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Going Beyond the Literal

Lindsay M. Falzano

The College at Brockport, lfalzan8@mail.naz.edu

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Going Beyond the Literal

Lindsay Falzano

The College at Brockport, State University of New York

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Abstract

The present study aims to examine strategies that enable students with Autism Spectrum Disorder (ASD) to be successful in accessing grade-level curriculum, particularly in English Language Arts (ELA). The purpose of this study is to find strategies that help students with autism to go beyond literal comprehension, assisting these students to successfully go beyond literal comprehension of texts. Data for the present study were collected through a series of observations documented by the teacher-researcher and writing samples completed by the participant. Data excerpts were used to share findings. Results of this study helped the participant to access grade-level curriculum in ELA and helped inform pedagogical practices of teachers.

Keywords: autism, literal comprehension

Introduction

Problem Statement

September: the most imperative month in a first year or any educator's school calendar year. Imperative in that it is the responsibility of the teacher to get to know each of his or her students individually. Understanding their students' strengths and areas of needs as learners. Getting a sense of each student's personality and who they are. Knowing their story and where they have been. For some, this may take the month of September to figure out, however for myself, this has taken me almost a whole year to know and understand Bob's story.

Bob came to me in September as an eleven-year-old, sixth grader. He was quiet, diffident, and seemed disconnected with his peers as well as myself. When Bob first entered my homeroom on the first day of school, I had a brief "readers digest" version of Bob's story based on documentation and cumulative files. As his case manager I had access to his past state test scores, behavioral needs, and (PLEPs) or present levels based on his Individualized Education Plan (IEP). However, this document only captured a piece of who Bob really was and it was my objective to distinguish strategies that will help Bob to be successful in the classroom.

In those first few days, I was highly concerned about Bob and his learning. Throughout most of the day, his head was down. He was languid and disengaged in what was occurring in the classroom. With prompting and refocusing during innumerable tasks, it was evident to me at the time, something more was going on. My initial thought was Bob was not adjusted to the early middle school hours. Days turned into weeks, and September had ended and I still could not figure out what the answer was to enable Bob to become engaged in his classroom environment.

In addition, while I was developing strong relationships of respect and rapport with other students on my caseload, I struggled to connect with Bob. He had difficulty in initiating and carrying on a conversation, and it was evident that his pragmatic language was also an area for growth. I assumed that this disconnect and other deficits were just characteristics of his autism classification, but I wanted to look beyond generalizing aspects. My mission or goal for Bob, entailed the following targets: develop a relationship of rapport with Bob and find strategies to ensure Bob is engaged and more efficacious in his learning.

In special education, teachers develop their expertise through their ability to connect and communicate effectively with students of various strengths, needs, and abilities as learners. In many ways, regardless of what the needs may be, teachers are able to form and establish connections with students. However, these connections in my experiences have not been instantaneous when working with students with autism. Students with Autism Spectrum Disorder (ASD) and the defining traits of this disorder, allow teachers to deepen their understanding and expertise of what it means to teach this population of students. As a special education teacher, I have found teaching beyond literal comprehension to students with autism to be challenging. Focusing in on comprehension in students with autism and finding strategies to support them within the classroom seemed logical. I have found a collection of studies to help answer my research question and better help students such as Bob.

Research shows there is a strong link between autism and one's ability to engage in comprehension. El Zein, Solis, Vaughn, and McCulley (2013) discuss that teachers can modify instructional techniques and interventions associated with improved comprehension for students with reading difficulties. This study investigated how teachers can find and implement strategies to support students with autism be more successful in comprehension. One's ability to

comprehend can significantly affect one's ability to be successful across content areas.

Understanding the present study and additional research affiliated with this topic is substantial in developing further implications for both special and general education teachers. If teachers can identify strategies or interventions to enable students with autism to be more successful in their comprehension, these implications may lead to increased levels of engagement and inquiry within the classroom setting.

Research Question

I answered the research question: What strategies can support comprehension in students with autism?

Significance of the Problem

As a special education teacher, I wanted to further explore autism and the limitations caused by this disorder in order to benefit students such as Bob within the classroom. Research has shown while students with autism may develop word-decoding skills that are age-appropriate, there are numerous cognitive deficits that inhibit their ability to make gains in literacy comprehension. Autism is characterized by, among other deficiencies, pervasive delays in language and communication skills. Consequently, students with autism are likely to have difficulties acquiring and generalizing typical literacy skills (Travers, 2011). Autism Spectrum Disorder (ASD) refers to a group of neurodevelopmental disorders characterized by impairments in social interaction, communication and repetitive and restricted behaviors and interests (Ricketts, Jones, Happe, & Charman, 2013). Students with autism demonstrate significantly low achievement in literacy comprehension competence (Dyson, 2015). In my research, understanding these facets of this disability will help inform my practices and may lead to other

connections in research. As the teacher-researcher, understanding these inconsistencies can help inform my research.

