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Influence of choice on motivation to learn for students with autism: Effect on student interest, writing achievement, latency, and behavior

Theresa M. Haskins

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Influence of Choice on Motivation to Learn for Students with Autism:
Effect on Student Interest, Writing Achievement, Latency, and Behavior

by

Theresa M. Haskins

Submitted to the Department of Teacher Education

Eastern Michigan University

in partial fulfillment of the requirements

for the degree of

MASTER OF ARTS

in

Educational Psychology

Thesis Committee:

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November 12, 2012

Ypsilanti, Michigan

Dedication

To my son Braden whose unique and amazing mind opened my eyes to a world of possibility
and infinite need;

You helped me find my purpose in life

To my son Brock whose journey into this world showed me that I have the power and strength to
overcome all odds;

You gave me the courage to pursue my dreams

To my husband Brian, whose love, understanding, and support encouraged me to be brave and
follow my own path;

There are not enough words in the world for me to ever fully thank you for all you do, all you
are, and what you mean to me;

You give me hope

And in loving memory of my mom,

Who always knew I'd find my way

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I would also like to thank Tina Brantley who continues to support my endeavors and has helped me so much throughout my graduate school experience. She is not only a dear friend but a fellow in this journey of raising children with exceptionalities.

Thank you to my mother-in-law Danielle Haskins for listening and supporting my ideas throughout my graduate school journey. I appreciate all the time you helped to read and review my largest papers and for your continued encouragement and support.

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Abstract

Improving learning outcomes and increasing motivation to learn for students with autism is a growing concern for educators today. While schools strive to fully include students with autism in general education classrooms, the number of children diagnosed with an autism spectrum disorder continues to rise, increasing the need for effective interventions that educators can easily implement in their classrooms. This pilot study investigates the influence of choice on a second grade student with autism and his motivation to write. His teacher's perception on the use and effectiveness of choice in her classroom is also examined. Using a single-subject baseline design, the variable of choice showed increased student interest and decreased latency to begin writing tasks. Teacher interviews supported the findings that student choice improved interest and learning outcomes for the student with autism; ease of implementation and increased classroom enthusiasm were noted.

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Chapter 1: Introduction and Background

Introduction

Research regarding motivation and students with autism has traditionally focused on socialization, behavior modification, and attention to task. With the increased inclusion of students with autism in the general education classroom and a better understanding of the cognitive abilities these children may possess (Carnahan, Musti-Rao, & Bailey, 2009), it is important to examine ways to foster and encourage their motivation to learn academics.

Since the implementation of the Individuals with Disability Education Act (IDEA), it is the obligation of the public school systems to provide children with exceptionalities an appropriate education in the least restrictive environment (LRE) possible. IDEA requires schools to provide a free and appropriate education to all students and special services to those with disabilities, and is in favor of educating students with disabilities alongside students who do not have disabilities (U.S. Department of Education, 2007; Turnbull, Turnbull, & Wehmeyer, 2010). LRE (also known as the mainstreaming rule, integration rule, and inclusion principle) requires that students with special needs are educated alongside students without disabilities to the fullest extent possible; for the purpose of this paper, we will refer to the LRE inclusion principle as Inclusion.

Over the past decade, the steady rise in the reported cases of autism has resulted in an increase of students with autism to be included in the general education classroom. Estimates show that approximately 1 out of 166 children (6 per 1000) are diagnosed with an Autism Spectrum Disorder (ASD); (Fombonne, 2009). The DSM-IV categorizes ASD under Pervasive Developmental Disorders, which is a category of neurological disorders characterized by significant impairments in several areas of development such as communication, socialization,

and repetitious behavior (American Psychiatric Association, 2000). These impairments do not correlate to the child's cognitive ability/intelligence though they can make the social exchanges in education and assessment more challenging (Carnahan, Musti-Rao, & Bailey, 2009). The difficulties children with autism have with social interactions and communication are not their only obstacles in learning. Some of these children are incorrectly labeled as cognitively disabled and/or unable to learn, while others have experienced limited success and their repeated failures to meet parent and teacher expectations may have caused states of learned helplessness (Koegel & Mentis, 1985).

In addition to the charge of including students with disabilities in the general education classroom, teachers are also bound to the standards of NCLB (No Child Left Behind Act of 2001) that authorizes services and holds schools accountable for teacher quality and student achievement based on scientific methods of instruction. This requires schools and educators to find research-based solutions and to have a better understanding of students with autism, how to create inclusive learning environments, and to be knowledgeable of instructional supports, motivational issues, and strategies. These solutions can also benefit the classroom as a whole. "In addition to the unique gifts and interests that these students [with autism] bring the community as people, their responses can serve as an early warning system around pedagogical problems to be solved for everyone's benefit" (Chandler-Olcott & Kluth, 2009, p. 555).

Purpose of the Study

The purpose of this study was to determine if choice and child-preference could be successfully incorporated as an intervention treatment in a traditional classroom setting to improve student motivation toward writing and decrease disruptive and/or maladaptive behaviors for students with autism. It also examined teachers' perceptions of choice as an intervention

technique and examined whether choice variables provide benefits for the classroom as a whole. This research is meant to extend the work of Koegel, Singh, and Koegel (2010) to determine if the results they obtained in a controlled home-environment setting can be replicated in a traditional classroom setting. The intention is to provide educators with an intervention strategy that is easy to incorporate and beneficial to all of their students.

For teachers to be confident in their ability and the usefulness of choice and child-preference as interventions for students with autism, it is important to determine if the variables will produce the same outcomes of decreased disruptive behavior and increased motivation to learn for students with autism when applied in the general education classroom. Additionally, since transition is an issue for students with autism (activity to activity, place to place, and person to person), it is important to see if conducting the study in the natural classroom environment of the student(s) with autism will give us the same, better or worse results than when the children with autism were placed in a home-learning environment with an unknown adult (Church, Alisanski, & Amanullah, 2000). This research is meant to inform practice in the potential benefit of choice as an in-classroom intervention, to support that it is the variable of choice, rather than a controlled environment or novel adult, which affects a student's motivation toward writing and task cooperation. It is also meant to justify the continuation of this study with a larger number of teachers and students with autism in the future.

Research Questions

This study seeks to address the following questions:

- What effect does incorporating choice and child-preference variables have on early elementary students' with autism? Do these variables reduce maladaptive classroom and disruptive behavior and increase the student's interest and motivation to write?

- How do teachers perceive the use of choice in the classroom? Do they see improvements in the classroom environment, in student interest, or in the quality of writing for the student with autism and/or for the entire class?

Justification and Significance

This pilot study examined choice as a motivational variable in writing for a student with autism in his natural classroom environment, specifically focusing on the manifestations typically exhibited by students with an autism spectrum disorder (ASD). ASD is classified as a Pervasive Developmental Disorder that affects a child's social skills and emotional development (American Psychiatric Association 2000). This study sought to determine whether choice can be used to improve outcomes for students who may have difficulty assimilating in the general education classroom and exhibit disinterest and/or low motivation toward learning. This study also looked at the experience and perceived effectiveness of choice from the teacher's perspective.

We cannot gain further understanding on the effect of choice on students with autism if they are not directly involved in such studies. Research shows that choice has positive outcomes on general education students' motivation in activities and academics (Cordova & Lepper, 1996; Patall, Cooper, & Wynn, 2010). Research has also shown that choice can improve maladaptive behavior (Peterson, Caniglia, & Royster, 2001) and improve academic behavior in controlled environments (Koegel, Singh, & Koegel, 2010). The potential benefits based on previous research support the further exploration of this variable in the inclusive classroom environment.

Chapter 2: Review of Literature

Most research literature regarding the topic of motivation and supporting students with autism focuses on specific deficits common amongst these children and seeks to find interventions to improve behavioral outcomes. This is important to help the student assimilate to the inclusive general education environment. However, this perspective may be limiting to the potential of these students, and the creation of controlled environments may adversely affect intrinsic motivation in learning activities (Ryan & Deci, 2000). It is necessary to examine ways to enable teachers to effectively support both students with autism and general education students in ways that are beneficial to the students learning and development and practical to implement in an inclusive general education classroom.

