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## Experiences of Classroom Teachers About the Accommodations for Students With Autism Spectrum Disorder

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*Walden University*

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# Walden University

College of Education and Human Sciences

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Sarah Tackett

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Walden University  
2024

Abstract

Experiences of Classroom Teachers About the Accommodations for Students With

Autism Spectrum Disorder

by

Sarah Tackett

MA, University of Central Florida, 2001

BS, Florida Southern College, 1997

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Education

Walden University

May 2024

## Abstract

The problem addressed by this study was general education teachers who teach students in the elementary school setting have students with ASD in their classrooms for the majority of the day and have reported difficulties understanding their students' academic characteristics as they relate to the student's disability and the student's research-based, academic accommodations. The purpose of this basic qualitative study was to gain insight into general education teachers' experiences concerning instruction and academic accommodations for students with ASD within inclusive classrooms. Bandura's social cognitive theory was the conceptual framework for this study. The research questions explored teachers' perceptions of teaching students with autism and experiences providing accommodations for students with autism in elementary settings. Data were collected via semistructured interviews with nine participants who met the inclusion criteria of this study. Data analysis involved using open coding to identify codes, categories, and themes. The emergent themes were (a) teachers reported requiring more training and time for their student with ASD, (b) teachers expressed knowledge of the whole student from academic to social/emotional, and (c) teachers expressed their experiences of providing accommodations which were driven by the knowledge of the whole student. The findings may inform stakeholders about the needs of general elementary education teachers who teach students with ASD. This study may have implications for positive social change by strengthening stakeholders' understanding of teacher needs related to instructing and providing accommodations for students with autism, that could result in increased student achievement for students with autism.

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## Dedication

I dedicate this dissertation to my family who has had to make many sacrifices for me to complete this endeavor. Without my family's patient understanding, this would not have been possible.

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## Table of Contents

List of Tables .....	v
List of Figures .....	vi
Chapter 1: Introduction to the Study.....	1
Background.....	2
Problem Statement.....	3
Purpose of the Study.....	5
Research Questions.....	5
Conceptual Framework.....	5
Nature of the Study.....	7
Definitions.....	8
Assumptions.....	9
Limitations .....	9
Scope and Delimitations .....	10
Significance.....	12
Summary .....	13
Chapter 2: Literature Review.....	14
Literature Search Strategy.....	15
Conceptual Framework.....	16
Self-Monitoring Subfunction.....	16
Judgmental Subfunction.....	17
Self-Reactive Influences .....	17



Literature Review Related to Key Variables .....	20
Student Accommodations .....	21
Teacher Knowledge of Accommodations.....	35
Teacher Knowledge of ASD.....	39
Teacher Self-Efficacy .....	41
Gaps in Literature .....	43
Summary.....	43
Chapter 3: Research Method.....	46
Research Design and Rationale .....	46
Research Questions.....	46
Role of the Researcher .....	46
Researcher Biases .....	47
Other Ethical Concerns .....	47
Central Concepts.....	48
Methodology.....	49
Participation Selection Logic.....	49
Sampling Strategy.....	49
Instrumentation .....	50
Procedures for Recruitment, Participation, and Data Collection .....	51
Data Analysis Plan.....	52
Issues of Trustworthiness.....	53
Ethical Procedures .....	55

Summary .....	58
Chapter 4: Results .....	59
Setting .....	59
Demographics .....	60
Data Collection .....	60
Data Analysis .....	61
Coding Strategy .....	62
Compiling the Data .....	62
Disassembling the Data.....	64
Reassembling the Data.....	66
Interpreting the Data .....	68
Concluding.....	69
Evidence of Trustworthiness.....	70
Results.....	72
Theme 1: Training and Time .....	73
Theme 2: Knowledge of the Whole Student.....	76
Theme 3: Providing Accommodations .....	79
Summary.....	83
Chapter 5: Discussion, Conclusions, and Recommendations.....	85
Interpretation of Findings .....	86
Descriptions of Teacher Experiences Include Need of Excess Time and Lack of Training .....	86

Descriptions From Teachers' Experiences Included Knowledge of the Whole Student With ASD.....	90
Descriptions of Teachers Providing Student Accommodations Based on Individual Need.....	92
Findings in the Context of the Conceptual Framework .....	97
Limitations of the Study.....	99
Recommendations.....	100
Implications.....	101
Conclusion .....	102
References.....	104

## List of Tables

Table 1. Interview Questions Related to Research Questions .....	51
Table 2. Participant Demographics.....	60
Table 3. Sample of Text Excerpts Using Open Descriptive Coding .....	63
Table 4. Example of Round 1 Codes Pivot Table.....	65
Table 5. Descriptive Codes to Categories.....	67
Table 6. Theme by Coded Text.....	69

## List of Figures

Figure 1. Categories to Themes .....	70
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## Chapter 1: Introduction to the Study

One student out of 36 from ages 3 to 21 has been diagnosed with autism spectrum disorder (ASD). Approximately 6% of students with disabilities are students with ASD (Maenner et al., 2023). Since 1990, students with disabilities have been required to be educated in the classroom with their nondisabled peers for the maximum extent possible, based on the need and severity of the student's disability (Individuals with Disability Education Act, 2004). Students with ASD are often educated in the general education classrooms for 80% or more of their day (U.S. Department of Education, 2018). Most of these students have Individualized Education Plans (IEPs), that places them in special education services and lists goals, accommodations, and service minutes the students need to be successful in the general education setting within U.S. public schools (Individuals with Disabilities Education Act, 2004). Students with ASD often are able to mask their academic needs and behavioral struggles in the classroom (Romero et al., 2018). Thus, this research led to the question of what elementary-level, general education teachers have experienced with their students with ASD and their students' academic IEP accommodations in their classrooms. For this study, academic and IEP accommodations were fully defined. When general education teachers understand and have buy-in for their student's academic, IEP accommodations and with the application of Bandura's social cognitive theory, the accommodations are more likely to be successfully implemented (Latouche & Gascoigne, 2019). I explored what teachers at the classroom level have experienced and identified any potential needs. This adds to the current literature and educational practices for students with ASD. In subsequent sections, the information

includes the problem and purpose of the study, as well as relevant background information to include functional definitions of this study.

### **Background**

Federal law has protected the rights of students with disabilities to be educated in public schools with a free, appropriate, public education since 1975 (Education for All Handicapped Children Act, 1975). The next evolution of this law in 1990, Individuals with Disabilities Education Act (IDEA), led to students with high-functioning disabilities to participate in general education classrooms for the majority of their day, to the maximum extent possible, under the direction of general education teachers. However, general education teachers who have these students have expressed a lack of experience and self-efficacy in how to teach students with ASD (Anglim et al., 2018; Latouche & Gascoigne, 2019).

Teacher experience and self-efficacy about inclusive classroom practices have been studied to determine the academic outcomes for students with disabilities within these inclusive settings (Anglim et al., 2018; Bertuccio et al., 2019; Corona et al., 2017; Latouche & Gascoigne, 2019). These studies have integrated all aspects of inclusive practices but have not separated out the academic accommodations for students with ASD. Some of these aspects of inclusion have been studied include evidence-based practices, such as applied behavior analysis, student self-advocacy instruction, social skills instruction, and specialized, reading comprehension instruction. These studies led to questions about how students with ASD were integrated within their inclusive classrooms, including that accommodations educators have experienced and that have

educator buy-in (Brown & Coomes, 2016; Johnson et al., 2018). Academic accommodations are necessary to level the playing field within the classroom (Joyce et al., 2020) and are considered by the whole IEP team, on an individual basis for each student, during their annual IEP review and development. These academic accommodations are subdivided into four categories of accommodations, including presentation, setting, timing, and response (Joyce et al., 2020). The IEP team includes general education teachers, who report not having training in evidence-based practices for their students with ASD (Accardo & Finnegan, 2019; Scalise et al., 2018). Witmer et al. (2018) described how reading accommodations for students with reading disabilities were not always used depending on the perceptions of the educators interviewed. Educators have reported not understanding academic, evidence-based practices relating to teaching students with ASD in an inclusive setting (Anglim et al., 2018; Bjornsson et al., 2019; Corona et al., 2017; Sanz-Cervera et al., 2017). This study adds to the body of literature of inclusive education.

### **Problem Statement**

The problem addressed by this study was general education teachers who teach students in the elementary school setting have students with ASD in their classrooms for the majority of the day and have reported difficulties understanding their students' academic characteristics as they relate to the student's disability and the student's research-based, academic accommodations (Anglim et al., 2018; Bertuccio et al., 2019; Bjornsson et al., 2019; Corona et al., 2017; Sanz-Cervera et al., 2017). These academic characteristics can include a struggle with reading comprehension and written expression



due to deficiencies in understanding and expressing oral language. General education teachers have reported having little training in ASD and their student's accommodations despite the experiences of having students with ASD within their classrooms for most of their students' school day (Anglim et al., 2018; Bjornsson et al., 2019; Corona et al., 2017).

Researchers have studied the use of instructional and testing accommodations by students with varying disabilities across educational levels and disability categories (Harrison et al., 2020; L. M. Spenceley et al., 2020; Spiel et al., 2019). However, a dearth of research has been completed about the experiences of general education teachers and their students with ASD and their provision of students' academic accommodations at the elementary, public-school level. These students with ASD have a variety of academic accommodations stated on their IEPs based on their individual needs in presentation of classroom materials, setting of instruction like small group instruction, responding to include scribing or speech-to-text, and extended time for assignments and assessments. Researchers have shown that a variety of academic, social, and behavioral accommodations influence the success of inclusion (Holzberg et al., 2019; Indrarathne, 2019; Malki & Einat, 2018; Witmer et al., 2018). Anglim et al. (2018) described that the experience of teaching students with ASD is directly imbedded by teacher knowledge. Bjornsson et al. (2019) described how teacher knowledge and experience can influence student achievement. This study helped fill a gap in the literature by showing what general education teachers reported they have experienced with their students with ASD and the provision of their students' academic IEP accommodations.

### **Purpose of the Study**

Using an interpretivist paradigm, the purpose of this basic qualitative study was to gain insight into general education teachers' experiences concerning instruction and academic accommodations for students with ASD within inclusive classrooms.. The interpretivist paradigm allowed me to interpret elements of the study, through shared language and shared meanings of the participants. Each participant brings their own unique set of experiences through which they view their educational practices. The purpose of this basic qualitative study was to gain insight into general education teachers' experiences concerning instruction and academic accommodations for students with ASD within inclusive classrooms. I sought to discover teachers' experiences of teaching their students with ASD and the provision of inclusive practices, specifically academic accommodations.

### **Research Questions**

In this study, I answered to answer two research questions (RQs):

1. How do general education teachers describe their experiences of teaching students with ASD in the elementary school setting?
2. How do general education teachers describe their experiences of providing their student's academic accommodations in the elementary school setting?

### **Conceptual Framework**

Bandura described his social cognitive theory when given a person's behavior within a particular context. Bandura blended an individual's forethought, self-regulation of goals, and self-efficacy of goals to explain the way human agency work based on

particular behaviors (Bandura, 2018). In this most recent addition to his original theory, Bandura (2018) described that people are agents of change through the creation of goals, monitoring of their own actions, and then determining if their actions met their goals. Bandura mentioned that there are three modes of human agency: individual, proxy, and collective. In this study, I examined the individual and collective modes of human agency. The individual mode of agency is described as the influence of a person having direct control of their own goal, such as a diet goal or learning a language. The collective mode of human agency is through group effort; change is created using a common goal. A demonstration of individual modes of agency are teachers choosing how they teach, while a demonstration of collective agency is when they must also work towards a common goal of educating all students. The findings from this study resulted in an understanding of teachers' experiences of students with ASD and accommodations their students had. In this study, I explored how capable general education teachers felt about producing the effects desired by the collective. An example of collective agency in relation to this study is when given the desired effect of student academic success, teachers learn more about the inclusive practice of accommodations. Therefore, the teachers' experiences lead them to effectively facilitate the accommodations required by the student's IEP. This facilitation can lead to the desired effect.

Bandura's social-cognitive theory (Bandura, 1991; Sehgal et al., 2017) have guided researchers to interpret how a teacher's self-efficacy, experience, and self-regulation could influence their understandings of these accommodations. Teacher self-efficacy is based on individual situations, not their whole perspective on teaching (Sehgal

et al., 2017). According to Sehgal et al. (2017), when teachers feel effective in furthering student interactions, they feel self-efficacious. Thus, I conducted interviews to explore themes around teachers' experiences of the characteristics of students with ASD and their instructional accommodations. Bandura's social cognitive theory will be described in more detail in Chapter 2.

### **Nature of the Study**

A basic qualitative study was used to examine general education teachers' experiences teaching elementary students with ASD and their provision of evidence-based, academic accommodations. This collection of experiences adds to the body of literature to help understand the link between experience, self-efficacy, and the inclusive practice of accommodations. I interviewed nine general education, elementary school teachers from the United States. The criteria required for participation included that the teacher must be a general education teacher in the elementary school setting, Kindergarten to Grade 6, in the United States. Other criteria included self-identifying they have had a student with ASD in their classroom, within the calendar year, for a majority of their student's school day for most academic subjects, such as math, literacy, science, and social studies. The participants were purposefully recruited via social media to recruit teachers who have student with ASD with IEPs in their elementary school classrooms. These participants contacted me from social media and were interviewed after providing consent. While they had a student with ASD in their classrooms, they were asked to not give identifying information about their student. The teachers interviewed were also protected as they were only identified as a number, with no other

identifying information collected, like school name or district. Data were analyzed using content analysis (see Yin, 2015).

### **Definitions**

*Academic accommodations:* Changes to students' classroom environment or curriculum that do not affect the rigor and standards of the curriculum. Academic accommodations help to level the playing field for all students with disabilities, that allows students to demonstrate their knowledge and ability without modifying or changing the academic level of the curriculum or the curriculum assessments (Bouck, 2017).

*Autism spectrum disorder (ASD):* A neurological disorder that results in a spectrum of symptoms that may affect social and academic success. People with high-functioning ASD have IQs and function in the average range. They may have trouble with social cues, verbal or physical outbursts resulting from anxiety, or trouble understanding language that is not literal, such as sarcasm or figurative language (Magiati et al., 2016).

*Elementary school setting:* Definitions of elementary school settings are varied within each of the states within the United States, as shown by teacher certifications of elementary education from Kindergarten to fifth or sixth grade, that varies per state (U.S. Bureau of Labor Statistics, 2020). According to the National Center for Education Statistics (Taie & Goldring, 2020), the federal government defined elementary education as pre-Kindergarten through eighth grade. The elementary school setting is defined within this study as grades Kindergarten through sixth grade.

*Evidence-based, instructional practices:* These are teaching practices founded and confirmed within credible research (West et al., 2016b). These teacher-directed practices allow for student academic success within the classroom.

*Individual Education Plan (IEP):* An individualized academic plan is created for students with disabilities who require specialized instruction and accommodations. This plan is only for students in kindergarten to Grade 12 within the United States (IDEA, 2004).

*Self-efficacy:* A person's ability to perform a task based on their own self-judgement (Sehgal et al., 2017).

### **Assumptions**

Within this study, several assumptions were critical. One assumption was the participants answered the interview questions honestly. This was critical to this study as the study hinged around the participants' describing honestly their experiences. The assumption pivoted around the participants honestly describing the instructional accommodations they provided to their students under the constraints of IDEA (2004). Another assumption was the participants' perspectives were varied, especially as the participants were from school districts in the United States, from differing age and educational backgrounds, as well as having had a variety of experiences. A third assumption was each participant had their own values surrounding their experiences.

### **Limitations**

As this study was a general qualitative study, there were some limitations. This study had nine participants, who self-selected into the study, and volunteered their time,

that limits the transferability to other studies. Wangsgard and Cardon (2018) completed a study in which they interviewed 10 general education teachers. This demonstrated that the number of participants would be effective to determine the experiences from a size of a sample of teachers. The teachers who volunteered to be interviewed contacted me through social media and were filtered through specific requirements to become participants. Potential biases include personal biases. As a special education teacher, personal experiences with general education teachers could have influenced data analysis. A researcher's journal controlled for this potential bias (see Bengtsson, 2016). Participants could have had personal biases about any emotional experiences they may have had with their students or special education colleagues. These biases were addressed by making the wording of the interview questions nonleading and the participants' participation voluntary and confidential. A member check of the participants' data was offered to ensure their experiences were understood (see Erdmann & Potthoff, 2023).

### **Scope and Delimitations**

The scope of this study included general education, elementary school teachers who have had at least one student with ASD in their classroom with academic, IEP accommodations. This was the focus as students with ASD have increased their prevalence in the general education classroom (see Morningstar et al., 2017). Studies have been conducted on teachers' perspectives on inclusion and students with disabilities' accommodations (Indrarathne, 2019; Joyce et al., 2020; Plessis & Ewing, 2017; West et al., 2016a; Witmer et al., 2018). However, teasing out the experiences of general education teachers teaching students with ASD in the elementary school setting

and their experiences of the provision of their students' current accommodations needed to be studied. Previously, researchers have studied students with ASD and their academic, social, and behavioral accommodations, usually as part of a larger study topic; however, a small percentage of these specifically include the teachers' knowledge and experiences of teaching students with ASD at the elementary school level and providing the full variety of accommodation. General education teachers' experiences were gathered and not special education teachers' experience because highly effective special education teachers have had experience, training, and background knowledge of accommodations. It was unclear how much experience general education teachers in the elementary school setting may have had about this population of students prior to this study. Students with ASD were the chosen population and not students with other disabilities because students with ASD have increasing populations in general education. Often their reading and/or math scores are average to above average, while struggling with other academic skills, motor skills, and/or social skills. Because students with ASD at the elementary level have been included in general education classrooms across the United States, the experiences of general education teachers interviewed from around the country could be transferable to all areas of the country. Their experiences could lead to interest in further studies in the interaction of the students' characteristics of ASD and how their accommodations are provided, as well as the study of the trainings and education general education teachers receive prior to teaching students with disabilities.



### **Significance**

Potential contributions of this study to the field of education include experiences of general education teachers with a population of students who is increasingly included in general education for a majority of their day. These experiences allow for new questions to be asked, as well as generating data for potential statistical analyses of larger populations based on the themes found in this study. The population of students identified with ASD who have IEPs in the general education curriculum continues to increase within the elementary, general education setting (Kurth et al., 2016; Morningstar et al., 2017). Hence, the results of this study contribute to the body of literature about the experiences of teaching students with ASD in the inclusive classroom.

Potential unintended consequences could have been the teachers educating themselves through the internet or their special education colleagues after the interview. Once they gave their experiences, the potential for their curiosity could have led to discovering more about accommodations and their students who use them. This need could then lead to increased collaborative discussions between general education teachers and special education teachers about student accommodations and strategies for students with ASD.