Rationale

The present study is important to my profession as a special education teacher because I want to develop strategies to enable my students with autism to be successful in their literacy comprehension. Students with autism are different in their characteristics and often display deficits in their ability to use and understand language. Students with autism need educational programming designed to meet their individual needs as learners (Flores et al.,2013). To know and understand this research would better myself as an educator in assisting students who have a learning impairment or deficits in their reasoning and provide more individualized accommodations.

Summary

I truly believe that answering this research problem of strategies to help students with autism in their literacy development would benefit many teachers who work in Special Education. With high stakes testing and emphasis on a student's ability to close read, students in today's classrooms are being asked to make inferences and apply their knowledge to a variety of texts. This is an area where students with autism have a difficult time performing across content areas, but specifically in English Language Arts (ELA). Understanding this research will allow both special and general education teachers to implement the appropriate tools needed to allow students with autism to be successful in their learning.

Literature Review

Introduction

The following literature review serves as a basis for understanding the topics for the present case study. The following research presented and reviewed has been critical in examining how students with autism can be more successful in comprehension. The following literature review will explore the following topics: What is autism?, the gaps that inhibit comprehension in those with autism, the challenge in finding strategies that work with this population, and strategies that are out there in current research.

What is autism?

There are many distinct characteristics that distinguish students with autism and are identified by a triad of impairments comprising social impairment, impairment of reciprocal communication as well as restricted and stereotyped patterns of behaviors and interests (Elangovan & Hwee, 2013). To say that these are the only impairments that characterize those with autism would be not credible. Not only social and emotional factors, but also cognitive impairments, are factors that make those with autism significantly limited in academic settings and social situations. The focus of this paper will narrow in on cognitive limitations, particularly, comprehension. Autism Spectrum Disorder is a developmental disorder characterized by deficits in communication and social interactions as well as cognitive processing deficits. Individuals within the spectrum exhibit a range of strengths and weaknesses, with a full range of intellectual abilities from above to below average (Randi, Grigorenko, & Newman, 2010). Those with autism also struggle to initiate conversation and need work in developing their pragmatic language skills. Communicative impairments typically include delays in the onset of language development as well as difficulties with pragmatic skills such as topic continuation and

storytelling (Tovar, Fein, & Naigles, 2015). In respect to the social aspects of the disorder, those with autism struggle significantly to develop social interactions with others. The disorder itself can be characterized by impairments in social interactions as well as repetitive and restricted behaviors (Ricketts, Jones, Happe, & Charman, 2012).

Most high-functioning students with autism spectrum disorders show skills that are generally adequate, but that can be below, equal to, or above chronological age norms.

Most high-functioning students with autism show reading comprehension that is impaired but not entirely lacking. (O'Connor & Klein, 2004, p.116)

Why examine comprehension in students with autism? The present study aims to examine comprehension in students with autism as comprehension is a critical piece in acquisition of learning in both educational settings and life situations. Comprehension is what enables every individual to be successful in everyday tasks. "Comprehension is related to several cognitive skills including language and social development, skills critical for children with autism" (Armstrong & Hughes, 2012, p.88). For an individual that is typically developing, comprehension may seem to be a subconscious task of one's daily life. However, for those with autism, constructing meaning of texts and merely conversing and understanding others, are difficult for this population. Those with autism often exhibit an inability to interpret, internalize, and comprehend information (Armstrong & Hughes, 2012). The expectations in curriculum combined with these cognitive limitations, make it challenging for students with autism to access grade-level curriculum.

Where Do the Gaps Lie with Comprehension for Those with Autism?

The present study aims to determine strategies which can help students with autism be more successful in comprehension of a variety of texts. In order to do this, understanding present research on where specifically the gaps lie in comprehension for those with autism is imperative.

Teachers of students with ASD are sometimes uncertain on how to support comprehension for their students. There appears, however, to be a broad understanding in the autism education field that students with ASD often need to learn explicitly what other children acquire intuitively in everyday interactions. Consequently, children with ASD are likely to need explicit practice and teaching in comprehension to develop maximally. (Asberg & Sandberg, 2010, p. 92)

While students with autism may be reading at grade-level depending on the circumstance, these students often struggle to identify or construct meaning of print regardless of factors such as genre of a text. Students with high-functioning autism have deficits in comprehending written text, therefore, it is important for students with autism to be able to read and make sense of different texts (Elangovan & Hwee, 2013). Understanding where the gaps lie for students with autism is imperative to being able to create and devise strategies and interventions that support students. “It is our vision that this cognitive equation will shed light on specific reading components and corresponding interventions to enhance reading outcomes of students with autism” (Elangovan & Hwee, 2013, p. 17). This is one of the plethora of reasons as to why it is important for me as the teacher-researcher to explore and utilize specific strategies to better support this population of students.