Motivation to Learn

Motivation towards learning is important to increase and sustain students' interest and effort in learning academics. Motivation helps students find the relevant potential in learning, to find such activities as worthwhile and meaningful, and it helps the student obtain the intended benefit from lessons (Brophy, 2010). Motivation to learn is influenced by the direct socialization and modeling provided by teachers, parents, and significant peers; its value can be supported through clear expectations for learning and the development of students as a learning community (Brophy, 2010). Stipek (2002) said that students expect to learn if their teachers expect them to learn; that the classroom environment and teacher relationship have significant effect on the students motivation and willingness to learn. While the ultimate goal of motivation to learn is to develop a disposition to value learning, Brophy (2010) said a state of motivation to learn can exist when a student purposefully engages in a learning activity by adopting its goal, trying to learn the concepts, and mastering the content or skills. Tasks that provide a challenge to the

student but are achievable help to enhance student motivation (Lepper, 1988). This helps the students associate their efforts with success (Stipek, 2002) and increases their motivation toward task completion and learning in the classroom.

Self-Determination Theory and Intrinsic Motivation

According to Deci's (1980) self-determination theory, there are three fundamental needs that form the basis of intrinsic motivation: autonomy, competence, and relatedness. Intrinsic motivation is the drive from within the self to perform an action or task out of interest; it is a self-determined activity that requires no prods, rewards, promises, or threats for the person to perform (Ryan, Huta, & Deci, 2008, cited in Brophy, 2010). This internal motivation is supported and enhanced when an individual has a sense of autonomy and does not feel controlled by his or her environment (Deci, Hodges, Pierson, & Tomassone, 1992; Ryan & Deci, 2000).

An early study by Ryan and Grolnick (1989) examined 140 elementary age children's perceptions of their classroom environment (autonomous versus controlling) and the associated levels of motivation, self-worth, and cognitive competence. They found that children who were in environments that supported autonomy and perceived self-control had higher scores in relation to self-worth, cognitive competence, and motivation toward learning than students who felt controlled by their teacher or environment. This study supports self-determination theory as autonomy and competency are necessary components for intrinsic motivation to occur (Deci, 1980).

Ng, Kenney-Benson, and Pomerantz (2004) also explored the effects of control versus autonomy support. Autonomy support is defined as allowing the children to explore their own environment and decide what is important for themselves; in this study the autonomy support provided was from parents who attended to their children's school work but allowed them to

complete the tasks on their own, working alongside the child so the child could develop his or her own problem solving strategies for the challenges encountered. Autonomy support in this study also included discussing learning obstacles in a supportive manner so that the child could develop problem-solving and coping skills. They found that controlling interaction diminished engagement, and autonomy support predicted improved performance for low-achieving children.

Powell, McIntyre, and Rightmyer (2006) analyzed the motivation and off-task behavior in 73 primary grade classrooms during literacy instruction. They observed that students who were on-task for the majority of the instruction period (75%) were in classrooms that provided choice, challenge, control, collaboration, meaning, and consequences. They found in classrooms where the instruction was closed and predetermined there was a high degree of off-task behavior and low motivation towards learning. This supports the idea that limiting student choice and control reduces a student's sense of autonomy and thus decreases his or her motivation to learn and stay on task.

Self-determination theory supports the concept of choice as a catalyst to enhanced effort, increased motivation, and interest toward tasks. Choice and child-preferred interests are two variables that show a beneficial impact on a student's intrinsic motivation and learning by supporting their sense of autonomy. Evidence suggests that the effects of choice are positive even when the choices seem unimportant (Cordova & Lepper, 1996); however, choices need to be relevant to students' interest and goals and must provide enough options for choice to be perceived by the students and support their motivation (Cordova & Lepper, 1996; Patall, Cooper, & Wynn, 2010). A study by Reeve, Nix, and Hamm (2003) contradicts these findings and showed that not all perceived choice increases intrinsic motivation. The researchers found that action choices (choices that included options in what work the student would complete and

choices in how the work would be completed) had a greater effect on student's intrinsic motivation than choice options alone. These findings held when the variables of volition and locus of control measures were isolated from self-determination/intrinsic motivation measures. This supports the theory that choices that affect a student's perception of self-control are more likely to increase their intrinsic motivation toward the task and/or learning than choices that give students limited options.

Influence of choice and preference on motivation. In a study that examined the effect of choice and personalization on student motivation and engagement, Cordova and Lepper (1996) found that typically developing general education students who were provided choices and personalization of learning material showed dramatic increases in their motivation and in their level of engagement with assignments in comparison to the non-choice control group and the choice/non-personalization group. While both choice groups performed better than the non-choice group, the personalization/choice group had the most improvement in motivational outcomes. This echoes the findings of an early study conducted by Zuckerman, Porac, Lathin, & Deci (1978) that looked at the importance of choice on intrinsically motivated behavior. They found that when a student was provided the freedom to choose the activity (in this case type of puzzle) and amount of time spent, they were more intrinsically motivated than students who were selected to spend the same amount of time completing a puzzle assigned to them.

Shraw, Flowerday, and Reiter (1998) examined the effect of choice on reader engagement. Students were either offered choice or no choice in the story they read. They found that unrestricted choice improved the students' reading experience. These results were replicated in two separate experimental-study conditions. Focusing on student interests, Katz and Assor (2007) also found that there was notable value in choice as a motivational variable, and they

discovered when choice was offered in ways to meet the specific needs of the students, such as having personal relevance and increased applicability to the students' goals, that it enhanced the students' motivation, well-being, and learning. Similar to the conclusion drawn by Cordova and Lepper (1996), the researchers Katz and Assor (2007) noted that it is important that the choice options given are not too many in number, not too complex, and in line with the student values and culture.

Kosky and Curtis (2008) explored the effectiveness of personalizing and planning lessons based on the students' interest and multiple intelligence theory. Based on student feedback, they found that giving students choice in the activities and assignments they would complete had a greater (student) perceived impact on their motivation and participation in class than the type of choices given for the assignments. Students' grades significantly increased in response to the integration of student choice options for assignments. Patall, Cooper, and Wynn (2010) also found that when typically developing students were provided choice in assignments, they reported higher intrinsic motivation toward their work and performed better on tests than they did when they were not given choices. These studies support the use of choice as a variable to increase motivation to learn in general education students.

Choice and preference as interventions. To address the issue of maladaptive behavior in students with autism, Peterson, Caniglia, and Royster (2001) examined choice-making as an intervention to reduce problem behavior at school for a student with autism. They found that the choice-making intervention decreased problem behaviors during the intervention period. They then applied choice-making to the rest of the school day and found that giving the student choice reduced maladaptive behaviors across a multitude of activities throughout the day. Dyer, Dunlap, and Winterling (1990) also found choice to have a positive effect on the behavior of students

with autism. They studied three children and the effect of offering choices regarding instructional tasks and types of reinforcement they would receive for successful completion. The choice options consistently reduced aggressive behavior across all three participants.

An experimental case study conducted by Bambara, Koger, Katzer, and Davenport (1995) examined the effect of individual choice on task participation and behavior of a young man with severe disabilities; his autism profile is similar to other children previously examined in this review (Peterson, Caniglia, & Royster, 2001). The study showed that when the man was given no choice, he had low rates of participation and high rates of protests and non-cooperative behavior. As choice options increased, so did his cooperation and rate of task initiations. Severe aggressive behavior was virtually eliminated. Carlson, Luiselli, Slyman, and Markowski (2008) found choice-making an effective intervention in their study regarding children with developmental disabilities who would exhibit inappropriate behavior (disrobing) at school. They evaluated two children with a multiple baseline design and found that the intervention decreased and eliminated incidents of disrobing. These case studies show a trend of the potential effectiveness of choice as a motivator and as an intervention to reduce unwanted behaviors.