Positive social change that could occur from this study could be within the classrooms of general education teachers and potentially within school districts. Within the classrooms of the teachers studied, using the data from the study, after self-reflection, they might find themselves more self-efficacious in their ability to help guide which accommodations they can provide to their students in the implementation of their IEP.

Given the results from this study, the stakeholders could be informed about the needs of general education teachers who teach students with ASD at the elementary level. This information could allow stakeholders to strengthen systems through professional development to enhance support for the teachers who provide day-to-day support for this population of student. The findings from this study could potentially touch hundreds of general education teachers within a district and other similar districts around the United States. These findings could also promote instruction and achievement for these students resulting in positive social change.

### **Summary**

Students with ASD have been increasingly included for 80% or more of their day in the least restrictive environment since 1975 (Education for All Handicapped Children Act, 1975). These students are often average or above average academically in many areas; however, they often continue to need accommodations and instruction to level the academic playing field with their nondisabled peers. The purpose of this basic qualitative study was to gain insight into general education teachers' experiences concerning instruction and academic accommodations for students with ASD within inclusive classrooms. In this chapter, I posed the RQs, described the conceptual framework, and expressed the nature of the study. I defined the operational definitions that were used throughout this study. I detailed the assumptions, scope, delimitations, and limitations. Finally, I explained the significance of this study. I will further discuss the gap in the literature as well as the in-depth description of the conceptual framework in Chapter 2.

## Chapter 2: Literature Review

Students with ASD have unique challenges in the K-12 classroom that are alleviated by accommodations. The problem is their general education teachers may not understand those needs or their students' accommodations that help the students perform in the classroom on a level playing field. The purpose of this basic qualitative study was to gain insight into general education teachers' experiences concerning instruction and academic accommodations for students with ASD within inclusive classrooms.

General education teachers and university professors reported feeling unprepared to teach students with ASD in their classrooms (Anglim et al., 2018; Bertuccio et al., 2019). Training mitigated the lack of understanding surrounding the benefits and fairness of accommodations for all students with disabilities (Joyce et al., 2020; Mathes et al., 2020). Experiential training also increased teacher self-efficacy when implementing inclusive, research-based practices (Indrarathne, 2019). It is important to understand teacher experience to expose the aperture of experiences the general education teachers may have had that could be a barrier to successful implementation of accommodations.

In this chapter, the conceptual framework of Bandura's social cognitive theory and how it relates to teachers' understandings of their students and their accommodations as well as the main themes found in the current literature are discussed. The literature search strategies show the existing, current literature has been exhausted. The next sections of literature review include accommodations, teachers' knowledge and self-efficacy of providing accommodations, and their knowledge and self-efficacy in teaching students with ASD.

### Literature Search Strategy

Multiple databases via Walden University Library and Google Scholar were accessed for this literary search. These databases were accessed: *ERIC, Education Source, Academic Search Complete, Thoreau Multi-Search Database, Teacher Reference Center, and Sage Premier*. The terms I searched included *inclusion, students with autism spectrum disorder, teacher attitude, teacher knowledge, teacher self-efficacy, working with students with disabilities, general education teachers, high functioning autism, Asperger, accommodations, and evidence-based practices*. Each term was investigated in each database listed above. Any article found was then searched for within the Walden Library. The searches completed using the general term “teacher” found studies encompassing both general education and special education teachers’ knowledge and attitudes. The term “educator” was attempted in the search but did not reveal more literature on the subject. The term “accommodations” was further broken down into these terms: *classroom accommodations, testing accommodations, text-to-speech, speech-to-text, response accommodations, presentation accommodations, writing accommodations, setting accommodations, timing accommodations, extended time, and dictation*. As authors arose who researched the same areas of interest, those individual researchers were investigated to determine if they had other information from research that could be applied. Other places searched were the reference lists from articles relevant to this research. I searched in the Walden dissertation database under the search terms of *autism, inclusion, and accommodations* to ensure the topics had not already been explored.

## **Conceptual Framework**

Bandura's (1991) social-cognitive theory framed this study, as teachers' self-efficacy could affect how teachers understand and act upon their students' research-based, IEP accommodations. The social cognitive theory of self-regulation explains a person's behavior based on a specific context (Bandura, 1991). The context moves through three stages: individual's forethought or self-monitoring subfunction, judgmental subfunction or self-regulation of goals, and self-reactive influences such as self-efficacy towards one's goals.

### **Self-Monitoring Subfunction**

The self-monitoring subfunction serves to help individuals influence their motivations and actions in a particular context (Bandura, 1991). Forethought, as part of the self-monitoring subfunction, is based on prior knowledge and training. Forethought, determined by teacher reflection, is demonstrated through the goals, or plans the teacher sets forth. In the case of general education teachers who teach students with ASD, the student's IEP is the mandate of the teacher's goals surrounding a particular student (IDEA, 2004). General education teachers require forethought of these accommodations and goals from the IEP to include training and prior experience to formulate their own goals and motivation to best help their student within their inclusive classroom (Amr et al., 2016; Anglim et al., 2018; Bertuccio et al., 2019; Sanz-Cervera et al., 2017; Savić & Prošić-Santovac, 2017). These goals start teachers' self-monitoring, that then moves them onto the next subfunction called the judgmental subfunction (Bandura, 1991).

**Judgmental Subfunction**

Within the judgmental subfunction, teachers monitor, adjust, and self-regulate their goals through the use of classroom data (Bandura, 1991; Sharma & Jacobs, 2016). Due to the Every Student Succeeds Act, or ESSA (2015), that requires teachers to maintain and use classroom data to drive instruction, teachers with students with IEPs must also maintain and monitor IEP data (IDEA, 2004). This data collection-teach-data collection becomes a cycle that drives instruction and best practices. However, if a teacher deems the results are due to unrealistic demands, they will not feel motivated to continue to self-monitor (Bandura, 1991). For example, a teacher who thinks that a student has unfair accommodations might not self-monitor their use of these accommodations. This judgmental subfunction leads to self-reactive influences.

**Self-Reactive Influences**

Bandura (1991) further elaborated on his definition of self-efficacy by saying self-efficacy beliefs determine how motivated people are and how they behave in specific situations. Teachers who feel they have enough knowledge, attitude, and experience, or self-efficacy can bring their goals to fruition (Anglim et al., 2018; Sharma & Jacobs, 2016; Wangsgard & Cardon, 2018; Yada et al., 2018). A student who requires a general education classroom per their IEP to demonstrate academic success needs a teacher who has high self-efficacy of administering those accommodations, understanding their students' needs, and understanding what works best to help their students.

Bandura more fully described his social cognitive theory in 1991 as a way to explain the way a specific context influences a person's behavior. People function using

self-efficacy, self-regulation, and external influences. Teachers must believe they can teach all of their students through training, prior experience, and teacher attitudes (Sharma & Jacobs, 2016; Yada et al., 2018). Teachers create a goal for themselves, usually based on external, mandated school goals (Indrarathne, 2019). They then monitor and adjust these goals through self-regulation (Bandura, 1991). Other external influences for teachers can include school support, training, and collaboration with other teachers.

Key terminology inherent in social cognitive theory is self-efficacy, self-regulation, and inclusive teacher efficacy. Self-efficacy was defined by Bandura (1991) as a person's belief of they are capable of exerting control over events in their lives and the way they function within these events. When a person, or teacher, feels self-efficacious, they demonstrate a higher intent to follow through on a goal. This self-regulating goal setting is cyclical based on self-monitoring, judgmental subfunction, and self-reaction. Self-regulation is the cycle of monitoring goals, achieving or not achieving goals, and changing goals based on need. One form of self-efficacy, based on Bandura's theory and described by Sharma and Jacobs (2016), inclusive teaching efficacy (ITE), is the beliefs and confidence to teach in inclusive classrooms. This ITE is influenced by several factors, both internal and external. Bandura's social-cognitive theory (Bandura, 1991; Sehgal et al., 2017) framed this study, as teachers' self-efficacy could affect how they understand and act upon their students' research-based, IEP accommodations.

Teachers' choices about how they teach in their individual classrooms are influenced by how self-efficacious they feel about a particular teaching situation, including how they think about the various aspects of inclusion of students with ASD

(Anghim et al., 2018; Sharma & Jacobs, 2016; Wangsgard & Cardon, 2018; Yada et al., 2018). Teachers who teach in inclusive settings felt a lack of confidence, experience, and knowledge (Anghim et al., 2018; Corona et al., 2017). None of those factors alone was enough to increase ITE, while teacher attitude and ITE often indicated a teacher's intent to practice inclusive teaching strategies. Bandura (1991) expounded that self-efficacy is based on particular situations, and not the teachers' whole teaching experiences.

However, Japanese teachers reported more self-efficacious feelings with more experience in the classroom (Yada et al., 2018). The barriers to the perception of self-efficacy for teachers include a lack of confidence, a need to feel informed or prepared, a lack of understanding the needs of students with ASD, a lack of teacher training on this subject, and a lack of school support (Anghim et al., 2018; Bertuccio et al., 2019; Sharma & Jacobs, 2016; Wangsgard & Cardon, 2018; Yada et al., 2018). These studies are all based on Bandura's social cognitive theory. These studies found that school support and teacher attitude, as well as the teachers' observations of the students with ASD can keep up academically, all positively affect the educators' self-efficacy.

Multiple researchers have used the effects of self-efficacy on teachers' practices in the classroom as their framework for their studies (Anghim et al., 2018; Corona et al., 2017; Love et al., 2019; Sehgal et al., 2017; Sharma & Jacobs, 2016; Wangsgard & Cardon, 2018). In Ireland, Anghim et al. (2018) studied how teachers' self-efficacy in teaching students with ASD related to their attitudes surrounding the inclusion of their students. The findings of this study, and one by Sharma and Jacobs (2016), indicated that teachers' self-efficacy was related to the amount of perceived support versus the



perceived constraint in specific instances. Teacher self-efficacy hinges on definitive instances based on the demand placed and current circumstances (Bandura, 1991; Corona et al., 2017). One such circumstance can be the specific student's disability, such as ASD, that could reduce the teacher's self-efficacy due to a lack of professional experience. Sehgal et al. (2017) showed that the level of teacher self-efficacy was predictive of student success and teacher engagement as well as teacher burnout. Sharma and Jacobs (2016) also indicated that a positive teacher attitude does not directly correlate with the teacher's ability to include students with disabilities in their classrooms effectively. However, teachers who are provided with support have more positive attitudes towards inclusion than teachers who do not. This support gives teachers more of a sense of self-efficacy, that is correlated with more effective inclusive teacher practices (Bertuccio et al., 2019). While some teachers are confident in designing instruction to meet a variety of needs, Wangsgard and Cardon (2018) found that teachers felt they needed more training for specific disabilities, like ASD, to be more efficient. This framework was applied to support the RQs, as teacher self-efficacy are so closely intertwined. The interpretation of how teacher experience influences teacher interaction within the classroom was analyzed through the lens of this framework.

### **Literature Review Related to Key Variables**

Students with ASD often need classroom accommodations to perform academically on a level playing field with their same-grade peers in the general education classroom. General education teachers often express having less experiences with students with ASD as well as the inclusive support of these accommodations (Anglim et

al., 2018; Corona et al., 2017; Savić & Prošić-Santovac, 2017). This lack of general education teacher experience leads to lower self-efficacy of teaching practices for students with ASD in their inclusive classrooms. Student accommodations are defined and explained as the evidence-based practices that teachers are expected to use (ESSA, 2015; IDEA, 2004). This next section delves into what is reported to have been experienced by teachers. The third section of this review is teacher knowledge of students with ASD. Finally, teacher self-efficacy ties together the teacher knowledge, experiences, and motivation to effectively implement student accommodations for their students with ASD.

### **Student Accommodations**

Student accommodations have historically leveled the playing field for students with disabilities to access the same curriculum as their classroom nondisabled peers. Evidence-based practices are demonstrated practices that increase student performance, such as accommodations. Instructional accommodations, within four categories, allows students with disabilities a differential boost that allows them to demonstrate their knowledge. Not all accommodations work for all students and must be considered on an individual basis, that means educators must understand both their students' characteristics and the potential accommodation choices.

### ***History of Accommodations***

In the United States, laws have been passed to protect and provide for students with disabilities within public schools (Individuals with Disabilities Education Act, 2004; Education for All Handicapped Children Act, 1975). These laws include provisions that

allow for evidence-based practices (EBP) teachers may implement to promote inclusive learning. One group of EBP is student accommodations in the classroom.

In 1990, Public Law 94-142, Education for All Handicapped Children Act of 1975 (EAHCA), was reauthorized as the Individuals with Disabilities Education Act (IDEA). This law required all students with disabilities to be included in statewide assessments, based on the statewide standards, both with and without accommodations. Throughout the following years, legislations have allowed students with disabilities using accommodations to demonstrate their progression of knowledge through these high-stakes tests alongside their nondisabled peers. The earliest mention of the use of accommodations in legislation was limited, at that time, to testing accommodations. This would evolve to include classroom accommodations as evidence-based practices necessary to level the playing field for students with disabilities to be able to perform alongside their nondisabled peers (ESSA, 2015). The majority of students with disabilities require classroom accommodations to help them successfully demonstrate their proficiency of the curriculum (Buzick, 2019).

Buzick (2019) studied 4 years of state-wide, summative assessment scores and data from two states. She focused on third through eighth grade students with disabilities who used testing accommodations on summative assessments. Students were identified by having special education services in the same year as the assessment for the current year and the prior year. The scores and accommodations listed during those assessments were statistically analyzed to determine any inconsistent assignment of accommodations, any change of student scores, and any aggregate growth in test scores. She determined,

based on her analysis of the scores, many students, up to 40%, were inconsistently assigned accommodations, with more being assigned in earlier grades and fewer in later grades. The students with accommodations only in the current year, but not the year prior, brought their scores closer to the nondisabled students' mean scores. Students who had accommodations during both years scored higher in the second year of accommodations. Students with new accommodations in the second year demonstrated higher growth between the two years, more than students with accommodations during both years and students with no accommodations. Buzick suggested that more research focus on the fidelity of the use of accommodations as well as the appropriateness of accommodations.

### *Accommodations as Evidence-Based Practices*

Accommodations are EBPs that are required by both ESSA (2015) and IDEA (2004). Accommodations allow the student to demonstrate their knowledge without the barrier of their disability. These accommodations are EBPs that present the same material differently, enable the student to respond to the content differently, allow for different settings as needed, and adjust the timing of completion for students. Accommodations and grouping of accommodations should be individualized and based solely on student need for how their disability affects each student distinctively.

Accommodations must provide a differential boost to the student's scores on tests and in the classroom to be considered a suitable accommodation (Spiel et al., 2019). Spiel et al. (2019) examined if an accommodation provided a differential boost between students aged 10-13 with and without ADHD. Students were randomly placed in one of

two treatment groups, pre-recorded read alouds or silent self-reading of testing materials. Students with ADHD who had the read aloud accommodation demonstrated a differential boost from students who did not have a disability. Twice as many students with ADHD exceeded the standards when the read aloud accommodation was used than with silent reading. A differential boost is defined as when an accommodation given to all students increases the unaccommodated, low scores of students with disabilities more than it increases the scores of students without disabilities, thereby leveling the playing field. Spiel et al. (2019) recommended future research on this accommodation in the whole group setting, as this study was completed in a research environment for generalizability. They also recommended using a different age grouping of students. While accommodations would help all students, they must level the playing field for students with disabilities while maintaining the validity of any formative or summative assessments.

Evidence-based practices, as required by law (ESSA, 2015; IDEA, 2004), are defined as teaching practices that are influenced by empirical evidence. While all students benefit from EBPs in the classroom, students with disabilities require individualized, evidence-based accommodations. These accommodations should be based on the individual's needs, not merely their disability label (Kern et al., 2019).

Kern et al. (2019) completed a randomized control trial to determine the types of accommodations and reasons for the differing accommodations of high school students with social, emotional, or behavioral problems. Seventy-three percent of the high school students had IEPs for academic, social, or emotional disabilities. Students excluded from

the study included students with ASD and students with IQs lower than 75. Each of the 222 high school students from four US states were given four assessments and their parents completed the demographic data. Kern et al. reviewed the IEP accommodations and coded them for the four subcategories found in the literature, but also found three more subcategories. These subcategories were checking in, prompting, and structured behavioral strategies. While there were many similarities of accommodations for students with the studied disabilities, the accommodations for state/district wide testing only varied by disability. The results of this study began to fill in the gap of empirical studies on types of accommodations, the consistency between classroom and testing accommodations, and the demographic variables behind the assigning of the accommodations. Kern et al. recommended that research be completed around accommodation selection and how accommodations are developed.

While EBPs are proven to help students with disabilities, including students with ASD effectively, teachers studied only use EBPs between 5% and 33% of the time (Accardo & Finnegan, 2019; Corona et al., 2017; Johnson et al., 2018; Knight et al., 2019). Often personal variables, such as teacher knowledge, prior training, and teacher attitudes affect teacher use of EBPs and accommodations (Hudson et al., 2016). Using a qualitative methodology, Hudson et al. (2016) investigated special educators' perspectives on EBPs and how research plays a role in their practice. A total of 27 special education teachers participated in this study via interviews. Hudson et al. (2016) determined that special education teachers used EBPs based on personal characteristics, characteristics of their organization, and access to the relevant tools for making those

decisions. The teachers defined EBPs in the lexicon of their practice in special education. These views were contradictory in they felt while the EBPs were generalized, not individualized. Special education teachers felt more pressure when school districts promoted EBPs that affected both general education classrooms and special education classrooms. Two benefits of a districts' promotion of EBPs are curricular resources and support. Hudson et al. (2016) suggested more research with larger, more diverse samples to determine educators' views of the value of EBPs and their training on EBPs for classrooms.

When teachers have “buy-in” due to prior knowledge, training, and experience, they tend to use those EBPs consistently. However, teachers reported a need for more specified, experiential training on how and when to use accommodations, as EBPs, to employ them within their classrooms successfully (Accardo & Finnegan, 2019; Johnson et al., 2018; Knight et al., 2019). General education, K-12 teachers' knowledge, and experiential training of classroom accommodations for their students with ASD's needs have not been thoroughly researched.

### *Academic Accommodations*

The unique student characteristics, as well as the particular classroom circumstances, should drive the use of accommodations in the classroom. Students with disabilities that spend the appropriate, maximum amount of time with their non-disabled peers are in their least restrictive environment. For 63% of students with disabilities nationwide, this is 80% or more of their school day (National Council on Disability

[NCD], 2018). Forty percent of students with ASD spend 80% or more of their school day with their non-disabled peers (NDC, 2018).

Academic accommodations are used within the student's least restrictive environment, to level the playing field and allow the student to learn from and with the student's same grade level, non-disabled peers (Joyce et al., 2020; McCloskey, 2018; Toutain, 2019). These accommodations can include a variety of actions that fall under several subcategories: presentation, response, scheduling/timing, and setting.