As New York State Common Core continues to dominate our education system and the rigor of curriculum intensifies, understanding where the gaps lie in students with autism can help

teachers develop strategies in order to make the curriculum more accessible for these students. Recent legislative requirements of No Child Left Behind (2002) and the Individuals with Disabilities Improvement Education Act (IDEA) (2004) mandate that students with disabilities (including students with ASD and DD) participate in the general education curriculum and receive high quality instruction such that they make substantial progress toward grade level standards, especially in the areas of reading and mathematics (Flores et al., 2013). This is exceedingly important as Bob is in an Integrated Co-Taught model where the expectations for all students are the equivalent. Particularly in ELA, there is strong emphasis on a student's ability to read a variety of texts, construct meaning from that particular text, and make a claim with evidentiary support from the text when required to complete a written response.

Bob currently reads at a second-grade level, which not only impairs his ability to decode a text, but also impacts his ability to comprehend grade-level text and expectations held of him by the curriculum. Examining current research on literacy comprehension and cognitive limitations in those with autism is crucial in developing strategies to ensure Bob be successful. Bob is a student that when asked or prompted with a question, requires a significant amount of wait time in order to process information. He struggles pragmatically in academic and conversational manners, which hinders his ability to make meaning from different situations and educational settings.

Many children with autism have impaired core language skills, such as receptive vocabulary, which could be assumed to impede comprehension of discourse. However, comprehension of discourse, such as narratives, entails more than understanding individual words or sentences. Within-text cohesive integration, coherence inferencing from world knowledge and meta-comprehension are examples of important processes for

building a coherent representation of the meaning communicated in stories. (Asberg & Sandberg, 2010, p.91)

Those with autism are classified with the disorder due to several deficits and a wide variety of cognitive limitations in their thinking and reasoning. In respect to reading, research suggests that while students with autism may be reading at grade-level, these cognitive deficits inhibit their ability to comprehend text. Nation, Clarke, & Wright (2006) analyzed reading abilities in students with autism through assessing four key components: word recognition, non-word decoding, text reading accuracy and text comprehension. The findings from this study supported that while word recognition, text reading accuracy, and decoding fell within normal range, reading comprehension was significantly impaired.

Many children with Autism Spectrum Disorder (ASD) have reading profiles that are characterized by higher decoding skills and lower reading comprehension. Children with Autism Spectrum Disorder (ASD), present with a broad range of cognitive and language skills. It might be expected that these children also show wide variability in reading skills from an early age. (Davidson & Weismer, 2013, p.828)

This particular study discussed the link between one's ability to read, decode and comprehend auditory information. "The simple view of reading specifies that the ultimate goal of reading is comprehension, and the two primary components which lead to good reading comprehension are decoding and listening comprehension" (Davidson & Weismer, 2013, p.828). While Bob has access to texts that we read in class through auditory modes, he struggles to communicate both verbally and in writing key ideas and details of what he hears. Decoding is a fundamental piece of the puzzle when it comes to reading comprehension. Decoding is considered to encompass skills such as phonological awareness, orthographic coding, and

enabling a student to develop their fluency (O'Connor & Klein, 2004). Bob's present reading level and ability to decode new vocabulary significantly impact his ability to make meaning of what he reads. In order to understand a text at more inferential levels, one must go above and beyond what is being presented. However, students with autism tend to have difficulty going beyond literal thinking. To understand a text, readers must go beyond the level of the clause, integrating other clauses and sentences to synthesize information. However, many students with autism appear to have difficulty in synthesizing and integrating information (O'Connor & Klein, 2004). Those with autism also struggle significantly with different elements of language, which plays a role in their ability to comprehend. Gold and Faust state "Previous research indicates severe disabilities in processing figurative language in people diagnosed with autism spectrum disorders (ASD)" (2010, p.800). Understanding these various deficits is vital in examining the relationship between cognitive deficits and how this impacts learning in those with autism.