Working within a teacher-directed classroom, Cole and Levinson (2002) examined the effectiveness of choice questions within existing instructional routines for students with severe cognitive impairments. They found decreased disruptive behavior and increased independent initiations when choices were given to the students. This is important because it showed improvement not only in class behavior but also in children's motivation toward learning. Ulke-Kurkcuoglu and Kircaali-Iftar (2010) compared the effects of providing choice of activity and material type for boys with autism within the teacher-directed context. They found that when the

students were offered a few choice conditions, there was a higher level of on-task behavior. The type of choice offered to the boys did not show a differential effect in the measured on-task behavior. These studies support that choice making can be an antecedent intervention that is successful in teacher-directed learning situations (Carlson et al., 2008, Cole & Levinson, 2002).

The Cole and Levinson (2002) study is important to note as choice was used not only as an intervention to reduce maladaptive behavior but to increase motivation toward learning in students with autism. While studies regarding motivation to learn for students with autism are limited, researchers are increasing their focus on this population and learning how to increase the motivation of these students toward academics. Koegel, Singh, and Koegel (2010) specifically focused on students with autism to evaluate the effects of motivational variables of choice, interspersal of maintenance tasks, and natural reinforcers not only to reduce maladaptive behaviors but to improve student interest and motivation to learn academics. This study was conducted in each of the participants' home environments, not in a traditional classroom setting. The researchers found that direct intervention and the incorporation of motivational variables decreased the children's latency to begin tasks, decreased disruptive behavior, increased participation in mathematics, increased interest in the subjects of reading and writing, and increased motivation to learn both during and post intervention.

Even out of traditional school activities choice is shown to be beneficial for children with autism. Carter (2001) studied the use of choice with game play to increase language skills and interactive behaviors in children with autism. Carter found when choice was permitted, levels of appropriate play increased and disruptive behaviors were considerably reduced, which decreased the number of times the facilitator had to redirect the children to keep them on task. Reinhartsen, Garfinkle, and Wolery (2002) also examined the effectiveness of choice on the play (toy)

engagement and behavior of three two-year-old boys with autism. They found the child-choice condition resulted in more engaged time with toys and fewer behavioral disruptions than when the activities were teacher-choice/directed. These studies show that student-choice may be important even in game and toy play for students with autism and that increasing their sense of autonomy may be a necessary component in improved interpersonal interactions.

Choice may be an alternative intervention for the general education teacher to incorporate into their current practices that could potentially benefit students' (with and without autism) motivation to learn, as well as improve the behavioral concerns that have traditionally been the focus of autism research.

Teachers and the Implementation of Choice

Research regarding choice as a motivational variable supports choice as having a positive effect on students' behavior and motivation toward academic tasks and activities; however, for choice to be an effective motivational intervention, the teacher needs to be aware of its potential effectiveness and the best ways to implement choice into their own classrooms. Flowerday and Schraw (2000) examined teachers' beliefs about the effectiveness and use of instructional choice in the classroom. They found that the choices teachers offered varied as a function of subject area and education levels. The rationale behind the teacher's use of choice was for potential benefits in behavioral, affective, and cognitive domains. Seventy-six percent of the teachers interviewed felt that student choice was more appropriate for older students due to maturity and better decision-making skills; they felt that young students need direct instruction and structure and would not be able to handle making decisions. The majority of teachers interviewed also felt that higher ability students were the best candidates for choice options as they were the most capable and would benefit most. These teachers did recognize that choice would probably

increase interest for all of their students, but they did not feel confident in offering choice-options to students of all ages and abilities.

Other studies show that controlling environments, whether controlling teachers or a strict structured learning environment, reduce intrinsic motivation and learning outcomes. Ryan and Grolnick (1986) examined the level of control in the classroom in relation to the perceptions of student autonomy. Based on a comparison of interviews with 140 elementary school children in relation to observed behavior, the researchers found that students who perceived control in their environment (student autonomy) had autonomy-oriented teachers and the students displayed more cooperative and less aggressive behavior.

Flink, Boggiano, and Barrett (1990) examined the effects of controlling strategies of teachers who were pressured to maximize student performance. They found that student performance was impaired for students who were exposed to teacher-controlled strategies even when teachers were not pressured. This study demonstrated that teacher strategies that prohibit student choice reduce student autonomy and can have negative effects on their motivation and academic performance.

Teacher disposition and the effect it has on student motivation is also a notable factor. Reeve, Bolt, and Cai (1999) examined pre-service teachers and their teaching style in relation to their ability to motivate and engage their students. They found that autonomy supportive teachers had a distinct motivating style measured by conversational behaviors and interpersonal interactions. The teachers actively worked to support the motivation and internalization process of the students' learning. Reeve and Jang (2006) also examined the role of teachers' instructional style on the autonomy of students. They paired 72 teachers and assigned roles of teacher to student. They found a functional significance in 8 specific instructional behaviors that directly

influenced the students' perception of teacher support and feelings of autonomy: (a) time listening, (b) time allowing students to work in their own way, (c) time for students to talk, (d) praise as informational feedback, (e) offering encouragement, (f) offering hints, (g) being responsive to student generated questions, (h) making perspective acknowledging statements.

Simmons and Page (2010) studied the effect of a democratic classroom, as defined by the sharing of power and choice between teacher and students, and the effects such a classroom structure have on student motivation. The researchers encouraged teachers to provide students with the freedom to choose what type of project they would complete to show their learning for an assigned book. The researchers noted that the students initially resisted the freedom given to them and sought out the teacher's leadership and approval. Once the teacher guided the students in how to answer questions for themselves, they found that the quality, creativity, and leadership developed amongst the students were beyond their expectations. By the end of the project, student motivation and engagement was high.

Brooks and Young (2011) intended to examine the effect choice had on student assignment completion, attendance, and motivation. They questioned 419 students after they either participated in choice-making opportunity classrooms or in teacher-directed classrooms where no choice-making opportunities were provided. What they found was that the consistency of the teacher's style was the most important factor; they found the student's motivation was high when the students were teacher-directed in all areas or if they were given choice in all areas. When the students were given mixed messages (such as mandatory attendance and choice assignments) their intrinsic motivation was lower. In this case, consistency of teacher-dependency or self-directed learning was a stronger factor in student motivation than the presence of choice.

Summary

These studies support the idea that teachers need greater awareness of choice and the potential benefits to improve student motivation and learning. It is also important that teachers realize that positive results can be obtained by students of all ages and ability levels (Deci & Ryan, 1987; Ryan & Deci, 2000). Choice is an essential component for developing student autonomy and helps to improve student performance, attention, and interest in learning (Reeve 2006). This body of research provides practical solutions and supporting evidence to increase teachers' confidence and use of student-choice enhance their students' motivation to learn. Research shows that choice benefits students with disabilities in terms of reducing maladaptive/disruptive behavior, helping the child successfully integrate into inclusive general education settings (Morgan, 2006). The studies reviewed also found that choice helps improve the motivation of students' with autism towards tasks and learning, mirroring the effects found in motivational research on children without disabilities (Koegel et al., 2010). This review showed that choice is an effective motivational variable for students of all abilities and needs; choice when implemented properly has the potential to improve a multitude of areas (attitude, interest, motivation, latency, behavior) and the classroom environment with minimal need for differentiation in choice options.