The efficacy of accommodations has been researched by over 65 studies in the past five years, that led to these now identified as EBPs. An efficient accommodation cannot alter the academic standard (Spiel et al., 2019). Another criterion is the accommodation must mediate the effect of the student's disability, guaranteeing the student equal access to academic materials. The last criterion is the accommodation must also provide a differential boost in test scores for the student with a disability. However, the individual characteristics of students have not been taken into account when choosing accommodations for students (Joyce, 2020; Spiel et al., 2019). Spiel et al.'s study has also indicated that no clear-cut guidelines or training are given to teachers within their studies for choosing accommodations for students. Accommodations are often selected, or not, based on student's disability rather than the individual's needs (Joyce et al., 2020). While in the K-12 school environment, the IEP team chooses the accommodations for students from the subcategories of presentation, response, setting, and timing (Kurth et al., 2016).

**Presentation.** This subcategory of accommodations involves how teachers



present the material to the student. In the classroom, teachers can present the content in different ways based on their needs. Students can have text read aloud to them, either by another person or via a computer (Horowitz-Kraus et al., 2016; Meyer & Bouck, 2017; Witmer et al., 2018). Students who have the material read to them have the barrier of slow decoding removed to understand the material presented. Comprehension of the material read is the purpose of this accommodation. When the material is read aloud by another person, the student can also be redirected back to the task or concepts explained during the reading (Barnes et al., 2019; Spiel et al., 2019; Witmer et al., 2018).

Text-to-speech software can not only read aloud materials to the student using a computer-generated voice but also has other features. These features include highlighting the text as it is read aloud, a digital dictionary, and the capability to stop and start when and where the student requires it. Text-to-speech software frees up the school personnel to work with other students and allows student independence (Schmitt et al., 2019).

The efficacy of having materials read aloud to students related to the success of said students has been debatable, based on standardized test scores and MRI scans (Horowitz-Kraus et al., 2016; Stetter, 2018; Wood et al., 2018). Some students learn best from auditory stimuli, while others require visual cues and auditory stimuli. Some students, though their reading fluency is very slow, do better reading the material themselves using other presentation accommodations, such as chunking the content (Horowitz-Kraus et al., 2016). The IEP team's determination of which presentation accommodation to use must consider which reading material aloud or using text-to-

speech software on a computer must be individually considered, not just based on the student's disability.

Other presentation accommodations include: a copy of teacher notes, enlarged print, tests in smaller segments or chunks, the student reads assessment aloud to self, math tables or number lines, color script or page contrast, braille, and redirection or refocus to the task at hand. While these accommodations have been mentioned in the research (Accardo et al., 2019; Harrison et al., 2020; Łodej, 2020; Yngve et al., 2019), they have not been individually researched in the past five years. The presentation accommodations are often for a variety of sensory needs. Students with ASD may require any of these based on their needs, especially if their ASD is co-morbid with other diagnoses, like ADHD, Obsessive-Compulsive Disorder, or Sensory Processing Disorder. These students may require redirection or tests taken in smaller segments if they struggle with a lack of focus or lack of attention. They may focus more on ensuring their handwriting is perfect and miss what the teacher was lecturing about and require a teacher or peer notes. Students with sensory processing disorders may struggle with the bright white of a page background and request the background and the font to be different colors than is typical. Students with ASD must have individual presentation accommodations that are tailored to their individual needs.

**Response.** Response accommodations are the subcategory of accommodations given when students struggle with typical responses, such as filling in a bubble on a test answer sheet, writing an essay, or giving short answers (Accardo et al., 2019; Potter et al., 2016). Students need these accommodations when having difficulty with fine motor

coordination such as handwriting, hand-eye coordination, and written expression such as spelling or grammar. Students who find the physical act of writing laborious often lose their train of thought when attempting to write, and these accommodations allow them to overcome the particular part of their disability to express this.

The students with fine motor coordination or written expression are often given the option of having their work scribed for them with a speech-to-text computer program. The physical process of writing can become very tedious for students with fine motor deficits. These students would speak what they would wish to write, then edit the printed material (Kalenjuk, 2022). Voice to text is one accommodation where the student must be trained to speak their thoughts into an app to capture the student's ideas, then edit for grammar and word choice. Students with disabilities who struggle with writing have demonstrated benefits from this accommodation (Kalenjuk, 2022). Students who dictate their written work do not have to spend time on the physical task of writing; instead, they can focus on the content of their work. Adverse effects could include a stasis of progress in writing due to the students not physically writing. The amount of individual time spent on implementing the accommodation correctly is another issue. These perceptions of excessive time make the acceptability of this accommodation to general education teachers less likely the accommodation will be used within the classroom. The voice to text programs captures exactly what is heard, including background noise. They also do not automatically place punctuation. Often, these programs include other benefits like word prediction, spelling and grammar check, as well as electronic graphic organizers.

Like the speech to text, the use of a calculator allows students with disabilities to respond to math problems without their disability getting in the way (Bone & Bouck, 2018; Saatcioglu et al., 2016). This allows students to demonstrate their understanding of the concepts of math without having to focus on the computation of math. Using a calculator as an accommodation effectively eliminates the barrier of fact retrieval or memory processing (Bone & Bouck, 2018). These response accommodations have been verified as EBP that allow for a differential boost for students with disabilities (Bone & Bouck, 2018; Bouck, 2017; Kern et al., 2019; Potter et al., 2016; Scalise et al., 2018).

**Setting.** Researchers studied the efficacy of setting accommodations for students with disabilities (Lovett et al., 2019;). However, the studies conducted about the efficacy of this subset of accommodations are varied. When teachers and/or students were surveyed, many believed the accommodation of separate room testing provided some relief from symptoms of their disability, such as test anxiety (Weis & Beauchemin, 2020). The students with this accommodation believed that a separate room provided increased self-efficacy, decreased anxiety, and better overall performance on tests. Yet, empirical studies described in Weis and Beauchemin's study (2020) demonstrated that this is not always the case.

Beliefs of students and faculty play a significant part in the use of accommodations (Weis & Beauchemin, 2020; Weis et al., 2019). For example, students with disabilities believe that having a separate room allows them to engage in compensatory strategies or limits their distractions (Lovett et al., 2019; Weis et al., 2019). They also believe that it improves their attention, decreases anxiety, and increases their

own self-efficacy (Holzberg et al., 2019; Kim & Lee, 2016; Lovett et al., 2019; Weis & Beauchemin, 2020; Weis et al., 2019). A separate room for testing room, as an accommodation, has been recommended by most clinicians when making a diagnosis, but only 11.3% of clinicians provide an individualized rationale for the student's need for the accommodation (Weis et al., 2019). The benefits from a separate testing room are mostly seen in students with ADHD or high-functioning ASD (Holzberg et al., 2019); however, some students, both with and without disabilities, showed higher test scores when given the separate room testing accommodation (Weis & Beauchemin, 2020).

The efficaciousness of these accommodations within empirical studies' results are mixed. Students with disabilities attained lower test scores when in a separate room in several studies (Weis & Beauchemin, 2020). However, Lovett et al. (2019) found 41% of students with ADHD demonstrated substantial benefit from the separate room setting. The benefit derived from the separate room accommodation afforded the students directly correlated with the severity of the students' ADHD symptoms. The separate setting limits distractions felt significantly by students with distractibility issues that would naturally be found in the large group setting (Holzberg et al., 2019; Kim & Lee, 2016). Weis and Beauchemin (2020) found through an empirical study that students did poorly when in a private room with no distractions. They felt that students required some amount of social stimulation to negate the negative effects of private room testing. This could include testing in small groups of students when the students have matching accommodations. Weis and Beauchemin suggested that future research investigate to determine if their results can be replicated with other high-stakes testing.

**Timing.** Extended time on assignments and assessments is the most common accommodation allowed for students with disabilities. The subcategory of timing also encompasses frequent breaks, testing only during certain times of the day, and testing over multiple days or sessions. While the accommodation of extended time has been frequently researched, the other timing accommodations have not been studied as extensively.

The accommodation of extended time is the most common accommodation, especially at the university level (Goegan & Harrison, 2017; Sokal & Vermette, 2017; L.M. Spenceley et al., 2020; Witmer et al., 2018). Students can receive 125% to 200% of the amount of time typically allotted for the assessment or assignment. This is helpful to students with slow processing speeds, low rates of reading fluency, or students with high distractibility (Sokal & Vermette, 2017; L. M. Spenceley et al., 2020; Spenceley & Wheeler, 2016; Witmer et al., 2018). All empirical studies on the effects of the extended time accommodation yielded variable results on the efficacy of this accommodation for students with disabilities based on the disability group. When both students with and without disabilities have had this accommodation, it was found that there was not always a differential boost provided to the students with disabilities (Goegan & Harrison, 2017; Spenceley & Wheeler, 2016). Most students with disabilities answered more questions correctly or wrote more words using extended time than their non-disabled peers. One point made by the researchers of the studies is the extended time accommodation was not effective based on disability category, but rather on individual differences (Goegan & Harrison, 2017; Sokal & Vermette, 2017; L. M. Spenceley et al., 2020; Spenceley &

Wheeler, 2016; Witmer et al., 2018). Often after the diagnosis process for a disability, clinicians recommend extended time for certain disabilities, like ADHD, Dyslexia, or Auditory Processing Disorder. While clinicians recommend extended time based on a disability, this accommodation may not be effective for that particular student (Goegan & Harrison, 2017; Weis et al., 2019). In some cases, the extended time accommodation can have more harmful effects on the student if it is not effective for that student. While having the possibility of extended time relieves anxiety for some students, some students with high distractibility get distracted more easily with the use of extended time (Weis et al., 2019). This accommodation has proven effective, but only for individuals with specific needs.

### ***Understanding Accommodations as EBPs***

Each subcategory has EBPs linked to specific student needs. Students with ASD have unique academic and social needs within the school setting (Anglim et al., 2018; Bertuccio et al., 2019; Brown & Coomes, 2016). These needs have EBPs linked to help level the playing field for these students while participating in their state's curriculum or the Common Core curriculum (Park et al., 2017). Identifying an accommodation as an EBP is not enough for teachers to implement the accommodation (Johnson et al., 2018; Knight et al., 2019). Teachers require information on what actions to implement during specific conditions in order to implement evidence-based accommodations effectively. Knight et al. (2019) surveyed 535 special education teachers about their knowledge of practices while teaching students with ASD and Intellectual Disabilities. They found teachers had not had recent access to trainings and resources on EBPs for their

classrooms. The teachers would then rely on their professional judgment and student need. Future recommendations for research included having teachers elaborate on EBPs to determine their understanding of it as well as how often EBP is used. Knight et al. also suggested looking at that EBPs are used most frequently with specific disabilities and if the teachers were differentiating based on disability. Teacher experiences of the variety of evidence-based, classroom accommodations for their unique student or students with ASD has not yet been studied.

### **Teacher Knowledge of Accommodations**

There is a paucity of studies about general education teacher experiences of implementing student instructional accommodations. While some studies have examined knowledge of inclusive practices without specifying accommodations (Johnson et al., 2018; Larson et al., 2020; Plessis & Ewing, 2017; West et al., 2016a), others have studied different aspects of teacher knowledge surrounding accommodations (Brown & Coomes, 2016; Joyce et al., 2020; Schmitt et al., 2019). Among these researchers, they accept that knowledge and experience lead to confidence or self-efficacy, that leads to efficient inclusive practices, such as accommodations. They have also found that general education teachers lack knowledge of inclusive practices and lack time to learn more about them (Joyce et al., 2020).

The first step when implementing inclusive practices, such as accommodations, is to ensure that teachers understand the practices (Larson et al., 2020). When special education teachers understand inclusive practices, they make informed decisions about that would work best for their students with disabilities (Joyce et al., 2020; Mathes et al.,



2020). Often a lack of teacher knowledge becomes a barrier to students with disabilities at all educational levels (Jones et al., 2020). This barrier influences decision making, including the specific accommodations the students may be permitted to utilize within the classroom. Teachers often report a lack of knowledge or training about inclusive practices, as well as a lack of time to research EBP (Accardo & Finnegan, 2019; Johnson et al., 2018; Larson et al., 2020). Accardo and Finnegan (2019) surveyed 112 teachers who were the primary teacher for students with ASD. They collected demographic data, data from the Reading Teachers Efficacy Instrument, and data from the researcher made Effective Practices Survey. Accardo and Finnegan determined that many teachers do not prioritize EBPs as those found to be effective for their students due to lacking knowledge about research findings. They suggested that research be conducted on why teachers, who have knowledge of EBPs, are not implementing these practices. They also recommended empirical studies on the EBPs in which teachers say they are knowledgeable. Making decisions about inclusive practices or accommodations requires a high level of knowledge and skill about specific EBPs for students with disabilities, as well as differentiating within the curriculum. Special education teachers often receive this training and knowledge as pre-service teachers, while general education teachers must rely on workshops or collaboration with special education teachers. This results in less knowledge and more misconceptions about inclusive practices (Indrarathne, 2019; Joyce et al., 2020). Previous studies have noted that exposure to disability training may improve general education teachers' compliance to administer inclusive provisions like accommodations (Johnson et al., 2018; Malki & Einat, 2018; West et al., 2016a).

Indrarathne (2019) studied 129 primary and secondary teachers to determine if a workshop affected teacher knowledge of a disability and their inclusive practices. She determined that a targeted workshop positively affected teacher knowledge and attitude, as well as teacher reported increase of inclusive practices that were highlighted in the workshop. While theory-based training increases teachers' knowledge base, practical experience or training gives teachers more self-efficacy or confidence in providing inclusive experiences. Teachers need more practical experience with the inclusive practices of accommodations to gain the self-efficacy to provide the accommodations consistently.

Several studies have been conducted concerning what teachers know about the inclusive practice of the provision of accommodations (Brown & Coomes, 2016; Davies et al., 2016; Joyce et al., 2020; Mathes et al., 2020; Schmitt et al., 2019). When supporting students with disabilities with classroom accommodations, faculty knowledge and perception play an important role (Amr et al., 2016). Amr et al. (2016) studied 87 teachers with open-ended surveys about their knowledge, attitudes, experiences, and barriers towards inclusion. They determined that teachers without special education training had misconceptions and a lack of knowledge about inclusion and inclusive practices. This hinders teachers' effectiveness when teaching in an inclusive setting. Amr et al. (2016) suggested future research to be focused upon similar participants who may perceive different barriers and with different stakeholders, such as parents and administrators.

One study (Davies et al., 2016) provided training for using a tool created to help determine the appropriate accommodations for individual students. Davies et al. (2016) found that through training, 22 general education teachers of 87 students with disabilities knew more about accommodations and so they used them in the classroom more frequently, not just during testing. They also assessed the usefulness of their accommodations tool for teachers. Recommendations for future research include increasing the number of teachers who receive training and use the tool, as well as allowing for the checklist to be online with multiple languages for broader generalization. When teachers do not have enough knowledge, they then will choose accommodations through a “buffet approach” (Joyce et al., 2020, p. 182) based on the student’s disability, not the individual student’s needs (Joyce et al., 2020; Mathes et al., 2020; Schmitt et al., 2019). Prior to training, teachers have difficulty understanding the benefits or the fairness of accommodations for students with disabilities (Joyce et al., 2020; Mathes et al., 2020). Teachers must consider the procedure of the accommodations acceptable and the effort worthwhile if they are to have buy-in (Mathes et al., 2020). Teachers must have buy-in to consistently provide accommodations in the classroom to students with disabilities. Mathes et al. (2020), surveyed 300 general and special education teachers who taught fifth through eighth grades. They determined that teachers would implement accommodations appropriately when they have buy-in, without discarding rigor, when they are given enough knowledge about socially appropriate accommodations and their ease of use. Mathes et al. recommended future research that would explain why teachers feel some accommodations are more valid than others. General education teachers require

an understanding of students with ASD's characteristics that should form the basis on which accommodations should be chosen for use in the classroom (Johnson et al., 2018). These teachers also require a high-level of skill in differentiating the curriculum based on individualized need (Plessis & Ewing, 2017). An in-depth look at general education teachers' knowledge at the elementary level of instructional accommodations in relation to the teachers' knowledge of students with ASD's characteristics should be explored.

### **Teacher Knowledge of ASD**

The number of people diagnosed with ASD in 1997 was 1 in 2,500 (Barbarese et al., 2009). That population comprised 0.2% of total enrollment in K-12 public schools and students aged 6-17 by the 2000 census (U.S. Department of Education, 2018). The community of students with ASD in schools in the US septupled by 2018. It went from being less than 1% of the populace of students with disabilities in schools to 10%. By 2018, the number of students with ASD rose to 1 in 44 students. With those numbers, and the ever-evolving legislature on inclusion, all teachers will teach students with ASD during their teaching career.

As the prevalence of ASD in schools has increased, 93,000 students in 2000 to 710,000 students in 2017 (U.S. Department of Education, 2018), teachers with specialized knowledge of ASD have not increased at the same rate (Bertuccio et al., 2019). Students with ASD have different needs than their other-disabled and non-disabled peers, as each student with ASD has different skill levels and behaviors (Anglim et al., 2018; Bertuccio et al., 2019; Brown & Coomes, 2016). General education teachers have concerns about having students with ASD in their classroom,

such as managing the student's behavior, social needs, and academic ability (Anglim et al., 2018). Anglim et al. explored the lived experiences of Irish elementary school teachers who previously taught students with ASD. They sought to determine how teacher self-efficacy in meeting the needs of their students related to the teachers' attitudes towards inclusion. They found most of the teachers interviewed talked about the uncertainty of their concerns which led to negative attitudes. This reflects a discrepancy between the ideal of inclusive practice and the teachers' actual, daily practices. Suggestions for future research include teachers who currently have students with ASD in their classrooms, as well as choosing teachers who teach students in different age groups. General education teachers should be knowledgeable about student programming and the evidence-based practices to help students with ASD in the inclusive classroom. However, they often feel unprepared about these practices due to the type of training and experiences they have or have not had (Anglim et al., 2018; Bertuccio et al., 2019). While 15% of special education teachers reported having training in ASD and evidence-based practices while at university (Knight et al., 2019), the more pre-service knowledge general education teachers acquired, the more misconceptions they also acquired (Sanz-Cervera et al., 2017). These misconceptions and lack of knowledge and experience surrounding ASD can be a barrier to the students with this disability.