Huemer and Mann write "A successful reader has the ability to accurately and fluently decode words so as to comprehend their meaning in isolation and in context. For many children, decoding skills and reading comprehension develop hand in hand" (2009, p.485). However, children with ASD have been reported to show a disconnect between decoding and comprehension (Huemer & Mann, 2009). When children are young and in the early stages of learning to read, appropriate word recognition skills enable them to read words accurately and fluently. More importantly, the fundamental aspect of 'skilled reading' is determined by one's ability to understand the meaning conveyed by texts and is well accepted that oral language skills underlie successful reading comprehension (Ricketts, Jones, Happe, & Charman, 2012). Implications from current research also discuss other determining factors in this disassociation or language impairments and comprehension. "Many children with Autism Spectrum Disorders

(ASD) have reading comprehension difficulties, but the level of processing at which comprehension is most vulnerable” (Lucas & Norbury, 2014, p.2757). As Bob’s teacher, I make sure to provide him with a substantial amount of wait time when asking him questions related to a variety of tasks. Cognitively and based on his IEP, this wait time is imperative because this is the level that he is at when processing information, which then impacts his ability to comprehend.

Minsheu, Meyer, and Goldsten (2002) determined in their research that there is a deficit in concept formation in those with autism. The authors of this article conducted a study in which they examined concept formation and identification in both subjects with and without autism. Researchers for this study hypothesized that concept formation scores on tests for those with autism would fall significantly lower than scores for concept identification. Results exhibited a significant difference in scores for those with autism and the control group, but not on a clinical level. Results of this study also indicated there was a significant gap in cognitive flexibility in those with autism. The results of this study did support the researchers’ hypothesis. The qualitative research and implications of this study indicate that abstract reasoning deficits in those with autism are correlated with disassociation between concept formations. Research from this study also implied that in a general sense, those with autism have an inability to take what they have attained at a reasoning level and making the application to a variety of situations.

The Challenge to Find Strategies

Due to the many deficits that define autism, teachers consistently are trying to find ways that enable students with autism to be successful in their learning. El Zein, et al. (2013) discuss that as the number of students with autism increases, investigating how teachers can support academic achievement is also rising significantly.

Traditionally, reading instruction for people with autism has received relatively little attention from researchers. O'Connor and Klein write "In recent years, the number of children identified with autism has increased, including the number of children identified with High-Functioning Autism, Asperger Disorder, and Pervasive Developmental Disorder" (2004, p.115). In order to support comprehension in students with autism, it is important to examine present research that exemplifies implications on how to support students with autism to be more successful in this area. El Zein, et al. (2013) identify that finding specific reading interventions to support comprehension for students with ASD is complicated and challenging. However, subsequent literature helps to narrow in on strategies that do speak to students with autism.

Utilizing Pictures or Visuals for Students with autism

Dr. Temple Grandin, a bestselling author and motivational speaker, is an extraordinary resource in understanding how one with autism lives and the challenges they face. Grandin is one who lives with autism. Critically looking at this text provides a lens that much research cannot as it comes directly from someone with the disorder. One particular chapter in her book, "*Thinking in pictures: And other reports from my life with autism*" (2006), discusses her overcoming aversions and obstacles she faced with abstract thought and constructing meaning of these types of thoughts. Growing up with autism enabled Grandin to convert these abstract ideas into pictures as a way to construct meaning. Much of what she attained as a young child, as well as her teenage years were through concrete symbols and pictures. She discussed in her book how at times she would physically have to act out an action in order to conceptually understand a situation. For instance, when graduating high school, Grandin would physically walk through doorways in order to better understand and conceptualize that she was moving onto a

different chapter in her life. In addition, Grandin also discusses in her book, how concept formation and the brain of someone with autism differs significantly in understanding concepts versus someone without autism.

Implementing Structured Templates and Graphic Organizers

For the present study, data collection methods focused on qualitative data. Data collection methods were based on present research methodologies and frameworks. Particularly, data collection methods utilized in research conducted by El Zein, et al. (2013) helped inform data collection strategies used with Bob. These researchers used a series of instructional strategies and interventions in order to better assist students with autism in comprehension with a series of diverse tasks. Researchers of this study implemented twelve separate studies in which different strategies in instruction were utilized. These strategies included question generation, graphic organizers, anaphoric cueing instruction, explicit instruction, student grouping practices, and making predictions. The graphic organizers used in this study helped me collect data and narrow my focus on a strategy to use in ELA with Bob. For the present study, graphic organizers and structured templates were used in order to better assist Bob, specifically with writing prompts and constructing writing tasks independently. Findings from El Zein, et al. (2013) indicated that modifying instructional interventions associated with improved comprehension for students with autism who presented reading difficulties. Based on this research, implementing these specific instructional strategies ensured myself as the researcher to collect authentic means of qualitative research.