Despite findings in the literature regarding choice as an effective variable in increasing motivation to learn for students, research also shows that teachers are reluctant to give students choice (Flowerday & Shraw, 2000). This is in contrast to the studies that show that choice improved students' attention to task, behavior, motivation, and interest for students with autism and other social/behavioral disabilities of varying degrees (Cole & Levinson, 2002; Koegel et al., 2010; Peterson et al., 2001). Callahan, Henson, and Cowan (2008) found that while teachers and

parents believe that validated interventions should be used in the classroom, they found that there are significant discrepancies between this belief and the actual implementation of research-based interventions and practice, especially when it relates to the comprehensive school-based programs. Iovannone, Dunlap, Huber, and Kincaid (2003) feel that there have been minimal attempts to integrate research findings into the school districts' curricular foundation, and the result is inadequate attempts by teachers to implement new interventions and ineffective autism programming in public school classrooms.

Chapter 3: Methodology

Participants

The intent of this research was to study multiple students with autism within their regular classrooms. The special education director of the participating school worked directly with the researcher to refer teachers willing to participate in the study. He sent invitations via e-mail to all teachers who currently had students with autism in their classroom. The e-mail invitations explained the nature of the study and provided explanation of their rights as participants (Appendix C). The teachers who were willing to participate responded to the e-mail and the researcher was notified.

The teacher-volunteers assisted the special education director and researcher in sending out invitations to the parents of students with autism. The parent consent forms (Appendix D) explained the nature of the study, the parents' and children's rights as participants in the study, whom to contact if they had questions or concerns, and an authorization form to sign. These forms were sent home in the students' weekly parent-correspondence folder and via e-mail to the parents of students with autism who requested to receive information from the school electronically. The special education director made himself available to discuss questions and concerns with the teachers and parents and remained informed throughout the entire study.

Once parent approval was received, the student with autism was asked to assent his participation in the study. The assent form was read to the student by the teacher-participant, and the date of the child's agreement was noted (Appendix F). A notice of research was then sent to the parents of the non-participant students who would be present in the classroom during the writing session recordings (Appendix E). The notices of research provided parents of non-participant students with information regarding the study and informed them of their right to

request their child be exempt (not be present) from the writing lessons during data gathering recordings (audio/video-tape). This ensured the confidentiality of the students, teachers and families who were contacted regarding this study.

One second grade student assented and his primary teacher volunteered to participate in this study. The teacher was selected through administrator recommendation due to her current roster of students, which included two children who met the study student-participant requirements, namely having an autism spectrum disorder. The parents of the student participant agreed for their child to participate in this research because they were concerned about their student's lack of motivation toward academics, especially in writing; the child assented to participate. For the purpose of this paper, we will refer to the student by the pseudonym of "Joey" and the teacher will be referred to by the pseudonym "Ms. Hall."

Joey's official diagnosis falls under the category of Asperger's Syndrome, which is categorized as an Autism Spectrum Disorder under Pervasive Developmental Disorders that is specifically characterized by significant difficulties in social interactions as well as having atypical language development, restricted and repetitive behaviors, and fixated interests (American Psychiatric Association, 2000). Children with Asperger's can have a hard time transitioning and adapting to change in their environment (Church, Alisanski, & Amunullah, 2000). These impairments do not correlate to the child's cognitive ability/intelligence though they can make the social exchanges in relation to education and assessment more challenging (Carnahan, Musti-Rao, & Bailey, 2009). Joey's specific issues include not being able to stay on-task or pay attention for extended periods of time, becoming fixated on a given topic, and not listening to and following directions. He currently has grades of 80% in Reading, 82% in Math, and 91% in writing, all at the second grade level. The teacher and parents reported that Joey has

difficulty with listening to directions, following directions, and maintaining focus on various tasks. On most occasions, directions need to be repeated and/or rephrased so that Joey can complete the task asked of him. The teacher has worked on a rewards system that allows Joey to earn a pipe cleaner at the end of the day (an object of fascination and interest for the student) if he has been a good listener for the day. Ms. Hall feels this is an effective motivator for Joey because he enjoys making pipe cleaner men from the pipe cleaners he receives. However, the teacher reports that at times he becomes fixated on getting a pipe cleaner as a reward and does not attend to the task without oversight.

Ms. Hall has a bachelor's degree and license in Early Childhood Education (PreK-3rd grade). She also has a Master's degree in Special Education and a license as an Intervention Specialist, Mild to Moderate. At the time of the study, she was in her eighth year teaching and fifth year as an Intervention Specialist.

Study Design

A single subject design (A-B-A) was used to evaluate the effects of the choice intervention on the student with autism. The use of single-subject methodology allows for the student to serve as the control and experimental measure to determine if the variable of choice has effects in the areas of behavior, interest, and writing achievement. Four intervention sessions were recorded in week one, as this was the current schedule for writing in the participant's classroom. Intervention was implemented in week two. Due to student absence, only three of four scheduled days were recorded. Post intervention sessions were recorded in week three. The intervention took place in the current assigned - natural classroom environment for the participant teacher and student with autism.

Data Gathering Procedures and Instrumentation

The teacher conducted 30-minute writing lessons in two different formats, teacher-directed and lessons with choice, over the course of the three week study.

Baseline data were collected in four consecutive/daily 30 minute in-class, teacher-directed writing sessions; the topic was the life of Laura Ingalls Wilder. Ms. Hall provided the students with explicit instruction on how to complete the assignment, where the work was to be completed (sitting at desk) and what type of specific writing instrument to use (a pencil). As part of Ms. Hall's standard practice, she provided students with graphic organizers to help organize their thoughts before writing; the use of this tool remained in place for all phases (baseline, intervention, and post-intervention) of this study. Once the graphic organizers were completed, the teacher had her students write a "sloppy copy" rough draft, and then complete a clean copy by the end of the week to finish the writing assignment. The graphic organizer and sloppy copy process is a normal writing practice in Ms. Hall's classroom; the use of this tool to help students organize their writing was maintained during the study.

The intervention was implemented in week two of the study for three consecutive/daily 30-minute classes. During the intervention sessions, Ms. Hall provided the students with choices such as where to write (at their desk or on the reading circle floor) and what color pencil they could write with. Additionally, the writing topic for the week allowed for student creativity and self-expression. This week's topic was "What would you do if you were locked in the school?" The students were asked to write four things they would do at school if there were no teachers and no rules. Ms. Hall did provide the students with graphic organizers to gather their thoughts and organize their writing, followed by the use of sloppy copies and then a clean finished copy.

Post-intervention observation and data collection were conducted one week after the intervention writing sessions. The students were asked to complete a teacher-directed writing assignment, sitting at their desks, with a standard pencil, and they wrote about the types of things that happen in a toy store. There were two consecutive/daily 30-minute post-intervention sessions.

The teacher was provided one video camera to record the student with autism during the 30 minute writing sessions; the camera was set up so that the student with autism was the sole focus of the video-recording, which limited the number of non-participant students inadvertently recorded on the video. The video-camera was given to the teacher prior to study so that students could get used to the camera's presence in the classroom and to reduce the novelty effect and potential change of behavior during baseline and intervention recordings. The researcher was informed that other observational recordings had occurred in the classroom earlier in the year and that the students were accustomed to the presence of such equipment. The video segments were collected every Friday during the study. This allowed the monitoring of conditions and prompt delivery of data to independent coders so that the segments could be coded. Data coders were B.A. level students who were blind to the hypothesis of the study and who do not teach in the school district participating in this study. The coders received a packet with coding sheets (Appendix G) and instructions prior to receiving the video data. They were provided with detailed descriptions regarding how to code behavior, latency, or student interest. The researcher reviewed the materials with the coders to ensure understanding and answer any questions prior to the delivery of the first round data review.

Writing assignments/activities were collected by the teacher, and a copy of the participant-student's writing assignments completed during the study was given to the

researcher. Quality of writing was assessed by the teacher for the student with ASD and provided to the researcher; baseline, intervention, and post-intervention samples were used as part of the data analysis.