When given the same in-service training in ASD, special education teachers scored better on a general knowledge test about ASD than their general education counterparts (Bjornsson et al., 2019; Sanz-Cervera et al., 2017). Pre-service, special

education teachers receive more training and experience in all disabilities, that translates to increased scores. Sanz-Cervera et al. (2017) surveyed 866 preservice teachers, from general education to special education, in either their first or fourth year of university. They found pre-service teachers needed more than university courses to increase their knowledge of ASD. Teachers needed practical experiences, as well. The teachers in the special education program had fewer misconceptions and significantly higher knowledge of ASD than their peers in the preschool and elementary programs. Sanz-Cervera et al. recommended that future research look at preservice teachers at other universities, use interviews for an in-depth look at teacher knowledge and misconceptions, and conduct a longitudinal study. Overall, 31% of all teachers reported training in ASD, prior to and throughout their careers (Bjornsson et al., 2019), while 90% reported self-directed learning of ASD. To raise and sustain knowledge of ASD, all teachers must have training combined with continuing professional development and consistent coaching (Bertuccio et al., 2019; Corona et al., 2017). Knowledge of ASD and corresponding evidence-based practices are not consistently translated into classroom practice without coaching and consistent, experiential training (Corona et al., 2017; Knight et al., 2019).

### **Teacher Self-Efficacy**

Self-efficacy, as described by Bandura (1991), is instrumental for the implementation by teachers in executing effective teaching practices for students with ASD (Anglim et al., 2018; Sehgal et al., 2017). When teachers feel that they exercise control over events which affect their lives, they are more motivated to implement these

practices. Self-efficacy varies depending on the specific activity, the level of demand placed on the individual, and other outside circumstances.

Teachers who demonstrate high self-efficacy correlate to an increase of positive teaching practices used by those teachers (Bertuccio et al., 2019; Love et al., 2019; Sharma & Jacobs, 2016). These teachers use positive teaching practices to motivate their students to academic success. However, students with ASD, while sharing common characteristics with each other, are unique in how they display these characteristics. This effects how the student approaches the general education curriculum (Johnson et al., 2018). While a teacher may have positive self-efficacy and a high degree of knowledge of the general education curriculum, the teacher may struggle with self-efficacy of using inclusive methods that work for students with ASD in the general education curriculum, including instructional accommodations (Sharma & Jacobs, 2016).

Teachers' self-efficacy changes based on teachers' experiences about the individual's disability. The less they know about the individual's disability, the more load they experience with the need for varying supports (Anglim et al., 2018; Bertuccio et al., 2019; Sharma & Jacobs, 2016; Wangsgard & Cardon, 2018). Teachers reported a higher level of self-efficacy when they have past experiences about the specific student and are prepared prior to having a student with ASD in their classrooms (Anglim et al., 2018; Bertuccio et al., 2019). Positive teacher attitudes alone do not correlate with successful inclusion. Teachers must have background knowledge and continuing support and training as they work with a specific student (Sharma & Jacobs, 2016; Yada et al., 2018). Outside circumstances include the student's IEP and laws around educating students with

disabilities. These things are dictated to the general education teacher and are outside of their control. West et al. (2016a) found that teachers who understood the laws and their responsibilities to their students improve their willingness to provide the necessary services and accommodations. Based on this literature, an in-depth look at what general education teachers say they know in answer to open-ended questions may provide a greater understanding of what those teachers know and what they may still need to know about students with ASD and their accommodations.

### **Gaps in Literature**

General teacher knowledge and self-efficacy in teachers of students with disabilities have been studied. Researchers have studied accommodations in the various subcategories and settings, finding a paucity of studies about general education teacher experiences of accommodations in the k-12 setting for students with ASD. What is known is general education teachers have reported a lack of experiences about inclusive practices to include accommodations. Little is known of the experiences of general education teachers as related to their students' characteristics surrounding the provision of individualized accommodations for students with ASD.

### **Summary**

During this literature search, a consistent gap of the lack of general education teacher experience on the topic of accommodations and students with ASD was identified. The lack of experiences of the variety of accommodations and the teachers' confusion surrounding the selection, provision, and the necessity of classroom accommodations was included. Also included in this chapter was the influence of the lack



of teacher knowledge and experience on the implementation of evidence-based inclusive practices, or accommodations. This chapter included teachers' knowledge of students with ASD and their needs and challenges. A dive into the literature found that the influence of self-efficacy on general education teachers who taught students with ASD was described as well as how self-efficacy is specifically and situationally based. The more knowledge, continuous training, and experience a teacher has teaching students with disabilities, specifically students with ASD, in an inclusive classroom, the higher the potential self-efficacy. This self-efficacy then translates into the general education teacher effectively using evidence-based, inclusion practices, rather than relying on habit and familiarity to guide their practice.

In education, self-efficacy as a result of continual training and experiences has been known to increase teacher motivation and practices, also increasing student achievement. While it is known these factors have been known to increase teacher motivation and inclusive practices, it is not known the extent of general education teachers' experiences of accommodations and the accommodations' relationship to the students' individual characteristics. It has been found general education teachers have less knowledge and training in ASD than their special education teacher peers. In the past three decades, general education teachers have seen a significant increase in students with ASD in their classrooms. These students spend the majority of their day with these general education teachers who must monitor the use of their students' accommodations. The research is not distinct as to what these teachers experience with providing accommodations that they are expected to administer. This study fills the gap in the

literature to determine what the general education teachers experience with their students' characteristics and their students' use of accommodations. The lack of current literature about teachers' experiences in relation to their self-efficacy of teaching elementary students with ASD in conjunction with their IEP accommodations is evident.

Understanding what general education teachers experience about this topic, in-depth, will help guide best practice in this area. In Chapter 3, I show how I answer the RQs using interviews and qualitative analysis.

### Chapter 3: Research Method

The purpose of this basic qualitative study was to gain insight into general education teachers' experiences concerning instruction and academic accommodations for students with ASD within inclusive classrooms. In this chapter, I discuss the research tradition and rationale. Then, my role as the researcher is defined, including potential biases and other ethical considerations. I also discuss the methodology in detail to include participant selection, instrumentation, and the data analysis plan. Issues and strategies of trustworthiness are described. Finally, I fully described the ethical procedures.

#### **Research Design and Rationale**

##### **Research Questions**

1. How do general education teachers describe their experiences of teaching students with ASD in the elementary school setting?
2. How do general education teachers describe their experiences of providing their student's academic accommodations in the elementary school setting?

##### **Role of the Researcher**

During the study, my role as the researcher was to recruit and interview the participants, transcribe, interpret, then report the data gathered (see Lichtman, 2014). The only relationships I had with the participants were professional, as I am also a teacher. However, there were no teachers with whom I had worked with previously, as part of the requirements. There was no relationship within the study that involved power over participants, as I did not have any power over other teachers in the current teaching

position. Participants had their identity protected and had the right to leave the study at any time, that allowed the participants to have their own power.

### **Researcher Biases**

As I am also a teacher, but as a special education teacher, biases could have occurred. These biases could have included expecting teachers to know more than they express, or personally knowing about the academic characteristics and accommodations of students with ASD. As a special education teacher, I expected general education teachers to possibly express their specific personal biases. One way to mitigate potential biases was to make the interview questions open-ended, allowing for all data to be collected. Another way to mitigate potential biases in data collection was to run interview questions through both the committee and the IRB. When interpreting the data, biases were tempered by ensuring all participants are not identifiable, and the data have been interpreted through the lens of Bandura's social cognitive theory. To address and prevent personal biases, member checking was implemented (see Erdmann & Potthoff, 2023) as well as journal writing. To address confirmation bias, the interviews were audio recorded and concisely transcribed by me; then, the participants were able to review that transcription.

### **Other Ethical Concerns**

Potential ethical issues included interviewing teachers who work with students with ASD and using incentives for participation. To protect the elementary students with ASD and their rights, it was made clear to the participants no means of student identification would be used or discussed, such as student names or classroom grades.

This allowed the general education teachers to speak without concern over giving personally identifiable information. The other ethical concern to be addressed was the use of incentives for participation. The use of incentives was minimal and included a \$5 gift card in exchange for their time. This gift card could be for a teacher website or a coffee shop. It was minimal to ensure the teachers did not agree to participate just for the incentive, while allowing for a reinforcer to complete the interview.

### **Central Concepts**

Elementary students with ASD who have IEP accommodations in a general education classroom spend a majority of their day under the instruction of a general education teacher. General education teachers have previously expressed little training in teaching students with ASD (Corona et al., 2017). Lack of training has led to less success in using evidence-based practices with this population of students.

The research tradition for this study was a basic qualitative study. As a basic qualitative study, the experiences of general education teachers teaching this population of students and providing them with their academic accommodations was explored. Basic qualitative design was chosen as not much is known about the experiences of these teachers with the specified topic. Quantitative methods were not chosen as an in-depth look at teachers' experiences may result in new understandings that can then be used in a quantitative study. Qualitative methods allowed teachers to completely describe their experience allowing for new language and concepts to be discovered. A mixed methods study was not chosen because a qualitative study allowed for more detailed data from the participants.

## **Methodology**

### **Participation Selection Logic**

The population of the participants was general education teachers who teach in the elementary school setting, Grades Kindergarten to 6. These teachers were asked to self-identify if they have had, in the past calendar year, at least one student with ASD in their classroom for a majority of the school day. This student had to have a current IEP while in the teacher's classroom with academic accommodations. These participants were from around the United States to allow for sampling from social media platforms. They were asked if they would participate in member checking of the data they provided. After transcribing and analyzing the data, the analysis of the data was shared with them, that allowed the participants to respond if they believed I understood what they were saying.

### **Sampling Strategy**

The purposeful, convenient sampling strategy included current, general education teachers, self-identified, from the United States. The teachers were not from any specified school district or region. Teachers were not considered for participation if they had previously worked with me.

Participants were purposefully and conveniently sampled from social media platforms and considered for the study if they met the following requirements. The participants were current, certified general education teacher in the elementary (K-6) setting. They must have had a student with ASD, with an IEP, in their classroom for a majority of their school day, within the calendar year. This requirement was so the teachers had fresh memories or thoughts about the topic. They had not previously or

currently worked with me in the school setting to avoid participants answering questions based on knowledge of my beliefs. Finally, they volunteered of their own accord to participate in the study and contacted me from the social media platforms. Ethically, participants knew they were volunteers and could quit the study at any point. Participants were required to self-certify they meet the requirements in order to participate in the study.

The number of participants was purposefully and conveniently selected. The data were considered to have reached saturation when the patterns of responses no longer yielded new responses, at which time the data collection stopped. Nine participants allowed for enough data to determine a convergence of patterns of responses. To gather enough information for credibility via data triangulation, nine participants from around the United States were interviewed. The number of the sample size was enough for this study to demonstrate saturation and triangulation similarly shown by a study completed by Wangsgard and Cardon (2018) in which the researchers interviewed 10 general education participants about their perceptions of their ability to teach students with ASD.

### **Instrumentation**

Researcher-produced, interview protocol was used to collect data (see Table 1). The protocol included open-ended questions, that ensured a protection of the participants' time, yet also ensured deep responses to the questions. The protocol included several questions within a series of probes to get depth within the participants' answers. These questions were created based on the RQs. The interview questions, as well as the RQs, were grounded in the current literature and the study RQs.

**Table 1***Interview Questions Related to Research Questions*

Research questions	Interview questions
RQ1: How do general education teachers describe their experiences of teaching students with ASD in the elementary school setting?	<ol style="list-style-type: none"> <li>1. Picture the most recent experience you have had with a student with Autism in your classroom. Without telling me your student's name or other identifying information, tell me what you know about Autism in your classroom.</li> <li>2. What were some of your student's strengths and weaknesses academically?</li> <li>3. What training and prior experiences have you had surrounding students with Autism in general education classrooms?</li> <li>4. Describe a typical day teaching your student with Autism.</li> </ol>
RQ2: How do general education teachers describe their experiences of providing their student's academic accommodations in the elementary school setting?	<ol style="list-style-type: none"> <li>1. Describe what you know about that student's classroom accommodations from their IEP and how you provide them.</li> <li>2. Describe for me how you learned about your student's IEP accommodations and best to implement them</li> <li>3. How do you ensure the accommodations are applied?</li> <li>4. Do you consider any accommodations to have priority over others?</li> <li>5. Do you feel that any accommodations give an unfair advantage over the other students?</li> <li>6. Are any of the accommodations difficult to provide? Can you describe them and how you may juggle them?</li> </ol>

**Procedures for Recruitment, Participation, and Data Collection**

After IRB approval was secured, participant recruitment began via social media using a recruitment flier. Participants contacted me via social media. I spoke to each potential participant to determine if they fit the requirements. Then I scheduled a time for the interview based on their schedules to respect their time. Each participant was then interviewed via video conferencing applications with permission given to audio record



the interviews. Through the interview process, data were collected via online interviews using the audio recording function only. Sixty minutes were allotted for each interview to respect the participants' time, allowing for any adjustments of time that might occur, as needed. With permission from each participant, the interviews were audio recorded during the interviews using a voice recorder. When recruitment resulted in too few participants, the social network was cast further into other areas of social media, according to the IRB approved application. Additional recruitment continued with three social media groups that had no less than 9,000 people per group. This resulted in too few participants, so recruitment continued within three additional social media groups with no less than 9,000 people. Through this procedure a total of nine participants were recruited.

Participants exited the study following some debriefing procedures. The debriefing procedures followed these steps. Each participant was reminded of my postinterview contact information in case they needed further or clarifying information about the study. Once the analysis on that participants' data was completed, the draft summary of the findings in the deidentified form was sent to each participant for member checking. Those participants who completed the interview process received their incentive of \$5 gift cards to either a teacher lesson plan website or to a coffee shop via email, as fully described in the consent form. This was approved by Walden's IRB during the proposal.

### **Data Analysis Plan**

The interviews were analyzed following Yin's (2015) five phases of analyzing qualitative data. The five phases of data analysis that I used included compiling,

disassembling, reassembling, interpreting, and concluding. All the interviews were compiled into one document, in a “useful order” (see Yin, 2015). Then each participant’s interview was coded in multiple rounds and placed in a spreadsheet. These first rounds of open coding allowed for the formation of codes based on the participants’ own words. This was used to honor the participants’ views of their experiences and previous training in the first cycle of coding. The participants’ own words and phrases were used as codes based on the interview questions and then analyzed to see if any emergent patterns or repeated phrases were used during the reassembling phase. Categories were found within the interpreting phase and concluded with finding the themes of the data. Within my journal, a code book was created to ensure consistency among the codes (see Bengtsson, 2016). Open coding was used to analyze the participant transcripts. Multiple cycles of analysis went back and forth between phases, and any new codes were added as the data were fully understood. I kept a journal that included a book of the open codes. No interviews yielded a discrepant case. A discrepant case would have been data that fell outside of the pattern of responses (see Turner, 2010).

### **Issues of Trustworthiness**

Credibility is an aspect of trustworthiness that shows the researcher measured what was sought to be measured (Given, 2008). I completed this through accurate, rich description of the phenomenon being researched. Credibility was established through triangulation of the sources of data. The sources of data came from participants who were from different schools and different areas within the United States. This allowed for the results to be credible due to the multiple perspectives. Credibility was also established by

saturation of the data collected. After multiple rounds of analysis, and the data revealed no new information was forthcoming, then saturation was reached. Data saturation ensured each of these multiple sources converged. A member check of participants' given data allowed for participants to review the drafted summary of the study findings to facilitate credibility (see Erdmann & Potthoff, 2023). Member checking allowed the participants to provide feedback on the draft findings to ensure my interpretation of their information was accurate, and to confirm they were fully understood.

Transferability is the description of the study that allows the findings to be applied in other contexts (Given, 2008). I established transferability by providing a full description of the participants, without personally identifiable information. The variation included different areas within the U.S. school system, as no participant was from the same school or geographical area. This ensured the data were not influenced by school-wide or district-wide directives and then could be generalized to other teachers. Thick descriptions of the teachers' experiences of ASD and providing academic accommodations, based on participant input, allowed for transferability. I allowed participants to fully describe their experiences, then used those data to paint a picture, through analysis and fully reported these experiences in Chapter 4. This allows for other researchers to be able to duplicate the research in other regions.

An audit trail using journaling of the data to capture portions of the research provided dependability and confirmability. Dependability is the aspect of trustworthiness that refers to the stability of the data over researcher analysis, according to Bengtsson (2016). It allows other researchers to potentially duplicate the study (Given, 2008). Each

step of the study, from recruiting to the analysis of the findings, was recorded in the journal, is mentioned in the findings, and is available for review. This journaling contained an area to reflect on the data and process that allowed for auditing of these steps of the process. The journal also acted as a code book, in which kept the codes consistent.

A member check from each participant was used to confirm the accuracy of the data. This helped to ensure confirmability, that is the aspect of ensuring the data match the findings with objectivity (see Bengtsson, 2016). This also helped to ensure biases or misconceptions did not take place.

### **Ethical Procedures**

The ethical procedures plan included a look at the agreements obtained, the treatment of the participants, and the treatment of the data. Each area held the participants and their safety in high regard. Participants were fully informed of all aspects of the study in writing. Data were securely stored.

### ***Agreements***

After I received IRB permission, study 10-29-21-0226942, I began recruitment for the study. I posted the recruitment flyer on social media websites that could contain participants who potentially met the inclusion criteria for the study. Participants reviewed the recruitment flyer. The recruitment flyer contained participant inclusion requirements and a method to contact me. Participants contacted me after reviewing the recruitment flyer for further information. I responded by sending the potential participant the informed consent form. The consent form included the following information:

information about the study, the requirements for participation, and sample questions.

Participants could ask questions about the study at any point. Once potential participants reviewed the consent, they self-selected in the study by replying to the email with the phrase, "I consent."

### ***Treatment of Participants***

The participants were aware their participation was confidential with their personally identifiable information (PII) being masked or not included in the data. The only PII collected included contact information, current grade level assignment, and region of the United States in which they live. Email contact information was required to send consent forms, request interview and possible follow-up times, and send end-of-study gift cards, and thank you cards to each participant. The current grade level assignment confirmed the participant was working within the required grade level for the study. The geographical area of the US school was collected as it helped to ensure participants were not from the same area. Each participant was given a numerical designator, such as Participant 1 (P1), and is referred to as such in the data and the subsequent writings following the study to support confidentiality.

Participation was strictly voluntary. If a participant chose to withdraw from the study at any point in the study, then the participant would have been thanked for any involvement. No participants withdrew from the study. Once participants completed the interview, and any potential follow-up questions, they received an email with their choice of either a \$5 gift card for a coffee restaurant or \$5 gift card to an online teacher lesson store. Neither of these incentives were considered coercive or extravagant. As none of the

participants had a personal or professional relationship with me, this was not considered coercive either.

Research typically involves some minimal risk for the participants. Psychological risks could have included bringing up difficult experiences of working with students with disabilities in their classroom. To mitigate this possibility, the questions were limited to the participants' experience of the disability and their students' classroom accommodations. Legal risks were also minimized but could have included participants admitting that they knowingly were not following the student's legal IEP. This risk was assuaged by the wording of the interview questions, as well as the reminder participants did not have to answer any questions they chose. No participants admitted to not following the student's legal IEP. Professional risks were reduced by the confidentiality of their interview, that was outlined in the consent form. Their employers were not aware of any participation from the study nor any subsequent writings from the study.