Methods

Introduction

The present study used a case study design to examine instructional strategies which can help ensure students with autism to be more successful in comprehension and writing tasks. Over the course of several months, I studied one classified student with autism and his work in ELA. Results from the present study helped reveal themes to myself as the teacher-researcher.

Participant

The current participant is on my caseload for special education. This participant is twelve years old, is in sixth grade, and is classified with Autism. The participant's ethnicity and first language is Creole and English is his second language. The selected participant is male and was given the pseudonym Bob in order to maintain confidentiality throughout the study. At the beginning of this study, Bob was reading at about a first grade level. Based on his most recent scores for reading, Bob scored in the first percentile in relation to other students in his grade. When Bob first came to me in September, I was concerned at his stamina and ability to stay awake during his classes, as well as his level of engagement within the classroom. When first working with Bob, I noticed that he required a significant amount of processing and wait time. When completing tasks in a variety of his core classes, Bob requires 1:1 teacher support and prompting. In observing him in the first couple months of school, Bob exhibited strengths in mathematics when it came to working with rote tasks (division and multiplication involving decimals).

Setting

Bob is enrolled in a suburban area middle school in an Integrated Co-Taught (ICT) program model. His present educational setting has Bob infused in general education classroom

settings with his case manager, whose responsibility is to help ensure that the curriculum is accessible for him. The present study examined Bob and his written work in ELA. ELA was chosen as the core content area focus for this study as there is a substantial emphasis on writing Short-Constructed Responses (SCR) in response to a variety of different texts. For the ELA class, there are three teachers in the room for this particular class section of twenty-one students with an 11:10 ratio of boys to girls. There is the content specialist or ELA teacher, the ENL teacher (English as a New Language), and myself the special education teacher.

Procedure

One student was chosen to participate in my study while I collected data. Recruitment of the subject for the present study occurred through a letter home to parents describing background of the study and purpose of the study along with the consent form. The letter briefly stated reasoning for their child's selection for participating in the study. Due to the subject being under the age of eighteen, the participant signed an assent form during a lunch period in which I as the researcher reviewed the study with the subject. All data collection was conducted within the school day and solely at school, particularly during ELA class when time was allotted for completion of writing tasks and prompts. The data collection lasted about six weeks, beginning at the end of February 2016 and ending in April 2016.

In conducting my research, I worked closely with my participant during time of data collection. I kept a double journal entry in order to record observations of Bob during completion of writing tasks. His approach in completing the task was recorded as well as directives, and refocusing prompts were required during those times.

Positionality as the teacher-researcher

While data were collected for the present study, I was and currently am employed as an Integrated Co-Teacher and am the case manager of the present subject. As Bob's case manager, not only am I responsible for knowing him as a student and his present levels, but create strategies and accommodations that enable Bob to access grade-level curriculum in core content areas. I am a twenty-four-year-old Caucasian student, currently enrolled at the College at Brockport, SUNY, where I am completing my Master's coursework in Literacy. I completed my Undergraduate degree at Nazareth College in Psychology with a concentration in Inclusive Education. I have my initial certifications in generalist and special education grades 1-9. I currently am in my first year of teaching at a local suburban area school. Here, I serve in the role as an Integrated-Co Teacher. The *Integrated Co-Teaching Program* supports special education students as they are integrated into general education classes. My positionality as the teacher-researcher comes from the lens as the special education teacher and specialist of strategies for students with specific learning needs. This being my first year teaching, identifying strategies early on in my career will continue to inform my pedagogical practices for my current and future students. The incentive for exploring this deficit of abstract reasoning specifically was driven by my present experiences within the classroom. Encouraging students with autism to go beyond the literal is imperative in order for accessing grade-level curriculum.

When reworking and accommodating writing templates for Bob, I kept El Zein, et al. (2013) work and research in mind as an avenue for devising strategies for Bob. In their twelve studies, they discussed how explicit graphic organizers were incorporated in a series of tasks for students with autism. With a strong emphasis on Common Core curriculum and students locating

text-based evidence to support a claim, implementing organizers that were explicit and structured played a significant role in Bob’s ability to complete writing tasks as independently as possible.

Data Collection

Data for the present study were collected through the following tools of measurement: student work samples (specifically, writing samples), particularly writing samples from only ELA class. These specific written work samples were Short-Constructed Responses, which include the format of a claim, evidence, analysis, evidence, analysis, and conclusion. Data were collected through Extended Response writing samples that include a lead and hook within the introductory paragraph. The writing prompt for the task shown, was given to the students based on the book *Freak the Mighty* (Philbrick,1993) from which the students read chapters in and out of class. For the Extended Response, templates with visuals were provided as a tool for constructing writing samples. Double journal entries (Figure 1.1), were kept by me as the researcher to record observations of the participant during writing tasks. Data for the present study were collected for the duration of four to six weeks in ELA class. The data collected were gathered only during the school day.