E-mail questionnaires and in-person interviews were conducted with Ms. Hall to gather data on the student with autism. This included specifics of his diagnosis and the effect it has on his ability to learn in the classroom, the student's grades and writing level, specific issues of concern for the student with autism, and a general overview of the current classroom environment. The teacher's perceptions and current use of choice variables were also discussed (see Appendix A). Ms. Hall was interviewed pre-intervention and post-intervention. The questions regarding choice in the classroom were held until after base-line was established. After intervention, Ms. Hall was asked about any noticeable changes she observed in her student and classroom environment as a whole. The theme from the teacher interviews will be compared to the collected dependent variable data and analyzed for patterns and to provide further insight into the implementation of choice and child-preference from the general educator's perspective.

Measures to Insure Safety and Confidentiality for Human Subjects

Confidentiality. The special education director and school administrators selected teachers based on the student populations they served. The students who were invited to participate in the study were selected based on prior history in the school district and current teacher and parental reports on file that they felt met the study's criteria and who might benefit most from the new choice-intervention technique. The parents of these children were then contacted via mail with study information and consent forms (Appendix B). Notice was also sent home in folders with the students. The parents who consented to their child's participation were given updates regarding their child's progress throughout the study, which was included with

their weekly progress report. The parents were reminded of their rights to information and the ability to withdraw their child from the study without negative consequences, both during the initial consent and with the additional correspondence sent home. Once consent was obtained for the student with autism, the researcher met with the current primary teacher of the student-participant. Information-consent forms from participant teachers were collected at this time (Appendix C). Only the special education director, teacher, and researcher know the identity of the student participant and his parents.

Once parental consent for the student with autism and teacher consent were obtained, the parents of the students in the participant classroom were notified about the research study. Notice of research forms was sent home to parents, which provided the rights of the parent and student in a research environment (see Appendix D). This was to ensure that all students and their parents were informed and understood the research would be conducted during normal instruction times.

Video-data were recorded on memory cards and collected by the researcher. The teacher maintained possession of the camera for the entire study. The researcher collected and replaced memory cards each Friday during the study. The video was uploaded to a privately-owned server and secure private site that was used for coders to view video segments; these data were limited use, available only to individual coders via password, and the content on the server was destroyed after coding was completed. The video-data were transferred to external memory cards that are locked with consent letters. Coders had only limited access to the video-data segments through a secure online system that was encrypted and password protected to prevent unauthorized dissemination of content. Name identifiers were masked with tone to protect confidentiality of participants during independent coding process. Audio editing and video

editing was completed by the primary researcher. Data were presented to the coders in random order. Approximate coding time was two hours per week. This reduced the chance of fatigue and attention-drift while coding data. Video-data, consent forms, and data sheets are in a locked storage drawer in the primary investigator's office. Per American Psychological Association (2001) guidelines, the raw data will be held for 5 years from publication date of the research and then destroyed.

Risk and benefits. The intended benefit for the teacher-participant in this study was improved student classroom behavior and increased student-interest in writing activities. The intended benefit for the students with autism was to help reduce maladaptive behaviors that can be disruptive to the classroom, teacher, and the learning environment. The option of choice and child-preference may help improve the student's interest and motivation toward writing.

A potential risk in this research project is loss of time for the teacher. To reduce this risk, the time commitment for teachers to be part of the study outside of normal instructional hours was brief (less than 2 hours). All efforts were made to meet with the teachers during her normally scheduled class-planning periods. The baseline and intervention assignments were part of the normal instructional period and did not disrupt the classroom environment. The amount of time necessary to implement these lessons was no greater than ordinary lesson planning requires. The research design did not change the current teacher, environment, or existing learning construct (teachers-aides, timers, visual schedules) that were in place to accommodate the child with autism and the other students in the classroom. The students, both with and without autism, did not encounter any more risk than they would ordinarily face in a typical school day.

Chapter 4: Presentation and Analysis of Data

Influence of Choice on Student with Autism

The data procedures for this study mirror the measures for the dependent variables of latency, disruptive behavior, and interest as used by Koegel et al. (2010) in their study examining the motivation of children with autism to learn in a controlled environment. Cohen's D was calculated for the dependent measures of latency, interest, and behavior using the means and standard deviations method (Becker, 1999). Using Cohen's (1988) standards, an effect size of 0.8 is indicative of a large effect, .05 a medium effect, and .02 a small effect. The effect size was examined to determine if there was measurable difference between the baseline (control) and intervention (choice-treatment) sessions.

The data collected were compiled and coded by two independent coders. Inter-rater reliability was calculated using the standard formula, agreements divided by agreements plus disagreements multiplied by 100. Agreement for interest was categorized into three categories of low interest, neutral interest, and high interest. In addition to the standard formula for inter-rater reliability, Cohen's kappa was calculated to correct for chance agreement on the categorical variables of disruptive behavior and interest. Coders' individual scores are plotted in the graphs with the mean score results to provide a visual representation in the reliability of the coders data-scores in this study.

Latency to begin writing task. Latency was defined as the amount of time it takes for the child to begin a task after the teacher gave instructions. Timing began immediately after instruction was given and stopped once the child actively began the writing task, which was defined as putting pencil to paper and beginning to write. Agreements were defined as times reported within 3 seconds and disagreements as times reported with a difference greater than 3

seconds. The original scale was to record latency in minutes (Koegel et al., 2010), but for the purpose of examining reliability of coders in this study, the scale was modified to record latency in seconds instead.

The data for latency are presented in Figure 1. In Figure 1, the horizontal axis represents the total number of days in the study with indicators for baseline, intervention, and post-intervention. The vertical axis represents the number of seconds it took the student to begin the writing task from 0 to 60 seconds. The blue and pink lines represent the individual scores of the coders, with the black line representing the student's mean latency score. The inter-rater reliability was 88.88% between the coders for the latency scores.

Joey's latency level on the first day of baseline (day 1) was 17.54 seconds and stayed at a low level of below 15 seconds on remaining baseline days (days 2, 3, & 4). Latency to begin the instructed writing task spiked on the first day of choice-intervention with 35 seconds to begin writing task (day 5) and dropped to its lowest level on the last day of choice-intervention of 3 seconds (day 7). The student returned to baseline levels on the first day of post-intervention (day 8), and latency started to increase on the second day of post-intervention (day 9) to 24.5 seconds. The first day of baseline (day 1) and the first day of post-intervention, which are both teacher-directed lessons, show the same amount of latency from the student. In terms of latency, Joey never took longer than a minute to begin a task. The effect size (using Cohen's d) for latency to begin a writing a task for Joey was medium effect ($d = .45$; $r = .22$). This indicates that there was a measurable effect from the implementation of the choice variable that reduced the student's latency to begin writing.