### ***Treatment of Data***

Data collected were confidential but not anonymous. The data collected was not anonymous as the data was collected via interviews and the participants were known to me. Due to the virtual nature of the recruitment and interview, personal data were required for contact information as well as to ensure credibility of data.

The data are secured via password protected files saved to a secure removable hard drive, with participant information turned into a numerical designator. Data have been disseminated only to my committee or to Walden University as password protected

files. The hard drive will be stored for 5 years in a secure, personal safe. After 5 years, the data will then be fully destroyed.

### **Summary**

In this chapter, I described the methodology, analysis, and rationale for this study. I described the rationale for the basic qualitative study and the role of the researcher. Then, I fully described the participant selection, the researcher-developed instrumentation, and the plan to analyze the data. Ethical considerations were fully described, to include issues of trustworthiness and the ethical procedures, like the treatment of the participants and the data. In the next chapter, the results from the data collected and analyzed will be reported.

## Chapter 4: Results

The purpose of this basic qualitative study was to gain insight into general education teachers' experiences concerning instruction and academic accommodations for students with ASD within inclusive classrooms. Nine participants were interviewed using Bandura's social cognitive theory and current research to shape the RQs and subsequent interview questions. The RQs were as follows:

1. How do general education teachers describe their experiences of teaching students with ASD in the elementary school setting?
2. How do general education teachers describe their experiences of providing their student's academic accommodations in the elementary school setting?

This chapter contains the setting of the study, the participant demographics, the data collection, analysis of this data, and the evidence of trustworthiness. The results are described that address each of the RQs as they relate to the data collected.

### **Setting**

Each participant was interviewed away from their schools and classrooms, most often at their homes via video chat or phone call. As the participants were away from their workplace and remained anonymous in the study, many expressed their comfort at fully describing their experiences prior to the beginning of the interviews. Five participants completed their interviews via video chat, while four participants participated via phone interview. This was based on participant preference and availability.



## Demographics

Participants were nine elementary, general education teachers from first through fifth grades who were interviewed. Each had a student with ASD with an IEP in their class for a majority of their day. The participants' years of teaching experience ranged from 2 years to 30 years of teaching. Participants also had varying levels of education: one with just a bachelor's degree, three with Doctor of Education degrees, and the others with many classes above bachelor's to master's degrees. Table 2 shows the participant demographics.

**Table 2**

*Participant Demographics*

Participant	General education teacher (K-6) grade level	Student with ASD/IEP majority of day
P1	3 <sup>rd</sup>	yes
P2	3 <sup>rd</sup>	yes
P3	1 <sup>st</sup>	yes
P4	4 <sup>th</sup>	yes
P5	1 <sup>st</sup>	yes
P6	1 <sup>st</sup>	yes
P7	5 <sup>th</sup>	yes
P8	1 <sup>st</sup>	yes
P9	4 <sup>th</sup>	yes

## Data Collection

Nine participants were interviewed for this study, using a specified set of questions based on the RQs, see Table 1. They all taught in American school districts across the country and the world. Two participants taught for the Department of Defense Education Activity, a federal school district for military dependents, in Italy and

Germany. Two participants taught in different areas of the state of Florida, one in Tennessee, one in New Jersey, one in Illinois, one in Utah, and one in Georgia. Each participant was interviewed only once for 18 to 37 minutes, based on the participants' responses to questions. Participants were interviewed via video chat or phone call, and the interviews were recorded using a digital voice recorder and written journaling. See Table 1 for the interview questions asked.

There was no variation in data collection from the plan previously presented. Interview questions may have been asked in a different order based on participants' answers, but all questions were asked and answered. All participants were recruited via social media, that required several rounds of advertising to recruit nine eligible participants. One potential participant was from Canada but was denied participation as Canada and the United States are under different governing educational laws.

### **Data Analysis**

Yin's (2015) 5-phase method for content analysis is a process of continuously analyzing qualitative data to discover any potential themes. Following Yin's method, I first compiled the raw interview data by transcribing, sanitizing, and organizing them. I then disassembled the data into codes using open coding in a spreadsheet. Next, I reassembled the codes into Level 2 codes. As I was alternating between phases, I interpreted those codes into categories, based on my RQs. Finally, I concluded those categories into three themes.

## **Coding Strategy**

### **Compiling the Data**

To compile the data, I transcribed all the interview audio files into a single document. Then, I read and sanitized the data by removing any personally identifiable information and made sure the transcripts were accurate. I immersed myself in the descriptions by reading and re-reading the interviews and re-reading the transcripts. I read over my research notes on each interview while reading the interviews. I reviewed the transcripts and compared them to the audio recorded for confirmation of understanding. This immersion allowed me to methodologically organize the data, so I could then copy and paste meaningful parts of participants' responses into a spreadsheet based on the RQs. This sorting of data allowed me to move to the second phase of analysis, disassembling the data. Table 3 is an example of text excerpts using open descriptive coding.

**Table 3***Sample of Text Excerpts Using Open Descriptive Coding*

Participant	Interview text excerpt	2 <sup>nd</sup> round coding
P1	She'll just stand up from whatever she's doing and come up whether I'm direct teaching or if I'm sitting helping another student one-on-one	Teaching experience
P2	[The student] has an upcoming IEP meeting as she does not need this much support to be successful. The teachers agree that they do not want her to become dependent on having an aide.	Teaching experience
P3	He follows basic instructions but requires an adult with him throughout his day or he will just sit and smile.	ASD student descriptions
P4	He very much struggled with written expression So he could tell you almost anything you wanted him to, but he didn't want to write it.	ASD student descriptions
P5	He has brain breaks with a five-minute timer.	Accommodations described
P6	But he would typically a lot of days would do his work standing beside his seat if the assignment was not a preferred activity.	Accommodations described
P7	Every kid that's on the autism spectrum is unique and has their own unique needs. And you know you need to make sure that you know their IEP and their goals related to their disorder that they're working with.	Providing accommodation experience
P8	I learned about his IEP and accommodations from his new IEP meeting, as he just started getting services.	Providing accommodation experience
P9	Sometimes I felt like, you know, all my attention and my time was spent dealing with that, that I wasn't able to give the other kids what they needed sometimes.	Providing accommodation experience

### **Disassembling the Data**

I began disassembling the data by looking at my RQs and the interview questions. I used open coding in my first round of coding to fully understand the descriptions of experiences given by the participants. I then broke down the interview data into 314 “meaning units” (see Bengtsson, 2016, p. 11). I kept notes, or according to Bengtsson (2016), a coding list, that helped me to minimize the amount of change of the description of codes. I also used a pivot table to see my Round 1 codes. I mindfully changed and created codes as I viewed and reviewed the data in multiple cycles. I then analyzed my pivot tables and my coding list to ensure stability for those codes. After reviewing the raw data, 30 Round 1 codes emerged from the pattern of answers given by the participants from the data while keeping in mind the RQs (see Table 4). Round 1 codes come from the second phase of analysis, disassembling the data (see Yin, 2015).

**Table 4***Example of Round 1 Codes Pivot Table*

Round 1 open descriptive codes	Count of interview text excerpts by Round 1 open descriptive codes
Accommodation presentation	14
Accommodation response	2
Accommodation setting	13
Accommodation timing	13
Accommodation: Misunderstanding	3
Accommodation: Social emotional behavioral	23
Accommodations: Difficulty with providing	20
Accommodations: How learned about	9
Accommodations: Unfair	11
Interaction: Student academic	22
Interaction: Student S/E/B	52
Interaction: Teacher-peer	2
Interaction: Teacher-teacher	6
Student characteristic: Academic	26
Student characteristic: Diagnosis	6
Student characteristic: Intelligence	4
Student characteristic: Physical	3
Student characteristic: Social/emotional/behavioral	29
Student IEP service	13
Teacher knowledge: In-person experience	12
Teacher knowledge: Local school district	4
Teacher knowledge: Professional development	1
Teacher knowledge: Professional development	1
Teacher knowledge: Self-training	3
Teacher knowledge: University prep	4
Teacher perception of ASD	2
Teacher perception of class	1
Teacher perception of IEP	2
Teacher perceptions of accommodations	13
<b>Grand total</b>	<b>314</b>

Using a spreadsheet and pivot tables, these Round 1 codes emerged and solidified with multiple coding sessions from patterns and similarities in the data. I continued to review the raw data to ensure the codes accurately represented the data in which they were placed, and no data were missed or discrepant (see Table 4). This open coding was based on my RQs and making meaning of the smaller units of data (see Bengtsson, 2016).

### **Reassembling the Data**

According to Yin (2015), reassembling the data is a procedure of rearranging and organizing the data. Once the Round 1 coding was completed, Round 2 coding began. I moved Round 1 codes into groups of similar concepts. While coding the data into Round 2 coding, I coded and recoded both Round 1 and Round 2 data by filtering the data within the spreadsheet. I reviewed all 314 pieces of coded text excerpts from the transcripts that I labeled with a Round 1 code and assigned four Round 2 codes: ASD student descriptions, teaching experience, accommodations described, and providing accommodation experience. The Round 2 codes were aligned to the patterns in the Round 1 coded data and also emerged as the categories. Table 5 shows the Round 2 descriptive codes and emerging categories with the number of pieces of coded text by Round 2 code and category.

**Table 5***Descriptive Codes to Categories*

Round 2 open descriptive code	Category	Frequency count of coded text
Accommodation presentation Accommodation response Accommodation setting Accommodation timing Accommodation: Social/emotional/behavioral	Accommodations described	135
Accommodation: Misunderstanding Accommodations: Difficulty with providing Accommodations: How learned about Accommodations: Unfair Student IEP service Teacher perception of IEP Teacher perceptions of accommodations	Providing accommodations experiences	70
ASD student descriptions Student characteristic: Academic Student characteristic: Diagnosis Student characteristic: Intelligence Student characteristic: Physical Student characteristic: Social/emotional/behavioral	ASD student descriptions	179
Interaction: Student academic Interaction: Student social/emotional/behavioral Interaction: Teacher-peer Teacher knowledge: In-person experience Teacher knowledge: Local school district Teacher knowledge: Professional development Teacher knowledge: Self-training Teacher knowledge: University preparation Teacher perception of ASC Teacher perception of class Teacher perception of IEP	Teaching experience	111



## **Interpreting the Data**

In the fourth phase of analyzing the data, I interpreted the data from the Round 2 codes into categories then into themes. As Bengtsson (2016) described, interpreting the data can occur in the reassembling and the formation of the categories. Yin (2015, p. 218) described it as having “tentative ideas” with which to move forward built upon my RQs. My Round 2 codes, created during the reassembling phase of analysis, led to the formation of categories through “emerging patterns” (see Yin, 2015, p. 202). The formation of categories was based on the patterns in the data. This led to the formation of three themes, see Table 6. I was able to see these emerging patterns using pivot tables in my spreadsheets. I used this “conceptually ordered” matrix to move all codes into four categories, often moving data around within the categories due to comparing the data frequently (see Yin, 2015, p. 205). The four categories were teaching the ASD student, ASD student descriptions, accommodations descriptions and providing accommodations experiences.

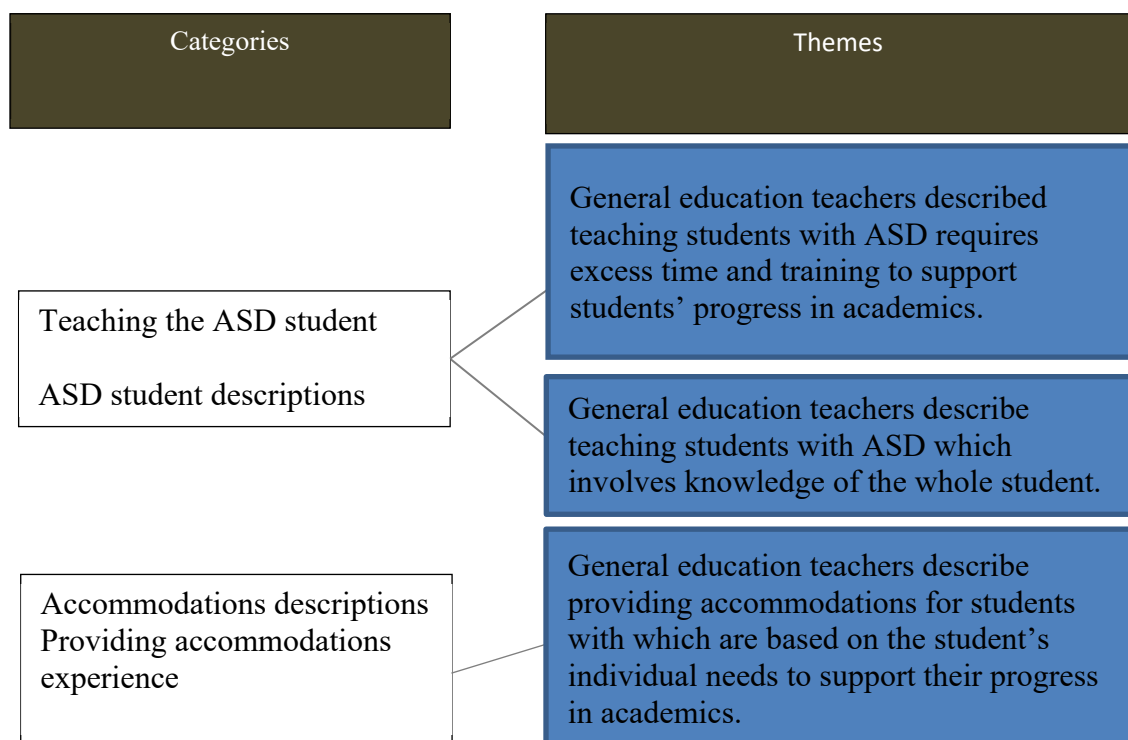
**Table 6***Theme by Coded Text*

Research question	Theme tag	Theme	Count of coded text by theme
1	Theme 1: Training and time	General education teachers described teaching students with ASD requiring excess time and training to support their student's progress in academics.	109
1	Theme 2: Knowledge of the whole student	General education teachers describe teaching students with ASD which involves knowledge of the whole student.	68
2	Theme 3: Providing accommodations	General education teachers describe providing accommodations for students with which are based on the student's individual needs to support their progress in academics.	135

From these categories and the RQs, I identified three themes from the data. The themes that emerged were: (a) General education teachers described teaching students with ASD required excess time and training to support students' progress in academics; (b) General education teachers described teaching students with ASD involved knowledge of the whole student; and (c) General education teachers described providing accommodations based on the student's individual needs to support their progress in academics.

**Concluding**

I evaluated the pivot tables with my conceptually ordered matrices. From that evaluation, I organized those categories into three main themes, see Figure 1. I was able to confirm these themes based on the data using the pivot tables, my RQs, and the five-phase analysis of data (see Yin, 2015).

**Figure 1***Categories to Themes***Evidence of Trustworthiness**

Trustworthiness is the building of confidence in the findings of the study (Lincoln & Guba, 1985; Rossman & Rallis, 2017)). The four criteria of trustworthiness are credibility, transferability, dependability, and confirmability. Each of these criteria are described in detail.

The definition of credibility, by Lincoln and Guba (1985) is the extent to which the findings were logical to those being studied. Credibility was established through member checks. Each participant was asked the same questions, per the interview

protocol, and gave rich descriptions of their experiences resulting in 314 pieces of coded text that aligned to the RQs. Reassuring the participants their information would be confidential, allowed the participants to give full descriptions of their experiences. Participants were given the opportunity to check the interpreted findings from their interview through email, though none expressed any issues with the data sent to them.

Transferability is the way the results can be used in other settings or with other researchers (see Bengtsson, 2016). This study is transferable due to the variety of participants from across the United States. While more participants were from the Eastern United States, there were several who were from other parts of the country. No participants were from the same school district. While two participants may have been from the same state, those participants' districts were hundreds of miles apart and they had no knowledge of the other.

Dependability is stability in the data and analysis of the data (see Bengtsson, 2016). During this study, I employed the use of a reflexive, research journal to help with dependability. Within this journal, I recorded my attempts at participant recruitment, as well as interview notes, and data codes. I used this journal to keep consistency within my codes. To ensure dependability, I continuously reviewed the data in my spreadsheet and within my journal to confirm it was aligned with my RQs.

Confirmability is how objective is the data in the study (see Bengtsson, 2016; Rossman & Rallis, 2017). In this qualitative study, confirmability focused on sharing the depth of different experiences based on a single set of interview questions. The questions were reviewed by subject matter experts to ensure neutrality, and the data were reviewed

taking into consideration potential researcher bias. This consideration helped me to be aware to not influence the interviewing nor the data analysis.

### **Results**

The purpose of this basic qualitative study was to gain insight into general education teachers' experiences concerning instruction and academic accommodations for students with ASD within inclusive classrooms. The RQs were as follows:

1. How do general education teachers describe their experiences of teaching students with ASD in the elementary school setting?
2. How do general education teachers describe their experiences of providing their student's academic accommodations in the elementary school setting?

These questions were addressed through my interview questions. These questions allowed the participants to fully describe their experiences. After analyzing this data, three themes emerged:

1. General education teachers described teaching students with ASD requires excess time and training to support students' progress in academics.
2. General education teachers describe teaching students with ASD which involves knowledge of the whole student.
3. General education teachers describe providing accommodations for students with which are based on the student's individual needs to support their progress in academics.

**Theme 1: Training and Time**

Theme 1 is general education teachers described teaching students with ASD requiring excess time and training to support their student's progress in academics. Participants were asked to describe a typical day teaching their student with ASD. The interview questions were used to answer RQ1 with rich descriptions of teaching their students with ASD and any training or experience that guided them.

***Training***

Most participants described receiving little to no formal training prior to teaching students with ASD. P5 stated they “had one ‘Mild Interventions’[course] for all students with disabilities within my bachelor's degree”. P1 and P6 reported they completed their own research for best practices when teaching students with ASD. P1 said she “read some articles about autism,” while P6 said, “I am constantly you know researching and trying to figure out things, but I don't have any necessarily you know teaching certifications in that area”. P6 also completed much of her research due to having children of her own diagnosed with ASD. Most reported learning about their student with ASD through the experience of having the students in their classrooms with special education support. P2 said, “There was no formal training for autism, but I have in-class support with a special education co-teacher daily”. Another instance of this, P7 said, “I feel I've kind of learned on the fly from working with other ESE providers and teachers”, Having a good relationship with the special education teacher provided necessary information gathering, P5 said, “The SPED (special education) teacher tells me how to implement [accommodations] without stressing. We have a good relationship”. Four

participants, P1, P2, P4, and P7, reported that there was no professional development required or provided by their school district or schools. P7 reported that she volunteered to take a “multi-day like professional development talking about working with students that were with autism” but it was “completely elective” and not required by the district. Any research or training was completed outside of the school day.