Double Journal Entry of Observations
*Confidential

Double Entry Journal of Observations
(Confidential)

Observation of Student:	Analysis of what was observed:

Figure 1.1 (Double Journal Entry Used in Study)

Criteria for Trustworthiness & Validity

In order to ensure credibility for the present study, a documented and initial proposal was devised and sent to the Institutional Review Board (IRB) at the College at Brockport, SUNY, for approval. Double journal entries documented observations, prompts and refocusing directives for Bob during writing tasks. Observations particularly examined how the student internalized directives, assignments, and completion of writing tasks as independently as possible. These documented observations, work samples, and journal entries ensure trustworthiness as these data collection tools provide authentic results and documentation.

Data Analysis & Findings

Analysis of the data presented two evident themes. The first theme is that Bob was more successful in drafting his writing with a structured template that included page numbers and specificity in writing tasks and prompts in comparison to his work in the beginning of the year. The second theme is that Bob's level of engagement in completion of the draft and final writing task was increased when using technology for writing. The themes presented connect to the theoretical perspective of Vygotsky's theory of knowledge and skill development. Vygotsky's theory supports both atypical development and special education. When working with students with autism or any disability, it is imperative to select tools and ways of delivery that are suitable for these students' psychological make-up for them to fill self-regulating functions (Asberg & Sandberg, 2010).

Finding One: Structured Writing Templates Provided More Direction

The first finding was the importance of making writing tasks more accessible through scaffolding of writing templates with more concrete directives. After analyzing the data, it was evident that Bob benefited from having page numbers provided in order to find text-based

evidence independently to support his claim. While his evidence did not always support his claim vividly, he still showed progress in his ability to locate text-based evidence and complete a writing task independently. Scaffolding of writing tasks was an imperative piece in ensuring Bob could be successful and independent as possible when constructing Short-Constructed and Extended-Constructed Responses. Writing templates for Bob were structured and specific instructions were implemented to aid him in answering writing prompts that required him to go back to the text to support his claim with relevant evidence. In addition, collected enough data overtime that enabled myself as the researcher to identify triangulation.

In the beginning of the year, Bob was given the same writing templates as his peers and these templates were not differentiated as significantly as they were for the current study. Prior to data collection and after a professional development training as a new educator, a digital graphic organizer with drop-down boxes was given to Bob as a strategy for organizing his ideas for his writing pieces. However, this graphic organizer did not enable him to be independent and required intensive support from teachers. Figure 1.2a is an example of Bob's work prior to the writing template used in this study. In the beginning of the year, Bob was provided with minimal prompts for completing writing tasks. Figure 1.2a shows Bob was able to write a claim independently, however he was not able to fulfill the requirements for the rest of the task.

Claim: How does Carlson's experiences connect? +!	
Evidence #1	Analysis/Infer/Explain
Evidence #2	Analysis/Infer/Explain
Evidence #3	Analysis/Infer/Explain
Conclusion:	

(Figure 1.2a Old Graphic Organizer)

Task: In the book *Freak the Mighty* by Rodman Philbrick, Max and Freak show courage.

Courage: The ability to do something even though it may be scary.

<p><u>Introduction:</u> (Restate the task):</p> <p>In the book <i>Freak the mighty</i> by rodman philbrick, max and freak show courage.</p>
<p><u>Evidence #1:</u> The text states on page 61.</p> <p>Max brings it up an inch at a time. Freak Manages to get his small hand down through the grate.</p>
<p><u>Analysis #1:</u> This proves (what is the point you are trying to make).</p> <p>Max and freak were courage enough to go on a quest.</p>
<p><u>Evidence #2:</u> Another example on page 64.</p> <p>When they get to the testaments, through, freak shuts right up.</p>
<p><u>Analysis #2:</u> This shows (what is the point you are trying to make). My point is trying to make that they should reconsider this particular quest.</p>
<p><u>Conclusion:</u> In conclusion... This proves (Or the text states)</p> <p>that Max and freak are brave.</p>

Figure 1.2 (Structured Writing Template Used in the Study)

The structured template (Figure 1.2) helped to scaffold Bob's thinking and writing. This writing template helped Bob to break down the overall task and focus his attention on one part at a time. Providing Bob with this structured writing template mediated Bob's thinking about the task. Giving Bob page numbers in order to cite text-based evidence allowed him to narrow his focus to one specific page rather than being overwhelmed with an entire text to locate evidence in his writing pieces.