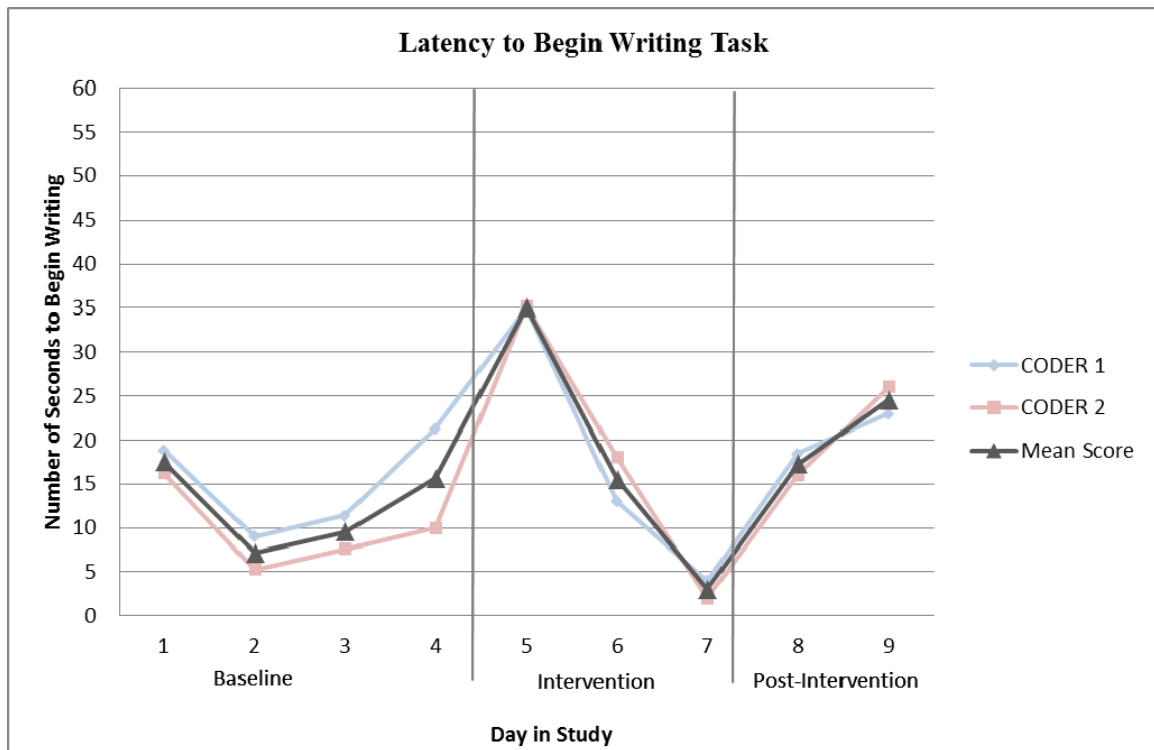


Figure 1. Profile Plot - Latency to Begin Writing Task

Disruptive behavior. Disruptive behavior was coded in 30-second intervals. Behavior such as crying, screaming, hitting, kicking, laying on floor, refusal to respond to teacher, or attend to task was considered disruptive. Any interval where aforementioned behaviors were exhibited was coded as disruptive. The disruption score was calculated as the mean of the disrupted intervals divided by the total number of intervals.

Data for disrupted behavior are presented in Figure 2 and Figure 3. In Figure 2, the vertical axis represents the percent (%) of intervals the student exhibited disruptive behavior on a scale of 0 to 100 percent. The horizontal axis represents the total number of days in the study with indicators for baseline, intervention, and post-intervention. The blue and pink lines represent the individual scores of the coders, with the black line representing the student's mean

behavior score. The inter-rater reliability between the coders for the disruptive behavior scores was 77.77% agreement and Cohen’s Kappa score of $k = .48$.

Joey did not show significant amounts of disruptive behavior at any time during the study, as he was disruptive less than 2% of the time. Joey exhibited a low level of disruptive behavior on days 2 and 3 of baseline and day 6 of intervention. He did not exhibit disruptive behavior during the post-intervention sessions. The effect size (using Cohen’s d) for the effect of choice on disruptive behavior had little to no effect ($d = -.23$; $r = -.01$).

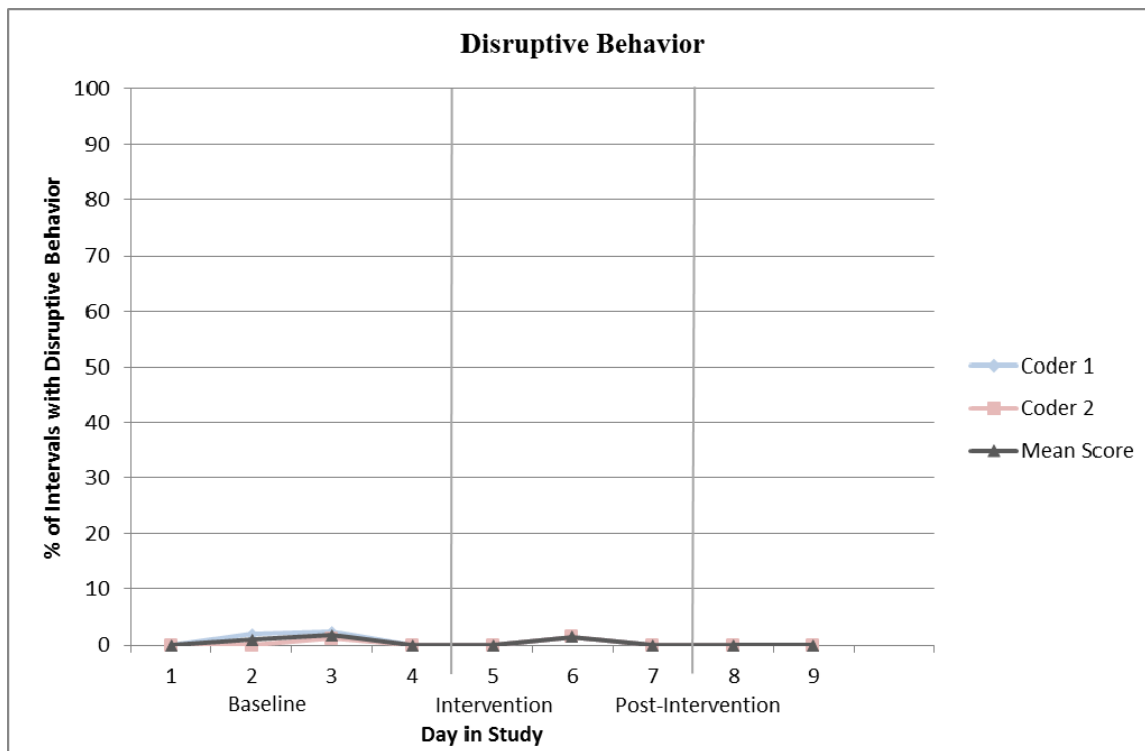


Figure 2. Profile Plot - Disruptive Behavior

Student interest. Interest was measured using a Likert scale adapted from Koegel and Engel (1979) and Koegel, Singh, and Koegel's (2010) (Appendix F). This scale was designed for students with autism. Interest intervals were coded in 30-second intervals. The mean interest score for each writing session is presented in Figure 3.

Data for interest are presented in Figure 3; The vertical axis represents the student's interest score based on the child interest Likert scale (Appendix F) with 0 being no interest and 5 being high interest. The horizontal axis represents the total number of days in the study with indicators for baseline, intervention, and post-intervention. The blue and pink lines represent the individual scores of the coders, with the black line representing the student's mean interest score. The inter-rater reliability between the coders for the student interest scores was 67.72% agreement and Cohen's Kappa score of $k = .44$.

The student showed neutral levels of interest for the writing task during baseline recordings with an average score of 3. Joey's level of interest noticeably increased during the choice-intervention period raising to a high interest level of 4. Joey's interest level was still high with a 3.9 level of interest on the first day of the post-intervention sessions (day 8) and dropped to a neutral level of interest on the last day of the post-intervention recordings (day 9) with a score of 3.22. The effect size (using Cohen's d) of choice on student interest was large ($d = 2.43$ $r = .77$). This data shows an increase in interest for Joey during the choice-intervention writing sessions and that choice as a motivational variable had a measurable effect on the student's motivation and interest during the choice-writing tasks when compared to the baseline teacher-directed sessions.