### *Time*

When describing their typical day teaching their student with ASD, each participant went chronologically throughout their day. Two participants, P6 and P9, described having a morning routine which was a positive, individualized experience for their students to help that student focus on academics. P6 described her student’s morning routine:

I found this if I gave him time at my table in the morning like to do morning work and I gave him you know 5 minutes to just rattle off whatever he wanted to rattle off to me, and that kind of talked him out and he was not good for the day, but he could focus through math. [first 45-minute block]

This was not prescribed in his IEP, but it was an accommodation P6 felt the student required to be successful. P8 described how her student would require help from her and his peers to “dig out his seat so [he] can find some things” at the beginning of the day.

Participant 1 described telling the student’s peers

she'll come up and she needs to talk, and I need to talk to her for that few seconds that it takes to make her feel secure and you guys are just gonna have to be respectful and give me that few seconds.

All participants described their student's interactions throughout the day which would take away from instructional time. The student of P6 would interrupt a lesson "just to say, 'I love you, Ms. [participant's initial of last name]". Two other participants, P1 and P6, reported that their student regularly interrupted lessons with off-topic statements or questions. P1 described,

She gets up and talks to me probably about 10 or 12 times during the day. You know where she'll just stand up from whatever she's doing and come up whether I'm direct teaching or if I'm sitting helping another student one-on-one or if I'm sitting down typing a letter to a parent or whatever she'll come up and need to talk to me right then.

Emotional outbursts would also take away from instructional time, as described by P4: "Sometimes we had some dramatic outburst. And so again, that disrupted the classroom, you know, of him having to leave". Sometimes, the student's outburst would cause the participant to stop teaching and call another adult to help with the disturbance. P9 described that if needed, she "would have to call" and, "usually the same person or the same couple of people would come" within minutes of the outburst. Sometimes, the student's accommodation of sensory breaks or walking breaks would incur loss of instructional time. P4 described, "His aide would take him and, you know, go for walks and sensories and that kind of thing" when he was not emotionally regulated to learn. P3 described their student's extra time required to respond to questions would cause difficulty for the rest of the class who were ready to move on in the lesson. All of these



disruptions to the scheduled instructional time were reported by all participants despite the students' academic characteristics.

While students with ASD are in a general education classroom for the majority of their day, their teachers described difficulties with the amount of time for the interactions of each student with ASD. They also described how the lack of training led to self-research and reaching out to special education colleagues to supplement this knowledge. These participants each fully described their student which included four aspects of the whole student.

### **Theme 2: Knowledge of the Whole Student**

Descriptions of student characteristics emerged from RQ1, as the participants were describing teaching their students with ASD. Theme 2, from these descriptions, is general education teachers describe teaching students with ASD which involves knowledge of the whole student. The participants described their students physically, academically, socially, and behaviorally.

Three participants, P1, P5, and P6, described their student physically, as those students stood out physically from their peers. These physical descriptions were based on a size comparison to their peers. One student was significantly smaller than his peers, which resulted in his peers treating him as a "little brother," according to P6. The other two students were physically larger than their peers, per P1 and 6. P1 described her young student:

She's got some kind of a hormonal imbalance where she's grown bigger at an earlier age and so she has breasts, and she perspires and smells and things like that

and she takes she has an implant to keep her from having her menstrual cycle. She knows that it stops her from bleeding.

These participants described their students physically in order to help explain peer and teacher interactions with their student. Other participants refrained from physical descriptions in order to keep from giving personally identifiable information.

All participants were able to describe their students academically. While two participants, P3 and P5, described their students as low academically in all subjects, three participants, P1, P7, and P9, described them as high performing or gifted. P5 described their student as low academically in all areas and said, “he works well with manipulatives” in a very concrete way. P3’s student was also low in “all subjects” but was also in an English for Speakers of Other Languages program. When doing self-learning about ASD, P6 found,

You’re dealing with a kid that had ADHD and or autism, you want to cut 30% off of their biological age when you’re considering their emotional, mental, executive functioning skills. So, you know looking at that from this perspective and going OK I’m not dealing with six-year-old here.... So, when dealing with him it was much easier as a teacher and as parents obviously to keep your cool and meet them at that level rather than the level he should be. He very much acted more of his developmental age through the school day.

This student was very low in his reading skills but average in his math skills. P7 described her student as “twice exceptional, gifted and with autism”. P1 repeatedly described her student as “really quite bright” and “one of her highest readers and

absolutely loves math”. Most participants described their students with “math as a strength,” like P8. P2 described her student as having “a hard time with spelling and subtraction, especially with regrouping”. Four participants, P3, P4, P5, and P9, described their students as struggling with written expression. P4 described those struggles: “He could tell you almost anything you wanted him to, but he didn’t want to write it... had a hard time putting it on paper”.

All participants gave at least one description of their student’s social and behavioral characteristics. I have melded these two descriptive areas because of their similarities and the needs created by these areas are used to create combination IEP goals and accommodations. P9 described her student as having a weak area in “social talking, getting along with his peers”. She went on to describe how her student had outbursts when the schedule was changed by anyone else but her. P4 described how her student struggled with social interaction during Physical Education: “PE was a struggle because that was more social and interaction and team type things. That was hard for him”. This would often lead to a 1:1 aide removing him from the situation and helping him to calm down. Many participants, including P6, described their students struggling “with emotional regulation” within the classroom which would detract from instruction. These behaviors included shoving desks, making loud noises, cutting off his shirt with scissors, throwing himself on the floor, and hitting. Four participants, P3, P7, P8, and P9, had students who would need prompting to help with academic motivation but no other behavioral descriptions. P8 related a story which describes this prompting:

But like today, we were taking a little quiz. And I said,” Hey, write your name on your paper”. Then again, I said “hey, write your name on your paper”. And I said, hey, I think. I told you about four times to write your name on the paper” and he goes, “I’m gonna do it”. [the teacher said to the student] “Like if you do it when I tell you to then we know you’re gonna do it and you’re not gonna forget”.

These students required help remembering to turn work in, to complete work, and to write their name on the paper. These documented needs, in their IEPs, require accommodations to help them to be successful, often with teacher provision.

Within the first RQ, general education teachers were asked to describe their experiences of teaching students with ASD. These participants provided rich descriptions of their student’s non-personally identifiable characteristics. This allowed the participants to fully describe their experiences based on their students’ disabilities. They described their students with general physical descriptions, intellectual descriptions, academic descriptions, and social/behavioral descriptions. These student characteristics are used to decide their IEP accommodations. Many IEP accommodations must be provided by the general education teacher.

### **Theme 3: Providing Accommodations**

The third theme which emerged from the participants’ descriptions was general education teachers describe providing accommodations for students based on the student’s individual needs to support their progress in academics. This theme illustrated participants’ descriptions for RQ 2. Through the second RQ, teachers described providing the accommodations for their students with ASD. Only one participant, P7, was not

provided with the student's IEP accommodations but had to seek them out for herself. She said, "I've had different experiences with that. But at my current one, it was not provided to me". The other participants mentioned receiving the IEP accommodations from a meeting, either prior to school starting or at the student's initial IEP meeting.

As described in Chapter 2, the teachers described accommodations in the four categories, but also described accommodations in a fifth category, social/behavioral. Most of the participants' students had presentation accommodations across all academic areas. P6 described when taking an assessment, she would "use my finger to track. You know most of the students were using their own fingers. I would use my finger to track our text as I was reading out loud for the test". Other participants described chunking tests into smaller parts, shortening assignments, repeating directions, and using visual schedules. Two participants, P4 and P9, described response accommodations, which included dictating his work and completing work in a different format. P9 said, "He could present his work in a in a different format like he could show his understanding with a different product sometimes than other kids". When describing the setting accommodations, all but one participant described using small groups, preferential seating, and the ability to move as needed by standing or pacing. P8 described,

We move around a lot. So, we move back and forth between the carpet and seats.

And I don't sit down a whole lot so. His seat's kind of in the middle of the room.

But he's also on the carpet and when he's on the carpet he's pretty close to me.

When describing the timing accommodations, most participants described giving their students extended time for assignments and assessments. P4 said, "More time, yes. More

time and it's for assignments and assessments, both". In a different way of providing extended time, P6 combined chunking tests with giving breaks and allowing the student as much time as needed to complete the assessment. P1 described the social/behavioral accommodations for her student as, "She will just sit with me just for security during testing". She would allow her student to have close proximity to her during fire drills and unannounced events such as a guest speaker and an unplanned evacuation to help her keep her anxiety down. Other students had sensory items, like wiggle cushions for their chair, headphones, and a kick band on the desk. Several students were provided with sensory breaks and walks to help regulate their emotions, usually with a classroom aide or other adult. P3 described her student's "behavior monitoring system with rewards" to help prevent her student making loud noises when frustrated or just sitting at his desk not completing work.

All these accommodations were provided, but not without difficulty. Some participants had other teachers and aides to help provide the accommodations. P4 said, "I had an aide. But I mean it was very hard to manage both ends of having both of them [two academically and socially different students with ASD] in my room at the same time". These other adults regularly helped to provide accommodations in two participants' classrooms, like in P2's classroom:

It was not hard to provide accommodations as the Special Education teacher and aides provided most of the accommodations. However, it would be different if I had to provide them on my own as I have 21 students with seven on IEPs.

P6 and P8 ensured their students' needs were met, even if the IEP did not give that particular accommodation. P1, P5, P6, P8 and P9 used close proximity, even if other students also needed it. P6 described,

Sometimes it's harder to provide the close proximity to the teacher because at times there are other kids for you know behavioral or other reasons that we really need to be close to me, but I'm limited in who and how many kids I can do that with.

Two other difficulties mentioned when providing accommodations were planning outside of typical teacher planning and giving extended time when the rest of the class was ready to move on. P7 explained,

You have to plan ahead of time because you know if you're using another instructor so like if I'm partnering with the ESE instructor that serves that student, they obviously have a really tight schedule of dealing with their services. and I'm not the only teacher that they have to work with for things like small group testing.

P9 felt "all my attention and my time was spent, you know, dealing with that student, that I wasn't able to give the other kids what they needed sometimes". She felt this way despite having a small class size of 15 students in her classroom. She was concerned for those who had a larger class size with a student who required this much attention from the teacher when providing his accommodations.

The participants described providing the students' accommodations based on individual student needs. The participants described leaning on their special education

colleagues when providing the accommodations. They were able to fully describe their students' accommodations. The research problem was general education teachers did not understand the characteristics of their students and how they relate to the accommodations. The participants interviewed in this study related providing accommodations in relation to their students' needs.

While all participants described their unique experiences of teaching and providing accommodations for their students with ASD, there were no discrepant cases or nonconforming data. All participants answered my interview questions fully. Despite having students with different characteristics, all participants described the amount of time and lack of training they received to teach these unique learners. All participants described the educational characteristics of their student. Finally, all participants described providing their student's accommodations.

### **Summary**

In summary, I presented my findings of this study, along with how I gathered and analyzed the data. General education, elementary level teachers who participated in this study described teaching their student with ASD, as well as providing their students' accommodations. Three themes emerged from the data, based on the RQs:

1. General education teachers in the elementary school setting described teaching students with ASD required excess time and training to support students' progress in academics.



2. General education teachers in the elementary school setting described teaching students with ASD which involves knowledge of the whole student.
3. General education teachers in the elementary school setting described providing accommodations for students which are based on the student's individual needs to support their progress in academics.

In response to the RQs I posed, general education teachers teaching at the elementary school level described their teaching students with ASD. Participants described needing more time and training for their student with ASD, and yet they knew every aspect of their student from each of their academic, intellectual, physical, social, and behavioral needs. General education teachers were able to provide full descriptions of their students' accommodations and what supports their student required based on their individual needs.

In Chapter 5, I describe my interpretations of the findings. I give the limitations of the study and explain my recommendations for future study. Then, I explain the implications for social change.

## Chapter 5: Discussion, Conclusions, and Recommendations

This study was conducted to gain insight into general education teachers' experiences, at the elementary school level, teaching students with ASD and providing their accommodations. Previous literature showed that teachers who teach at high school and university levels struggled to understand their students and their accommodations (Accardo et al., 2019; Joyce, 2020; L. M. Spenceley et al. 2020). None of my participants taught higher education. Therefore, I chose to fill this gap in the literature with this population of teachers with these experiences, as teachers have students with ASD in their classrooms a majority of the school day. A basic qualitative study was conducted to open the aperture of current knowledge. This study allowed the participants to fully describe their experiences with teaching these students daily and how they were able to provide their accommodations.

Key findings included in-depth descriptions of the students' characteristics, experiences while teaching these students, and experiences providing accommodations. These teachers of students, Grades 1-5, all described their students' physical, social/emotional, and academic characteristics while describing their teaching experiences. Their experiential descriptions included the amount of time those students required, as well as a lack of training but a robust relationship with their student's special education teacher. Teachers also described the variety of their students' accommodations and how they provided them. These accommodations were based on the needs of the whole student to include social/emotional, setting, presentation, response, and timing.

### **Interpretation of Findings**

From the two RQs, three themes emerged from the analysis of the vivid descriptions of the participants. The participants described the extra time and training their students required of them. The participants also described the whole student, not just academically but also general physical traits and social/emotional traits. Finally, they described their students' accommodations, how they understood them and how they guided their student to use them. Bandura (1991) described self-efficacy as what a person believes about themselves and their ability to exert control on their own lives and events within their lives. Each participant demonstrated a sense of self-efficacy in which they often sought training or advice from a colleague, when they had a previously unknown situation of having a student with ASD in their classroom.

#### **Descriptions of Teacher Experiences Include Need of Excess Time and Lack of Training**

Participants described their experience with their student with ASD vividly, often including peer to student interactions, teacher to student, and other student behaviors based on their social/emotional state. Many of these interactions and behaviors described took extra time outside of traditional whole group time with the participants' student. These participants described a lack of training to work with these students; however, they also described a relationship with their special education colleagues which enabled the participants' knowledge of the accommodations and their student. Both Anglim et al. (2018) and Bertuccio et al. (2019) described how teachers often felt unprepared to work with students with ASD in their classrooms due to a lack of training and support. While

this was echoed in the participant responses, many responded to this lack of training with self-training and seeking support from knowledgeable colleagues.

Joyce et al. (2020) found that teachers who have students with disabilities in their inclusive classrooms also have the responsibilities of providing accommodations and little excess time. The participants in this study also described taking excess time with their student with ASD. P1 explained it to her other students:

I just told the kids one day she was absent, and I said, “She'll come up and she needs to talk. I need to talk to her for that few seconds that it takes to make her feel secure and you guys are just gonna have to be respectful and give me that few seconds”.

Other participants described interactions with the student that resulted in excess time with that student. Some participants needed to stop instructing to interact with the student, like P4 who described the student’s “dramatic outburst” which “disrupted the classroom” until the student had to leave. Another participant, P6, described taking 5 minutes daily out of the daily schedule to just allow the student to talk about anything he wanted to, to help the student focus on the next academic task. While this particular strategy was not an official accommodation, the use of frequent breaks was. Stephenson et al. (2021) described the demands of time from the student as a barrier to inclusion as described by teachers of students with ASD. P7 described a student who would discuss a love of computers when the rest of the class was working on another subject and the need to redirect this student to the task at hand. Other interactions included off-topic interactions with other adults, like P8’s student who would make jokes with the special education

teacher who came in to provide services in the classroom. This resulted in the classroom laughing with the student and teacher, breaking up the instructional time. Many of these interactions resulted in excess time at inopportune moments.

Many participants reported a lack of training to teach students with ASD, but often relying on special education colleague relationships for success with their shared student. Several participants described a lack of training. P2 described that she had no formal training in ASD, but she had an in-class support with a special education teacher. Joyce et al. (2020) reported that while teachers of students with disabilities must differentiate and adapt assignments and assessments, they do not have the training in their teacher preparation programs to complete these tasks. Seven participants in this study said that they did not have any classes to prepare them for this type of differentiation, and only two participants said that they had an introduction to a disabilities course in their educator preparation courses. Eight of the participants felt that they were unprepared by their teacher preparation programs for teaching the students with ASD. However, most of the participants had prior experience with children with ASD either in the classroom or in their private lives. Due to these experiences, all the participants reported doing self-directed research to help their understandings. This is reflective of the study by Bjornsson et al. (2019) who found that 90% of teachers in Icelandic elementary schools would do self-directed learning to understand their students with ASD.

Multiple participants learned of their student's IEP accommodations from receiving the IEP at the beginning of the school year with no training about these accommodations. Only one participant had to actively search for the IEP, but she had

prior experience and an elective district training years prior to guide her forethought in asking for it. Once these teachers had the IEP accommodations, they often asked a special education colleague if they had questions about implementation of these accommodations. P2 even had the advantage of working in a cotaught classroom with the special education teacher, that increased her continual, experiential training as described in a study by Knight et al. (2019).

Mathes et al. (2020) found that teachers may need substantial support to implement accommodations with consistency across different school activities. P4 described her relationship with a special education teacher who worked closely with her to help support her in accommodating and working with her student with ASD. P7 described having prior experience working with special education teachers in the past to get her basic understandings. P7 then described using that prior experience with the elective course taken over a decade ago to help her work with students with ASD. Special education teachers are more likely to be called upon to identify and administer accommodations than their general education teacher counterparts (Mathes et al., 2020). Many of the participants described working with their students and accommodations without special education teachers' assistance during the school day. In these cases, the special education teachers, specifically trained in adapting instructional materials based on the needs of special needs students (Mathes et al., 2020), would be relied on solely for advice and guidance. Sometimes, an educational aide would come and help provide accommodations, such as taking a student on a break away from the classroom or providing testing accommodations in a small group. From the second-year teacher to the

30-year veteran teacher, all of the participants relied on their special education counterparts for advice, strategies, and provision of accommodations for their students with ASD.

### **Descriptions From Teachers' Experiences Included Knowledge of the Whole Student With ASD**

Each participant was able to describe their student with ASD fully demonstrating that they had knowledge of the whole student. In a 2022 study by Acuña and Blacklock, they found that master teachers felt that building relationships with their students empowered their students to success. With each description of their student, it was clear each teacher had a relationship with their student with ASD. According to a study by Roofe (2018), students perform better in school when their teacher considered all dimensions of the learner. When asked to describe their student, each participant was able to fully describe the student academically, but also physically and socially and emotionally, demonstrating each aspect of the student.