Finding Two: Increased Engagement with the use of Technology

Another finding was that Bob's level of engagement increased significantly when he was able to type his writing responses on a class laptop. When a Chromebook was first given to Bob, everything changed. Not only did he immediately become engaged in writing tasks, he was eager to demonstrate his skills on a digital device versus pencil and paper. His body language changed significantly and motivation to complete his writing pieces increased as well. When Bob wrote his written responses prior to this study, his body language spoke volumes to me in relation to his engagement. Bob would write with his head down resulting in tasks not being completed. However, after implementing the graphic organizer on the Chromebook, Bob shifted from writing with his head down on his desk, to seated upright, with all eyes on his work. Research with children with autism has shown that computers are highly motivating and help to increase their time on task (Armstrong & Hughes, 2012). Through this study, I discovered that one Bob's strengths, as a learner was the rate at which he could type. Based on his body language, it was evident Bob was engaged in this particular writing task. In completing this task, Bob still needed intensive 1:1 assistance in order to construct his writing piece. Allowing Bob to utilize the Chromebook, cut down the work time needed for him to complete a task significantly.

In the book: Freak the mighty by rodman philbrick, max and freak show courage

Max brings it up an inch at a time. Freak Manages to get his small hand down through the grate. Max and freak were courage enough to go on a quest. When they get to the testaments, through, freak shuts right up. My point is trying to make that they should reconsider this particular quest. This proves (Or the text states) That Max and freak are brave.

Figure 1.3 (Final writing task completed using Chromebook)

ZHOU DYNASTY
 The end of the Zhou Dynasty brought a time of civil war called "The Warring States Period".
 How was Confucianism one of the solutions to this problem? Make your answer a SCR
 with a claim, at least 2 pieces of evidence with analysis, and a conclusion. (+8 pts)

Claim: Confucianism was one of the solutions to the problem of "The Warring States Period."

Evidence: _____

Analysis: _____

Evidence: _____

Analysis: _____

Conclusion: _____

(Sample from earlier in the year)

After looking at Bob's old writing samples, it is clear that utilizing a template that is structured to mediate Bob's learning needs helped him to complete the whole task. Looking at writing pieces from the beginning of the year that were not scaffolded, it is evident Bob was only successful in writing a claim which indicated the organization of old graphic organizers did not reach Bob's Zone of Proximal Development or (ZPD). Using the structured graphic organizer, Bob incorporated appropriate transition phrases, which he was not able to do in the prior pieces. The graphic organizer was a powerful tool and strategy which enabled him to directly look in the text using the page numbers provided for evidence. The page numbers and writing prompts guided him through the task in a step by step manner and served as a tool that mediated his activity.

Summary of Findings

Through my findings, I was able to make connections to Vygotsky's idea of Zone of Proximal Development in utilizing tools that served as mediational means for Bob's thinking. Asberg and Sandberg state "According to Vygotsky's theory of knowledge and skill development, higher-level cognitive functions and activities are mediated by grownups or more able peers, and by psychological tools made available from grownups and culture" (2010, p.92). By providing Bob with this graphic organizer as a tool with explicit prompts and page numbers, I was able to help him access grade-level curriculum more successfully and independently. "Mediation facilitates the organization of the activity that is being learned, and with the appropriate support, instruction, and guidance the processed are assumed to be interiorized by the child in order to allow them to carry out skills more independently" (Asberg & Sandberg, 2010, p. 92). This theoretical framework and concepts were quite applicable to my study. These theories may help to inform future research relating to strategies that help mediate the needs of students with autism.

Incorporating the Chromebook into the classroom served as a great strategy for Bob and his engagement in completing writing tasks. Research shows that implementing computer-based technologies adds value in the learning processes for students. Gebre, Saroyan, and Bracewell write "The value-added role of computer technologies is attributed to the way they are used in the teaching and learning processes rather than to their mere presence in the classroom or the special features associated with the technologies" (2014, p. 83). Incorporating the computer into the classroom environment for Bob increased not only his ability to complete the whole task, but increased his engagement.

Conclusions

After conducting the present study, it was evident that the following conclusions were supported: for students with autism, it is imperative that whatever the academic skill or task that they face, that their teachers provide clear and literal guidelines. Bob's writing tasks were organized in a way that were structured and contained directives which enabled him to complete tasks more independently. Scaffolding his writing tasks with prompts, page numbers, and explicit directions helped to ensure his independence in completing these types of writing tasks. Flores, et al. (2013) suggest reading comprehension instruction for students with autism is limited, understanding the following conclusions and implications may help inform a teacher's practices in supporting students with autism.