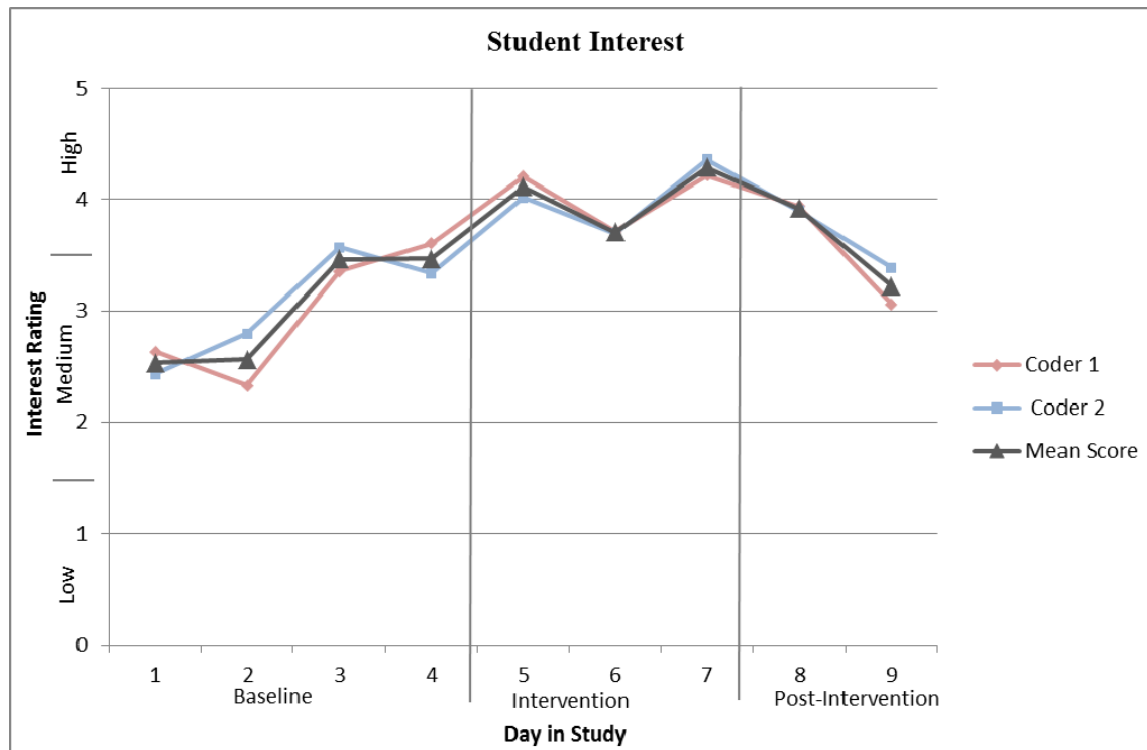


Figure 3. Profile Plot - Student interest rating.

Teacher Perception of Choice

Teacher interviews were transcribed and analyzed using a thematic analysis process. After the in-person interviews were transcribed, they were compiled with the additional answers the teacher sent via e-mail. From here the researcher analyzed the data based on the procedures as outlined by Miles and Huberman (1994): (a) read transcripts to familiarize with text (b) identified meaning and conceptual units, (c) organized identified items into groups, (d) evaluated data to define emerging themes, (e) re-examined text for each emerging theme (d) defined and named themes in data-interviews. This process allowed the researcher to find the overarching themes in the teachers responses in relation to her perceptions of choice and her experience with teaching the student-participant with autism.

Pre-intervention. In analyzing the pre-choice implementation interviews, three themes were prominent in the teacher's responses. They included: (a) Joey's difficulty in listening, following directions, and maintaining focus on tasks, (b) his fixation on rewards, and (c) Ms. Hall's preference for teacher-directed lessons.

A significant portion of the teacher's answers to the pre-study questions revolved around the student's inability to attend to tasks and difficulties related to the student's ability to listen and follow instructions. According to the teacher, this is an area that was noted on the student's IEP she actively works to address. When asked if there were issues that made learning difficult for the student, Ms. Hall stated one-on-one assistance was often required to help the student complete assignments. "On most occasions, directions need to be repeated or rephrased so that [Joey] can complete the task asked of him." Ms. Hall tries to incorporate technology to keep Joey engaged in the lessons and attentive to instructions. She also incorporates "repeat and rephrase" in her standard directions to the class along with visual aids and hands-on manipulatives to help increase understanding.

Fixation on rewards is another area that has slowly become an issue for this student and teacher. Intended to motivate the student, a rewards system was implemented that would allow Joey to earn a pipe cleaner (object of student-preference) if he was an "All Star Listener" for the day. Ms. Hall said that the pipe cleaner reward helps Joey complete tasks and has improved his listening during writing lessons. However, she feels that his motivation to complete the task is primarily to obtain the desired reward.

Like some teachers, Ms. Hall feels that teacher-directed instruction is the best way to get her classroom of students to learn the required content (Flowerday & Schraw, 2000). Ms. Hall says that due to the different abilities in her classroom, she strives to introduce material in

various formats and incorporates technology whenever possible. She uses graphic organizers, hands-on manipulatives, and other student specific accommodations. The use of differentiated instruction, like Ms. Hall implements, is especially important when delivering content to a mixed-needs/ability classroom that includes students with autism (Machalicek, O'Reilly, Beretvas, Sigafos, & Lancioni, 2007). Ms. Hall says "The ease of [implementing] each accommodation varies based on the activity being completed; the accommodations have been successful, based on [Joey's] progress through the curriculum." However, Ms. Hall only gives limited choices to her students and she had not considered choice as a potential accommodation or intervention to help motivate her students, improve their attention, or behavior. When asked about choice, she responded, "I do not give choices regarding homework or lessons we will complete." She does allow some student choice during work center time, as students can choose from a few different activities at each learning center, where the activity choices review a concept that was recently learned. "Being able to choose the activities [during this time] keeps the students engaged in the activity while I work one-on-one with a student or with a small group."

Post-intervention. In analyzing the post-choice implementation interviews, the themes related to choice that emerged were: (a) increased student enthusiasm (b) improved on-task behavior and (c) improved writing quality.

Two choices given to the students during the intervention period were choice of writing instrument, namely colored pencils, and choice of where to sit, namely desk or floor. The teacher said she noticed an increase in the students' enthusiasm on first day of choice implementation (day 5). Ms. Hall said, "[The] students were more eager when given the choice of writing instrument. They were excited about the new option."

While Ms. Hall noted the students increased enthusiasm and excitement, she did not feel that it changed their interest in the actual writing assignment. She did note that the students were more on task throughout the choice writing sessions, even after the excitement of choosing their pencils and places to sit wore off. Ms. Hall said, “They seemed more on task and focused on their papers” but when asked if the students were more interested in their assignments she said, “No, I did not see a change in interest.”

One area that Ms. Hall did see improvement was in the quality of their work. She didn’t attribute the increased attention to task and interest to a sense of empowerment or autonomy the students may have had due to having a choice (Powell et al., 2006); Ms. Hall attributed the increased quality in writing to the care the students took because “they [the students] knew they had to be careful when using the colored pencils because they were more difficult to erase.” However, she was unsure if giving the students choices was the primary factor in their improved writing quality.

Ms. Hall did not seem willing to give the variable of choice credit for the improvement she saw in the students writing quality, however, she repeatedly credited the choice options for improving the students on task behavior. “I will definitely incorporate choice options in the future,” she said. “The kids loved it!”

Writing Quality

While a formal scale to measure the quality of writing was not implemented in this study, writing samples from baseline day 4, intervention day 7, and post-intervention day 9 were provided to the researcher by the teacher during interview sessions. Ms. Hall felt that the quality of Joey’s writing noticeably improved during the choice intervention sessions. The writing

samples show the number of words per writing session increased which coincides with the increase in student interest and supports the teacher's note of improvement.

On baseline day 4, Joey completed 8 lines (total of 25 words) of teacher-directed "fill-in-the-blank" sentences for the final writing assignment (Appendix H). Ms. Hall had to repeatedly redirect Joey during this writing period and prompt him throughout the entire session to stay on task.

The writing assignment on day 7 during the intervention week showed a noticeable increase in the number of sentences and words written. In a topic that allowed for student choice and free-form writing, the student wrote 6 complete sentences with a total of 53 words (Appendix I). Ms. Hall noted that Joey needed little prompting to stay on task and did not require reminders and assistance to complete the writing assignment.

During the post-intervention lesson, the teacher maintained the free-form writing format, however, Joey did not have a choice of writing utensil nor was he given an option of where to sit to complete his work. There were 36 words in 7 sentences completed on day 9 (Appendix J). Ms. Hall felt the quality of this work was better in comparison to the baseline week but noted that Joey showed less enthusiasm toward the assignment, even though the topic was similar to the intervention week topic.