When the participants described the students academically, many experiences helped to illustrate their students' strengths as well as their weaknesses. Participants described their student's academic strengths and weaknesses in equal measure. Four out of the nine students were on-grade level or high readers, while the other five were below grade level in their reading. Math was most often a strength for the participant's students, sometimes requiring manipulatives and interventions for other students. These teachers knew their students' academic characteristics from classroom experiences as well as any more formal testing. Science and social studies were often described as a student's

interests. Roofe (2018) mentioned that teachers who understood their students' academic needs helped the students feel valued.

The participants often described their students regarding their size. If they added a physical description, it often had to do with vague descriptions to protect their students' identities. One student was tall due to a medical condition, while another was small due to medication taken at an early age. All participants mentioned if their student was male or female usually through pronouns. No other aspects of physical characteristics were mentioned due to the careful descriptions of the participants to protect their students from being identifiable in this study.

When describing the students socially and emotionally, the participants described how these characteristics affected the students academically. Some participants described how their students interacted with their peers, often needing to facilitate interactions. When a student would get frustrated, this would often take away from academic instruction. The student might shove a desk, cut a shirt, or hit an adult or peer. Often the student would be escorted to another room to facilitate a break. While these are not academic characteristics, the social, emotional characteristics often directly affected the student academically. In a study by Gardner et al. (2021), teachers and parents agreed that due to a lack of social and emotional skills, students with ASD need to have explicit teaching on the subject. This can improve their mental health and overall success academically. As part of seeing the whole student, the participants described their students in this way extensively as often these characteristics influenced the instruction within the classroom.



Because the participants described a lack of training about students with ASD, this did not seem to correlate with their knowledge of their student as an individual. One approach to positive teaching practices is the Whole Child Approach, that emphasizes knowledge about the whole student, leading to student success (Roofe, 2018). These participants demonstrated knowledge of their whole student. According to Bertuccio et al. (2019), general education teachers should be knowledgeable about research and theories that support best practices, including individual learner differences. Each participant was able to describe their student's strengths and weaknesses, that would then lead to an IEP team decision about student accommodations.

### **Descriptions of Teachers Providing Student Accommodations Based on Individual Need**

The third theme that arose out of the detailed descriptions from the participants providing accommodations for their students based on the individual needs of the student in order to support their progress. The participants described each accommodation their students needed and used. They also described how they helped to provide these accommodations and any barriers they may have faced in providing them.

The participants provided rich descriptions of their students' accommodations: presentation, response, setting, timing, and social and emotional. The participants also discussed how they influenced the student academically. These elementary aged students had a wide variety of accommodations that were tailored to their individual needs, as described by their IEP team and mandated by IDEA (2004). The variety of presentation accommodations included visual schedules, read aloud of assignments and assessment

questions, fewer problems, rephrasing of writing prompts, chunking of assignments, manipulatives for math, reading line for tracking, and repeating of directions. One participant mentioned an accommodation that she modified so the student was successful. She chunked assignments, allowing for frequent breaks, while reading the assignment for the student and providing her finger for tracking of the reading materials. Her first-grade student struggled with attention and focus, as well as had significant sensory needs. As Harrison et al. (2020) found in their study, students who struggle with focus, struggle with task completion. This participant found a way for her student to complete a task intermixing IEP listed accommodations, thereby showing what he knew, rather than just sitting looking at a long test and not doing anything. This participant had prior knowledge of ASD because her own children had ASD, and she understood her students' individual needs with the lens of prior knowledge. Her self-efficacy in teaching students with ASD was firmly rooted in her prior knowledge and gave her student academic success and lowered behaviors he had shown previously with other teachers.

The response accommodations were described less by participants. Only two participants described using response accommodations with their students. One participant described their student could dictate an answer, while the other participant described a student who could show his understanding with a different product than the other students. Both participants described their students as students who struggled with written expression, despite being perceived as having "high levels of cognitive functioning" as described by P1. When allowed to discuss their answers verbally, their students had quite a bit to say, while when asked to write would only produce a few

words. While previous studies (Graham et al., 2016; Troia & Graham, 2017) have shown scribing for students had some acceptability issues by teachers, these participants fully described embracing this accommodation for their student.

All participants described a setting accommodation for their students. Six participants described testing in a small group as an accommodation, while two described testing in a separate location from the other students. A previous study by Weis and Beauchemin in 2020 described that while both students and teachers believed that this accommodation increases student self-efficacy and overall performance on tests, at the collegiate level, this was not always demonstrated to be true. When the participants described this accommodation, they felt it was beneficial for their students, especially if they had other testing accommodations. Preferential seating and flexible seating were other accommodations that almost all of the participants described for their students. This is an accommodation that each participant provided differently. Some provided it as the student was sitting close to them, while others allowed students to stand, choose their seat, or allow the student to sit near beneficial peers. According to a study by Stapp (2019), flexible seating allows for student engagement, that leads to student achievement. One participant found when a student who was working on a nonpreferred task was allowed to stand next to his desk while working, they were able to complete the task with better accuracy.

The timing accommodations that were described were extended time or breaks from assignments or assessments. At the collegiate level, Goegan and Harrison (2017) found that extended time did not always provide a differential boost in performance to the

students with disabilities. The participants at the elementary school level also felt that just extra time was not always beneficial for their students. Several of the participants described giving tests by chunking the test, giving the test in pieces in a small group setting so the teacher could see when the student needed breaks. It was the use of frequent breaks that required extra time. One participant described her 6-year-old student as developmentally the age of a 4-year-old. In her district, the amount of time the students in a first-grade classroom are given to take a test is 30 to 40 minutes, which becomes 45-60 minutes when a student is given time and a half of extra time. Just giving a child with a short attention span extra time is not beneficial, so she has used multiple strategies to help use this accommodation effectively.

While the previous four accommodation categories were described as academic accommodations, the participants also described social and emotional accommodations as necessary for student academic success. Over one-third of the accommodations described by the participants were social and emotional accommodations. These were as varied as the students. Participants described sensory breaks, behavior monitoring systems, sensory tools, talking breaks, and teacher proximity for emotional support. There is a dearth of research on social and emotional accommodations, much is focused on social-emotional learning. These participants felt that much of their students' success was due to the appropriate provision of these accommodations.

The participants provided all these accommodations with the help and guidance of special education teachers. Mathes et al. (2020) described how when special education teacher understood inclusive practices, like accommodations, they would then be able to

make informed decisions that work best for their students. This informed decision making by special education colleagues helped the participants in this study provide accommodations for their student. They all learned about the accommodations through the IEP or the IEP process. Only one participant had to seek out the student's IEP, the rest were provided the document at the beginning of the school year or at the student's annual or initial IEP meeting. Some of the participants felt that some of the accommodations did not fit their students' needs. They would continue to provide the accommodation, but would modify it informally to benefit their student, giving their student a differential boost, that the inefficient accommodation did not. Spiel et al., (2019) described that an effective accommodation would provide a differential boost to give an increase in academic performance. The problems participants described in providing accommodations were lack of time and lack of personnel. When a student required extra time to respond or on a test, it would often hold up a class from moving on, according to P3. Accommodations were best provided when the teachers had a special education teacher or an educational aide to help provide the time-intensive or distracting accommodations. Planning ahead when it comes to providing the accommodations would also require extra time for the participants. Overall, while the participants mentioned some minor inconveniences of their time and a need for personnel, the participants described providing the accommodations almost automatically over time with planning. The participants understood the provision of these accommodations was necessary for the student's success, despite any difficulties the participants had to endure to provide them. In a study conducted by Bolourian et al. (2022), teachers described understanding the

students and their needs in relation to providing effective student inclusion. This was echoed by the participants in this study.

### **Findings in the Context of the Conceptual Framework**

Bandura's (1991) social-cognitive theory framed this study and was seen through the rich descriptions given by the participants. The participants described teaching their student and providing their accommodations. Looking through the lens of this framework provided context for the findings.

Participants discussed how they required excess time and training when working with their students with ASD. A lack of teacher training and a variety of prior experiences led many of the participants to use forethought as part of the self-monitoring process in Bandura's (1991) social cognitive theory. These participants used prior experience and their special education colleagues to help them use forethought to plan for their student and their student's success. Forethought, a part of the self-monitoring subfunction of the Social cognitive theory (Bandura, 1991) is based on experience and training and is often seen through goals and plans teachers make (Amr et al., 2016; Anglim et al., 2018; Bertuccio et al., 2019; Sanz-Cervera et al., 2017; Savić & Prošić-Santovac, 2017). Several participants used this forethought to create accommodations, plans, and ideas that were not on the IEP which worked for the student. Other participants used the IEP accommodations to plan events in the student's day, such as testing in a separate room. In the judgmental subfunction, teachers then monitor and adjust their goals based on classroom data (Bandura, 1991; Sharma & Jacobs, 2016). These participants monitored their students' successes and with the help of their special

education colleagues adjusted accommodations for students, as needed. When one participant tried an accommodation for a student, and found it worked for him, the participant had it added to the IEP. The final subfunction includes self-efficacy (Bandura, 1991). These participants, in describing their past experiences and lack of training, varied in their perceived self-efficacy. Most felt that through their average of 12 years of teaching service that despite not having specific training, they were able to teach their student. Many relied on the experience of their special education colleagues. These participants demonstrated through their shared experiences that they were able to bring their goals to fruition (Anglim et al., 2018; Sharma & Jacobs, 2016; Wangsgard & Cardon, 2018; Yada et al., 2018).

Self-efficacy was also shown through the participants having knowledge of the whole student from the student's physical needs to their academic needs, and their social and emotional needs. Knowledge of the whole student with ASD was also what each participant demonstrated as a part of the data the participants used to monitor and adjust their teaching and provision of accommodations. This judgmental subfunction of Bandura's (1991) social cognitive theory allowed the participants to monitor their teaching procedures and adjust based on students' needs. They monitor students based on each student's performance, that is also captured through the student's IEP data. The participants then used that data, with their self-efficacy, to understand what works best for their student.

Looking through the lens of Bandura's (1991) self-reactive influences, the participants provided accommodations based on the individual needs of their students

because of the self-efficacy they demonstrated. This allowed them to bring their goals of providing the accommodations to fruition. This included the participants who saw a need the student had, and creating a new accommodation based on that need. Then, using the success of the accommodation, helped to ensure the student would be provided with this accommodation in the future. These teachers, through training, colleague support, and knowledge of the whole student and their accommodations, demonstrated the self-efficacy in that they could provide the accommodations. This demonstrated self-efficacy and described success of the students mirrors what other studies have shown with teaching and teacher self-efficacy (Anglim et al., 2018; Sharma & Jacobs, 2016; Wangsgard & Cardon, 2018; Yada et al., 2018).

### **Limitations of the Study**

As projected, one limitation of this study was a small number of participants, nine, were interviewed. While this may limit transferability, the fact that the participants were all from different areas of the country with differing amounts of education and teaching experience seemed to lend itself to potential transferability. As a special education teacher with general education experience, I was concerned with the limitation of personal biases. I was able to keep my personal biases in check by using the interview protocol during my interview and using my RQs to guide my analysis. I also used reflexive journaling that included field notes, and member checking to also ensure potential biases were not a limitation.



## Recommendations

After reviewing recent literature as well as the results of this study, social and emotional accommodations that influence student academics should be studied. The typical four categories of presentation, response, setting, and timing, each have significant current research on efficacy of these accommodations. One study by Kern et al. (2019) described the four categories, but then proceeded to describe three more categories, check for understanding, cues and prompts, and structured behavioral strategies. When coding the data, these categories were combined into the social and emotional accommodations in this study. The participants felt that the social and emotional accommodations significantly improved student success academically. More research is needed in the social and emotional accommodations category and the way this category affects the academic success of students with disabilities.

Another aspect that stood out was the lack of teacher training for general education teachers. The participants each researched or inquired of their special education colleagues the best EBPs for working with students with ASD. According to the study by Anglim et al. (2018), teachers felt under-supported when instructing students with ASD, that led to less self-efficacy and negative feelings. Experiences in the classroom with previous students with ASD helped the participants of this study demonstrate more self-efficacy despite not having specified training. As the participants of this study clearly did not only have students with ASD in their classroom, but many were also working with students as English Language Learners (ELL) or student with other disabilities within their classrooms. Many participants had self-efficacy of instructing their students using

EBPs, that came from their own research yet had very little from university or professional development given by their school districts. While high-stakes testing starts in elementary school, more research is needed about what general education teachers need in support and training around teaching students with ASD and how those accommodations help their students.

### **Implications**

I explored general education teachers' experiences teaching student with ASD and providing their accommodations at the elementary level. The findings may be beneficial for districts when planning for professional development. Administrators could also benefit from this in they can provide more opportunities to support their teachers who are teaching students with disabilities in general education classrooms. This may also be beneficial for teacher preparation programs, as general education teachers often do not receive the preparations for teaching students with disabilities, but they could teach students with disabilities every year. This may contribute to positive social change in awareness for general education teachers, administrators, and school districts that leads to increased support and training for all involved with students with disabilities in the school setting.

This study added to the current literature in the experiences of elementary-level, general education teachers have infrequently been studied with this population of students. These teachers often have experiences with students with ASD in their classrooms. This study also added to the current literature in adding information about social and emotional accommodations.

## Conclusion

Students with ASD are in many general education classrooms for 80% or more of their school day. At the elementary level, their general education teachers are learning about their students as the whole child, that leads to successful implementation of the students' IEP accommodations and thereby their academic success. The self-efficacy of these teachers demonstrated that experience plays a significant role in successful implementation of accommodations as EPBs, despite not having structured trainings or preparation. These participants demonstrated that they were agents of change (Bandura, 2018) as they sought to gain success for their student. They took extra time and self-training to know their whole student, gave themselves the goal of making the student successful, and put in extra time and effort to help their students succeed in their classrooms. This often-required support from their special education colleagues. Per IDEA (2004), teaching students with disabilities requires a team, these teachers' experiences demonstrate the importance of working as a team for their students' success. While little was known about the experiences of general education teachers in the elementary of teaching students with ASD, this study shed some light on this. These teachers whose self-efficacy of their teaching ability allowed them to understand their students with little time or training in the disability, and successfully work with these students based on their needs. They often came up with creative solutions when accommodations were not working as written in the student's IEP. This study demonstrated that general education teachers at the elementary level, can learn about, adapt, and advance the performances of their students with ASD, but would appreciate

more time, training, and support in the classroom. Stakeholders in districts could find value in this study in that they could provide professional development and time for constructive collaboration among general education and special education colleagues.

## References

- Accardo, A. L., & Finnegan, E. G. (2019). Teaching reading comprehension to learners with autism spectrum disorder: Discrepancies between teacher and research-recommended practices. *Autism, 23*(1), 236–246.  
<https://doi.org/10.1177/1362361317730744>
- Accardo, A. L., Kuder, S. J., & Woodruff, J. (2019). Accommodations and support services preferred by college students with autism spectrum disorder. *Autism, 23*(3), 574–583. <https://doi.org/10.1177/1362361318760490>
- Acuña, K., & Blacklock, P. J. (2022). Mastery teachers: How to build success for each student in today's classrooms. *Journal of Higher Education Theory & Practice, 22*(1), 136–140. <https://doi.org/10.33423/jhetp.v22i1.4970>
- Amr, M., Al-Natour, M., Al-Abdallat, B., & Alkhamra, H. (2016). Primary school teachers' knowledge, attitudes and views on barriers to inclusion in Jordan. *International Journal of Special Education, 31*(1), 67–77.
- Anglim, J., Prendeville, P., & Kinsella, W. (2018). The self-efficacy of primary teachers in supporting the inclusion of children with autism spectrum disorder. *Educational Psychology in Practice, 34*(1), 73–88.  
<https://doi.org/10.1080/02667363.2017.1391750>
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior & Human Decision Processes, 50*(2), 248–287. [https://doi.org/10.1016/0749-5978\(91\)90022-L](https://doi.org/10.1016/0749-5978(91)90022-L)
- Bandura, A. (2018). Toward a psychology of human agency: Pathways and reflections.

*Perspectives on Psychological Science*, 13(2), 130–136.

<https://doi.org/10.1177/1745691617699280>

Barbarese, W. J., Colligan, R. C., Weaver, A. L., & Katusic, S. K. (2009). The incidence of clinically diagnosed versus research-identified Autism in Olmsted County, Minnesota, 1976–1997: Results from a Retrospective, Population-Based Study. *Journal of Autism and Developmental Disorders*, 39(3), 464.

<https://doi.org/10.1007/s10803-008-0645-8>

Barnes, E. M., Oliveira, A. W., & Dickinson, D. K. (2019). Teacher accommodation of academic language during Head Start pre-Kindergarten read-alouds. *Journal of Education for Students Placed at Risk*, 24(4), 369–393.

<https://doi.org/10.1080/10824669.2019.1657868>

Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *Nursing Plus Open*, 2, 8-14.

<https://doi.org/10.1016/j.npls.2016.01.001>

Bertuccio, R. F., Runion, M. C., Culler, E. D., Moeller, J. D., & Hall, C. M. (2019). A comparison of autism-specific training outcomes for teachers and paraeducators. *Teacher Education and Special Education*, 42(4), 338–354.

<https://doi.org/10.1177/0888406419839771>

Bjornsson, B. G., Saemundsen, E., & Njardvik, U. (2019). A survey of Icelandic elementary school teachers' knowledge and views of autism—Implications for educational practices. *Nordic Psychology*, 71(2), 81–92.

