so that Na+ ions can pass through the cell membrane into the cell. In the presence of excess glutamate, there is a constant influx of Na+ into the cell, increasing the membrane potential and making it easier for action potentials to occur through temporal summation. This explains the abnormally high muscle spasticity described in the patient, as well as the difficulty in controlling muscles (slurring of speech, difficulty swallowing).
In addition, according to glutamate excitotoxicity theory, the open sodium channels can also let too much calcium into the cell, which leads to cell death, although the exact mechanism is unknown. [8]

Normally excess glutamate is carried away by EAAT transporters to glial cells, but a malfunction in the EAAT-2 gene would cause these transporters to malfunction and therefore result in a buildup of glutamate in the body. [2, 5, 6] ALS is found to be heritable, which supports the theory that the EAAT-2 gene may be a cause of the disease. [2]

Both Riluzole and Baclofen do not directly affect the brain. Riluzole blocks sodium channels in the cell membrane, which counteracts and mitigates the effects of glutamate opening these sodium channels (effects described above). [4] This helps with the symptoms that are associated with the over-firing of neurons, and it is prescribed primarily for its ability for patients to regain control of their respiratory muscles (and therefore breathe) - allowing patients to live a few months longer. [4] Baclofen is prescribed for its anti-spastic properties, and although its exact mechanisms are unknown, it is hypothesized to prevent build-up of proteins in the brain - in this case the excess glutamate. [1, 7] Physical and speech therapy are prescribed in order to help the patient recover from having weakened muscles in the case that Riluzole is effective in mitigating the effects of excess glutamate in the patient’s body. There are other drugs that inhibit glutamate specifically, but they have all been found to have harmful side effects, so they are not prescribed and are not currently being researched further. [2, 6]
https://doi.org/10.4103/2152-7806.187529

https://doi.org/10.1056/NEJMra1603471

https://doi.org/10.1007/s12576-016-0484-x

https://doi.org/10.1002/pnp.445

https://doi.org/10.3945/ajcn.2009.27462BB


https://doi.org/10.1007/s11916-014-0466-8

https://doi.org/10.1016/j.euroneuro.2014.07.015

https://doi.org/10.1053/j.sult.2016.05.005
Example 3:
Appendix H: Sample of Reflexive Journal Writing

June 15, 2022
For COVID study, plan to use reflexive thematic analysis as defined by Braun and Clarke (2006 and onwards). Possible themes:

- Aspects of online or in person learning interactions which impact "mutual incomprehension" experiences
- Characteristics of learners which impact "mutual incomprehension" experiences

June 16, 2022
Candidate Themes (somewhat latent):

- Dealing with uncertainty by holding on to familiarity
- No one learning platform meets the needs of everyone
- Different ways of being and contextual factors affect learning preferences
- Internal/individual factors (ways of being):
  - Organizational skills
  - Sensory sensitivities
  - Camouflaging skills/experiences of "mutual incomprehension"
- External/environmental factors:
  - Familiarity of environment
  - Class size
  - Complexity of learning material
  - Technological affordances and challenges
  - Instructors' abilities and delivery

June 17, 2022
Important concepts in reflexive TA:

- Semantic/descriptive codes versus latent/implicit
- Inductive versus deductive
- Constructionist versus critically realist
- Role of social justice
- Reflexive/inter-coder reliability/reliability/codebook
- Saturation - of what? "Information power" (Matteude et al., 2016)

Also, important: responses to reviewers - some are asking for more that is not reflexive-based.

Notes from meeting:
"Coding decisions"
reflective TA process in the writing of this article - embrace the "mess"
"Generating initial themes" patterns of shared meaning underpinned by a central concept
themes versus topics (buckets versus dandelion/constellation)
definition of "interactional experiences" (all modalities) -
Appendix I: Sample of Mind Maps or Visual Notes from Meetings with Autistic Consultants

Themes “bleed” into each other; parallel findings from preferences to supports; each factor is ??
Appendix J: Samples of NVivo Coding and Coding Tree

Sample Coding for Pilot and Academic Acculturation/Writing Studies

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Sample Coding for Pandemic Study

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