Accommodated Templates to Meet the Needs of Students with Autism

Bob's peers were provided with less guided templates that required students to incorporate a "hook, summary of main points, and new related ideas," in their writing pieces. Bob's writing templates were heavily accommodated, with direct and sequential prompts in order to better direct Bob in completing this and future tasks. Providing page numbers for Bob along with these prompts helped meet his needs as a learner. In the beginning of the year, when Bob was provided with writing prompts that were not accommodated, Bob became visibly frustrated and numerous times failed to fully complete these assignments. Scaffolding and modeling of these kinds of templates can help structure a child's discourse comprehension (Asberg & Sandberg, 2010). This strategy of a structured template can help alleviate this frustration and provide students with autism the appropriate tools necessary for them to succeed in grade-level curriculum, without changing learning outcomes.

Technology and Students with Autism

Based on my second finding, it is apparent that technology may help to support students with autism in completion of writing tasks. Utilizing technology with students with autism may be a motivating factor for this population. This motivation I saw in Bob when working with writing tasks. Virnes, Kärnä, and Vellonen write “For children with ASD, technology seems to be a highly motivating and suitable means for the learning and rehabilitation of skills that are typically problematic” (2015, p. 22). Incorporating technology for writing or any task may not only support students with autism to be more successful, but increase their level of engagement in completion of these tasks.

Implications

While completing this study, I found and utilized several instructional strategies that will help to ensure success in students with ASD that I work with in the future. After completion of this present study and without overgeneralizing findings, several implications can be made for future educational settings, particularly in ELA for students with autism.

Implementing these types of structured tasks would be beneficial not just to students with autism, but other populations of students with diverse learning needs

These types of interventions may help and inform other schools or specialized educational facilities, such as BOCES, with students that may have difficulty in their writing or curriculum-based tasks.

Understanding this research may also help parents with future assignments or writing tasks that their child with autism has, especially if their child is infused into a general education setting like Bob. In addition, case managers or general education teachers may find it beneficial

to implement structured templates or organizers in a variety of classroom settings. The repetition of working with these types of organizers and templates may increase confidence in this population of students when accessing grade-level curriculum.

Moving Forward with Technology

Next year, Bob will have his own laptop to bring and take from school, which will be substantial in holding his engagement throughout the school day, and possibly carry over when completing work at home. With this, Bob will be able to type his writing assignments and share them with his teachers next year through the drive. This will hopefully allow Bob to become more comfortable in his work and provide him with a bit more independence in writing tasks and other assignments. This will also ensure consistency in Bob's or other students with learning disabilities access of various text-to-speech tools and programs to serve as a supplementary aid in completion of grade-level tasks.

Limitations

There were several possible limitations that were presented in this study. One factor that may have impaired data collection was time. The data for the present study were collected over the course of four to six weeks, which is not an ample or substantial amount of time for this particular study. In this time, I only collected two Short-Constructed Responses. It would have been helpful to collect more writing samples from Bob to see possible different trends and patterns in the overall data collection.

Another limitation with the present study was that there was one participant. Collecting writing samples from more students, even different population settings (both general and special education students) would help inform results as well as instructional approaches in the

classroom. If one were to complete and implement this study again, the following study could present both benefits and minimal risks. A possible risk for the participant in this study would be low self-esteem during completion of writing tasks if a subject feels that a task may be too challenging. In addition, because there was solely one subject for this study, to say that the findings and implications discovered for the present study are applicable to all students with autism would not be credible.

Suggestions for Future Research

A suggestion for future research would be to look at larger populations of students with autism. Examining strategies implemented in this study with larger populations may increase the validity of the data and findings. In addition, while no two students are the same, students on the Autism Spectrum are not. Strategies for the present study may work for some students with autism, but that does not indicate that these strategies will work for all students with this disorder. Future researchers may want to discover and implement strategies that work with a broader range of students with autism.

Overall Significance of the Study

Examining the present study and research is exceptionally important in today's educational system where there is a significant increase in the amount of students diagnosed with autism. Critically examining published research and studies, not only helped inform my practices for this study, but will serve my pedagogical practices moving forward in this profession. This study is significant because as present research has shown, there are limitations in regard to specific strategies that serve students with autism. While the findings and strategies that were discovered in this study may not help all students with autism, understanding this research may help benefit teachers who find themselves stumped in terms of strategies or interventions to

support these students. The information and findings of this study can help Bob's future case managers and teachers help him as he moves forward in his schooling and the rigor of the curriculum. While the curriculum may not get easier, implementing strategies such as the ones discovered in this study, might provide an avenue for Bob: an avenue that leads to a road for success.

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