<https://doi.org/10.1080/19012276.2018.1480408>

Bolourian, Y., Losh, A., Hamsho, N., Eisenhower, A., & Blacher, J. (2022). General

- education teachers' perceptions of autism, inclusive practices, and relationship building strategies. *Journal of Autism & Developmental Disorders*, 52(9), 3977–3990. <https://doi.org/10.1007/s10803-021-05266-4>
- Bone, E. K., & Bouck, E. C. (2018). Evaluating calculators as accommodations for secondary students with disabilities. *Learning Disabilities: A Multidisciplinary Journal*, 23(1), 35–49. <https://doi.org/10.18666/lmj-2018-v23-i1-8437>
- Bouck, E. C. (2017). Understanding participation: Secondary students with autism spectrum disorder and the accountability system. *Education and Training in Developmental Disabilities*, 52(2), 132–143.
- Brown, K. R., & Coomes, M. D. (2016). A spectrum of support: current and best practices for students with autism spectrum disorder (ASD) at community colleges. *Community College Journal of Research and Practice*, 40(6), 465–479. <https://doi.org/10.1080/10668926.2015.1067171>
- Buzick, H. M. (2019). Testing accommodations and the measurement of student academic growth. *Educational Assessment*, 24(1), 57–72. <https://doi.org/10.1080/10627197.2018.1545571>
- Corona, L. L., Christodulu, K. v., & Rinaldi, M. L. (2017). Investigation of school professionals' self-efficacy for working with students with ASD: Impact of prior experience, knowledge, and training. *Journal of Positive Behavior Interventions*, 19(2), 90–101. <https://doi.org/10.1177/1098300716667604>
- Davies, M., Elliott, S. N., & Cumming, J. (2016). Documenting support needs and adjustment gaps for students with disabilities: Teacher practices in Australian

- classrooms and on national tests. *International Journal of Inclusive Education*, 20(12), 1252–1269. <https://doi.org/10.1080/13603116.2016.1159256>
- Education for All Handicapped Children Act of 1975, Pub. L. No. 94-142 § 20 USC 1401 (1975).
- Erdmann, A., & Potthoff, S. (2023). Decision criteria for the ethically reflected choice of a member check method in qualitative research: A proposal for discussion. *International Journal of Qualitative Methods*, 1–11. <https://doi.org/10.1177/16094069231177664>
- Every Student Succeeds Act, Pub. L. No. 114-95 (2015).
- Gardner, A., Wong, M., & Ratcliffe, B. (2021). Social-emotional learning for adolescents on the autism spectrum: High school teachers' perspectives. *Australasian Journal of Special and Inclusive Education*, 45(1), 18–33. <https://doi.org/10.1017/jsi.2020.13>
- Given, L. M. (2008). *The SAGE encyclopedia of qualitative research methods*. (Vols. 1-0). SAGE Publications, Inc., <https://doi.org/10.4135/9781412963909>
- Goegan, L. D., & Harrison, G. L. (2017). The effects of extended time on writing performance. *Learning Disabilities: A Contemporary Journal*, 15(2), 209–224.
- Graham, S., Harris, K. R., Bartlett, B. J., Popadopolou, E., & Santoro, J. (2016). Acceptability of adaptations for struggling writers. *Learning Disability Quarterly*, 39(1), 5–16. <https://doi.org/10.1177/0731948714554038>
- Harrison, J. R., Evans, S. W., Baran, A., Khondker, F., Press, K., Noel, D., Wasserman, S., Belmonte, C., & Mohlmann, M. (2020). Comparison of accommodations and



interventions for youth with ADHD: A randomized controlled trial. *Journal of School Psychology, 80*(February), 15–36.

<https://doi.org/10.1016/j.jsp.2020.05.001>

Holzberg, D. G., Test, D. W., & Rusher, D. E. (2019). Self-advocacy instruction to teach high school seniors with mild disabilities to access accommodations in college. *Remedial and Special Education, 40*(3), 166–176.

<https://doi.org/10.1177/0741932517752059>

Horowitz-Kraus, T., Buck, C., & Dorrman, D. (2016). Altered neural circuits accompany lower performance during narrative comprehension in children with reading difficulties: an fMRI study. *Annals of Dyslexia, 66*(3), 301–318.

<https://doi.org/10.1007/s11881-016-0124-4>

Hudson, R. F., Davis, C. A., Blum, G., Greenway, R., Hackett, J., Kidwell, J., Liberty, L., McCollow, M., Patish, Y., Pierce, J., Schulze, M., Smith, M. M., & Peck, C. A. (2016). A socio-cultural analysis of practitioner perspectives on implementation of evidence-based practice in special education. *Journal of Special Education, 50*(1), 27–36. <https://doi.org/10.1177/0022466915613592>

Individuals with Disabilities Education Act, 20 U.S.C. § 1400 (2004).

Indrarathne, B. (2019). Accommodating learners with Dyslexia in English language teaching in Sri Lanka: Teachers' knowledge, attitudes, and challenges. *TESOL Quarterly, 53*(3), 630–654. <https://doi.org/10.1002/tesq.500>

Johnson, L. D., Fleury, V., Ford, A., Rudolph, B., & Young, K. (2018). Translating evidence-based practices to usable interventions for young children with Autism.

*Journal of Early Intervention*, 40(2), 158–176.

<https://doi.org/10.1177/1053815117748410>

Jones, B. A., Peterson-Ahmad, M., Fields, M., & Williams, N. (2020). Training preservice teachers to match assistive technology to student needs. *Journal of Special Education Technology*. <https://doi.org/10.1177/0162643420918337>

Joyce, J., Harrison, J. R., & Gitomer, D. H. (2020). Modifications and accommodations: a preliminary investigation into changes in classroom artifact quality.

*International Journal of Inclusive Education*, 24(2), 181–201.

<https://doi.org/10.1080/13603116.2018.1453876>

Kalenjuk, E. (2022). The parkour of writing with Dysgraphia. *English in Australia*, 57(2), 23.

Kern, L., Hetrick, A. A., Custer, B. A., & Commisso, C. E. (2019). An evaluation of IEP accommodations for secondary students with emotional and behavioral problems. *Journal of Emotional and Behavioral Disorders*, 27(3), 178–192.

<https://doi.org/10.1177/1063426618763108>

Kim, W. H., & Lee, J. (2016). The effect of accommodation on academic performance of college students with disabilities. *Rehabilitation Counseling Bulletin*, 60(1), 40–50. <https://doi.org/10.1177/0034355215605259>

Knight, V. F., Huber, H. B., Kuntz, E. M., Carter, E. W., & Juarez, A. P. (2019).

Instructional practices, priorities, and preparedness for educating students with Autism and intellectual disability. *Focus on Autism and Other Developmental Disabilities*, 34(1), 3–14. <https://doi.org/10.1177/1088357618755694>

- Kurth, J. A., Mastergeorge, A. M., & Paschall, K. (2016). Economic and demographic factors impacting placement of students with Autism. *Education and Training in Autism and Developmental Disabilities, 51*(1), 3–12.
- Larson, E. D., Thurlow, M. L., Lazarus, S. S., & Liu, K. K. (2020). Paradigm shifts in states' assessment accessibility policies: Addressing challenges in implementation. *Journal of Disability Policy Studies, 30*(4), 244–252.  
<https://doi.org/10.1177/1044207319848071>
- Latouche, A. P., & Gascoigne, M. (2019). In-service training for increasing teachers' ADHD knowledge and self-efficacy. *Journal of Attention Disorders, 23*(3), 270–281. <https://doi.org/10.1177/1087054717707045>
- Lichtman, M. (2014). Qualitative research—a reflexive stance. *Qualitative Research for the Social Sciences, 27*-52. <https://doi.org/10.4135/9781544307756>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Thousand Oaks, CA: Sage.
- Łodej, M. (2020). Application of inclusive design principles to testing efl dyslexic students. *Czasopismo Polskiego Towarzystwa Neofilologicznego, 54*(1), 27–45.
- Love, A. M. A., Toland, M. D., Usher, E. L., Campbell, J. M., & Spriggs, A. D. (2019). Can I teach students with Autism Spectrum Disorder?: Investigating teacher self-efficacy with an emerging population of students. *Research in Developmental Disabilities, 89*(January), 41–50. <https://doi.org/10.1016/j.ridd.2019.02.005>
- Lovett, B. J., Lewandowski, L. J., & Carter, L. (2019). Separate room testing accommodations for students with and without ADHD. *Journal of Psychoeducational Assessment, 37*(7), 852–862.

<https://doi.org/10.1177/0734282918801420>

Maenner, M. J., Warren, Z., Williams, A. R., Amoakohene, E., Bakian, A. V., Bilder, D.

A., Durkin, M. S., Fitzgerald, R. T., Furnier, S. M., Hughes, M. M., Ladd-Acosta, C. M., McArthur, D., Pas, E. T., Salinas, A., Vehorn, A., Williams, S., Esler, A., Grzybowski, A., Hall-Lande, J., ... Shaw, K. A. (2023).

Prevalence and characteristics of autism spectrum disorder among children aged 8 years — autism and Developmental Disabilities Monitoring Network, 11 sites, United States, 2020. *MMWR. Surveillance Summaries*, 72(2), 1–14. <https://doi.org/10.15585/mmwr.ss7202a1>

Magiati, I., Ong, C., Lim, X. Y., Tan, J. W.-L., Ong, A. Y. L., Patricia, F., Fung, D. S.

S., Sung, M., Poon, K. K., & Howlin, P. (2016). Anxiety symptoms in young people with autism spectrum disorder attending special schools: Associations with gender, adaptive functioning and autism symptomatology. *Autism*, 20(3), 306–320. <https://doi.org/10.1177/1362361315577519>

Malki, S., & Einat, T. (2018). To include or not to include—This is the question:

Attitudes of inclusive teachers toward the inclusion of pupils with intellectual disabilities in elementary schools. *Education, Citizenship and Social Justice*, 13(1), 65–80. <https://doi.org/10.1177/1746197917705138>

Mathes, N. E., Witmer, S. E., & Volker, M. A. (2020). Middle school teachers' perceptions of academic and behavioral support testing accommodations.

*Journal of Applied School Psychology*, 36(3), 293–323.

<https://doi.org/10.1080/15377903.2020.1749202>

- McCloskey, E. (2018). Ratio profiling: the discursive construction of the continuum of alternative placements. *Disability and Society*, 33(5), 763–782.  
<https://doi.org/10.1080/09687599.2018.1453784>
- Meyer, N. K., & Bouck, E. C. (2017). Read-aloud accommodations, expository text, and adolescents with learning disabilities. *Learning Disabilities: A Multidisciplinary Journal*, 22(1). <https://doi.org/10.18666/ldmj-2017-v22-i1-7932>
- Morningstar, M. E., Kurth, J. A., & Johnson, P. E. (2017). Examining national trends in educational placements for students with significant disabilities. *Remedial and Special Education*, 38(1), 3–12. <https://doi.org/10.1177/0741932516678327>
- National Council on Disability. (2018). The segregation of students with disabilities. *IDEA series*. <https://www.ncd.gov/assets/uploads/docs/ncd-segregation-swd-508.pdf>
- Park, H. J., Takahashi, K., Roberts, K. D., & Delise, D. (2017). Effects of text-to-speech software use on the reading proficiency of high school struggling readers. *Assistive Technology*, 29(3), 146–152.  
<https://doi.org/10.1080/10400435.2016.1171808>
- Plessis, J. & Ewing, B. (2017). Reasonable adjustments in learning programs: Teaching length, mass and capacity to students with intellectual disability. *Universal Journal of Educational Research*, 5(10), 1795–1805.  
<https://doi.org/10.13189/ujer.2017.051018>
- Potter, K., Lewandowski, L., & Spenceley, L. (2016). The influence of a response format test accommodation for college students with and without disabilities.

*Assessment and Evaluation in Higher Education*, 41(7), 996–1007.

<https://doi.org/10.1080/02602938.2015.1052368>

Romero, V., Fitzpatrick, P., Roulier, S., Duncan, A., Richardson, M. J., & Schmidt, R. C. (2018). Evidence of embodied social competence during conversation in high functioning children with autism spectrum disorder. *PLoS ONE*, 13(3), 1–27.

<https://doi.org/10.1371/journal.pone.0193906>

Roofe, C. (2018). Why can't everyone pass? Context responsive teaching and learning in urban primary schools. *Pedagogy, Culture & Society*, 26(3), 449–466.

<https://doi.org/10.1080/14681366.2017.1417893>

Rossmann, G., & Rallis, S. (2017). The researcher as competent and ethical. *An Introduction to Qualitative Research: Learning in the Field*, 4, 48-76.

Saatcioglu, A., Skrtic, T. M., & Deluca, T. A. (2016). The use of test accommodations as a gaming strategy: A state-level exploration of potential gaming tendencies in the 2007-2009 period and implications for re-directing research on gaming through test accommodations. *Teachers College Record*, 118(14), 1–36.

Sanz-Cervera, P., Fernández-Andrés, M. I., Pastor-Cerezuela, G., & Tárraga-Mínguez, R. (2017). Pre-service teachers' knowledge, misconceptions and gaps about autism spectrum disorder. *Teacher Education and Special Education*, 40(3), 212–224.

<https://doi.org/10.1177/0888406417700963>

Savić, V. M., & Prošić-Santovac, D. M. (2017). English language teachers' attitudes towards inclusive education. *Teaching Innovations*, 3, 141–158.

<https://doi.org/10.5937/inovacije1702141S>

- Scalise, K., Irvin, P. S., Alresheed, F., Zvoch, K., Yim-Dockery, H., Park, S., Landis, B., Meng, P., Kleinfelder, B., Halladay, L., & Partsafas, A. (2018). Accommodations in digital interactive STEM assessment tasks: Current accommodations and promising practices for enhancing accessibility for students with disabilities. *Journal of Special Education Technology*, 33(4), 219–236. <https://doi.org/10.1177/0162643418759340>
- Schmitt, A. J., McCallum, E., Hawkins, R. O., Stephenson, E., & Vicencio, K. (2019). The effects of two assistive technologies on reading comprehension accuracy and rate. *Assistive Technology*, 31(4), 220–230. <https://doi.org/10.1080/10400435.2018.1431974>
- Sehgal, P., Nambudiri, R., & Mishra, S. K. (2017). Teacher effectiveness through self-efficacy, collaboration and principal leadership. *International Journal of Educational Management*, 31(4), 505–517. <https://doi.org/10.1108/IJEM-05-2016-0090>
- Sharma, U., & Jacobs, D. K. (2016). Predicting in-service educators' intentions to teach in inclusive classrooms in India and Australia. *Teaching and Teacher Education*, 55, 13–23. <https://doi.org/10.1016/j.tate.2015.12.004>
- Sokal, L., & Vermette, L. A. (2017). Double time? Examining extended testing time accommodations (ETTA) in postsecondary settings. *Journal of Postsecondary Education and Disability*, 30(2), 185–200.
- Spenceley, L. M., Wood, W. L. M., Valentino, M., & Lewandowski, L. J. (2020). Predicting the extended time use of college students with disabilities. *Journal of*

*Psychoeducational Assessment*, 38(3), 279–290.

<https://doi.org/10.1177/0734282919848588>

Spenceley, L., & Wheeler, S. (2016). The use of extended time by college students with disabilities. *The Journal of Postsecondary Education and Disability*, 29(2), 141–150.

Spiel, C., Evans, S. W., & Harrison, J. R. (2019). Does reading standardized tests aloud meet the scientific definition of an accommodation? *Journal of Applied School Psychology*, 35(4), 380–399. <https://doi.org/10.1080/15377903.2019.1601145>

Stapp, A. C. (2019). Reconceptualizing the learning space through flexible seating: A qualitative analysis of select third-grade students' and teacher perceptions. *Research in the Schools*, 26(2), 32–44.

Stephenson, J., Browne, L., Carter, M., Clark, T., Costley, D., Martin, J., Williams, K., Bruck, S., Davies, L., & Sweller, N. (2021). Facilitators and barriers to inclusion of students with Autism Spectrum Disorder: Parent, teacher, and principal perspectives. *Australasian Journal of Special and Inclusive Education*, 45(1), 1–17. <https://doi.org/10.1017/jsi.2020.12>

Stetter, M. E. (2018). The use of technology to assist school-aged students with high incidence special needs in reading. *Education Sciences*, 8(2). <https://doi.org/10.3390/educsci8020061>

Taie, S. & Goldring, R. (2020). Characteristics of public elementary and secondary school teachers in the United States: Results from the 2015–16 national teacher and principal survey first look (NCES 2017-072rev2). U.S. Department of



Education. Washington, DC: National Center for Education Statistics.

<https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2017072rev2>.

Toutain, C. (2019). Barriers to accommodations for students with disabilities in higher education: A literature review. *Journal of Postsecondary Education and Disability*, 32(3), 297–310.

<http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1236832&site=ehost-live>

Turner, D. (2010). *Qualitative Interview Design: A practical Guide for Novice Investigators*. Qualitative Report 15(3).

Troia, G. A., & Graham, S. (2017). Use and acceptability of writing adaptations for students with disabilities: Survey of grade 3–8 Teachers. *Learning Disabilities Research and Practice*, 32(4), 257–269. <https://doi.org/10.1111/ldrp.12135>

U.S. Bureau of Labor Statistics. (2020). *What Kindergarten and Elementary School Teachers Do*. 1–6. <https://www.bls.gov/ooh/education-training-and-library/kindergarten-and-elementary-school-teachers.htm#tab-2>

U.S. Department of Education (2018). *Digest of Education Statistics 2018*.

Wangsgard, N., & Cardon, T. (2018). Perceptions from general education teachers who work with students with autism spectrum disorder. *International Journal of Learning*, 25(1), 1–11. <https://doi.org/10.18848/1447-9494/CGP/v25i01/1-11>

Weis, R., & Beauchemin, E. L. (2020). Are separate room test accommodations effective for college students with disabilities? *Assessment and Evaluation in Higher Education*, 45(5), 794–809.

<https://doi.org/10.1080/02602938.2019.1702922>

Weis, R., Till, C. H., & Erickson, C. P. (2019). Assessing and overcoming the functional impact of ADHD in college students: Evidence-based disability determination and accommodation decision-making. *Journal of Postsecondary Education and Disability*, 32(3), 279–295.

<http://www.ahead.org/publications/jped>

West, E. A., Novak, D., & Mueller, C. (2016a). Inclusive instructional practices used and their perceived importance by instructors. *Journal of Postsecondary Education and Disability*, 29(4), 363–374.

West, E. A., Travers, J. C., Kemper, T. D., Liberty, L. M., Cote, D. L., McCollow, M. M., & Stansberry Brusnahan, L. L. (2016b). Racial and ethnic diversity of participants in research supporting evidence-based practices for learners with Autism Spectrum Disorder. *Journal of Special Education*, 50(3), 151–163.

<https://doi.org/10.1177/0022466916632495>

Witmer, S., Schmitt, H., Clinton, M., & Mathes, N. (2018). Accommodation use during content area instruction for students with reading difficulties: Teacher and student perspectives. *Reading & Writing Quarterly*, 34(2), 1–13.

<https://doi.org/10.1080/10573569.2017.1382407>

Wood, S. G., Moxley, J. H., Tighe, E. L., & Wagner, R. K. (2018). Does use of text-to-speech and related read-aloud tools improve reading comprehension for students with reading disabilities? A meta-analysis. *Journal of Learning Disabilities*, 51(1), 73–84. <https://doi.org/10.1177/0022219416688170>

- Yada, A., Tolvanen, A., & Savolainen, H. (2018). Teachers' attitudes and self-efficacy on implementing inclusive education in Japan and Finland: A comparative study using multi-group structural equation modelling. *Teaching and Teacher Education, 75*, 343–355. <https://doi.org/10.1016/j.tate.2018.07.011>
- Yin, R. K. (2015). *Qualitative Research from Start to Finish* (2nd ed.). Guilford Publications, Inc. <https://ereader.chegg.com/books/9781462521357>
- Yngve, M., Lidström, H., Ekbladh, E., & Hemmingsson, H. (2019). Which students need accommodations the most, and to what extent are their needs met by regular upper secondary school? A cross-sectional study among students with special educational needs. *European Journal of Special Needs Education, 34*(3), 327–341. <https://doi.org/10.1080/08856257.2018.1501966>