Chapter 5: Conclusions, Limitations, and Recommendations for Future Research

Conclusions

Helping teachers find ways to increase motivation to learn for students with autism is a growing concern. Many schools today strive for the full inclusion of students with disabilities in general education classrooms in an effort to improve learning outcomes for these children (Turnbull et al., 2010). At the same time, the rate of children diagnosed with an autism spectrum disorder continues to rise, increasing their numbers in general education settings (Fombonne, 2009). Educators need increased knowledge of effective interventions to improve learning outcomes for all of their students. While supports are provided to general educators to help them accommodate students with disabilities, the ability of the primary teacher to understand and meet the needs of all her students is imperative. In the case of Joey, he is fortunate that his current teacher, Ms. Hall, has a special education background and she is already familiar with using differentiated instruction to meet the needs of all types of students including those with autism. As the line between special education and general education becomes increasingly blurred, it is important to find effective interventions that are easy for teachers to implement and help teachers improve outcomes for all students. This will help to increase teacher confidence in handling such widely differentiated environments.

The data and interviews in this study showed that choice was an effective motivator toward writing for this second grade student with autism. The increase in student interest is in agreement with Ng et al. (2004) who found that autonomy support predicted improved interest and performance in low ability children. In the case of Joey, the choice variable improved his interest and attention to task during the writing sessions. This is in line with previous studies regarding choice as a motivator for general education students and students with autism in

controlled environments (Cordova & Lepper, 1996; Katz & Assor, 2007; Koegel et al., 2010). This study and previous research showed that choice helps to increase student interest, which helps to support a student's sense of autonomy and increase their intrinsic motivation to learn.

The student showed an increase in latency on the first day of the choice intervention. The change in routine following an increase in latency is not surprising, as children with autism often need to be prepared for changes to their schedule, routine, or environment to reduce upset during the transition period (Iovannone, Dunlap, Huber, & Kinkaid, 2003). No prompts to prepare the child for the choice intervention were given in this study. Therefore the increase in latency during the first day of intervention (day 5) was to be expected. It is important to note that Joey's latency levels dramatically dropped by day 7 of the choice intervention sessions, which coincided with increases in interest, attention to task, and writing quality. This suggests that implementing a change such as choice may be beneficial as a long-term intervention for students with autism.

Educational concerns, when accommodating students with autism or other disabilities, includes the time it takes to implement the differentiated instruction and the supports necessary to help these children thrive in the general education environment (Blecker & Boakes, 2010; Horne & Timmons, 2009). Additionally, some educators worry about the effect such accommodations may have on the other students in the classroom (Horne & Timmons, 2009). In this study, the choice conditions were presented to the entire class, as research shows choice to be a promising motivator for increasing interest and on-task behavior in students of all abilities (Koegel et al., 2010; Morgan, 2006). While the entire class's interest, behavior, and latency were not measured, the teacher indicated through interviews that she believed that on-task behavior increased in general, quality of writing improved, and the children displayed more excitement

toward the writing activities during the intervention sessions of the study. Most importantly, Ms. Hall said that implementing choice options was easier than she imagined. She was surprised that the limited, small choices the children were given had such a positive effect. Therefore it is important for educators to realize that the choices given to students do not have to be large, just meaningful to the students. Research has shown that even when choices seem unimportant, the effects of choice can be positive and measurable (Cordova & Lepper, 1996). Ms. Hall's experience and comments help to counter the concerns of teachers who feel that giving students choices reduces their ability to control the classroom environment (Flowerday & Shraw, 2000). If anything, this study along with others supports the idea that giving students choices and a sense of autonomy increase their cooperation in the classroom. In addition, it shows choice to have a positive effect on students' motivation and supports an expansion of this study for continued research.

Limitations

Due to the nature of the participants, random teacher and classroom assignment were not logistically reasonable, as students with autism are a small number of the total student population and a change in teacher assignment and environment would have played as additional variable factors to the students' behavior, participation, and achievement changes during the study. Ideally, a single-subject non-concurrent multiple baseline methodology would have been employed, observing multiple students and teachers in various classrooms to serve as their own controls whose results could have then been compared. This would also have provided more insight from various teachers on their perception of choice and their experiences with implementing choice in their classroom. Due to the limited number of teachers, parents, and students willing to participate in this study, a single-subject methodology was used. This allowed

for the student to serve as the control and experimental measure to determine if the variable of choice had an effect in the areas of behavior, interest, and writing achievement. Single-subject design methodology is shown to effectively measure interventions and evidence based practices (Odom, Brown, Frey, T., Karasu, Smith-Canter, & Strain, 2003). The data in this study helps to inform practice in the potential benefit of choice as an in-classroom intervention and serves as justification to gain support to continue this study with a larger number of students and teachers.

Another limitation is the timeline in which the study was conducted and the number of sessions recorded. The sessions for baseline, intervention and post-intervention were to occur during the pre-existing writing lesson schedule for each week of implementation, which would have been four lessons (4 days) per week. Due to scheduling difficulties and illness, some of these sessions did not occur, resulting in 4 days for baseline, 3 days for intervention, and 2 for post-intervention. After reviewing the data collected and considering the issues students with autism often have with change and transition, the timeline of this study should have been greatly extended, especially for the intervention and post-intervention recordings. The intervention sessions should have occurred over the course of 2 or 3 weeks (no less than 8 sessions) to allow the student time to transition to the new learning format. Post-intervention data should have been collected weeks after the intervention sessions ended, to record lessons after the baseline (typical) learning environment had been re-established. This was not possible due to time limitations of the teacher and a delayed start to the implementation of the study.

Maladaptive behavior is often an issue for students with autism and is normally a significant concern for the teachers of these students (Carnahan et al., 2009). Often times, supports are in place are to help the student maintain appropriate behavior so they do not disrupt other students and everyone can focus on learning and completing assigned tasks. In this study,

Joey did not exhibit the levels of maladaptive behavior that are typically noted in children with an autism diagnosis (American Psychiatric Association, 2000). Even though Joey had other issues related to attention and fidgeting, neither the teacher nor the coders found these behaviors to be disruptive. Joey did not appear to bother his classmates nor did his behavior stop the teacher from conducting her lessons. This lack of disruptive behavior limited the ability to determine whether or not student choice would improve behavior.

Since this study focused on the experience of one teacher and her student, the findings in this pilot cannot be generalized to the larger population of students with autism and their teachers. However, it does serve as an indicator for the potential of choice as an effective, non-invasive intervention technique that could be used by general educators to benefit the motivation, interest, and learning of students with autism. The teacher as participant provided insight on the ease of implementing choice and the effect it had on the classroom environment, student interest, and writing.

Recommendations for Future Research

The findings of this study were similar to those from previous research (Koegel et al., 2010) and support the continued study of choice as an intervention technique to improve student motivation, interest, and on task behavior. This study should be expanded across multiple participants so that the single-subject results can be compared. This would allow for examination as to whether these findings were a single-case phenomenon or if choice implemented in this manner can improve outcomes for students with autism in inclusive classrooms. If an adequate sample size can be obtained, it would be beneficial that the students selected for the study exhibit the typical manifestations of autism, including maladaptive behavior.

This study also showed the ability of a teacher to successfully incorporate choice with the whole class. The teacher saw improvement in writing quality, increased attention and interest in the task, and increased enthusiasm toward the writing activities.

The teacher interviews were conducted to explore the teacher's views in relation to teacher-directed instruction and student choice instruction in terms of the usefulness of choice as an intervention. One recommendation for future research would be to expand the teacher-participants role in this study, as it may be more informative to have the teacher code the student recorded data along with independent non-participant coders. This would allow a direct comparison of the independent coder ratings to the actual teacher perceptions of the student's motivation, behavior, and interest by having them conduct ratings via the researcher's scales.

Continued studies on teacher-beliefs and knowledge regarding the effectiveness of choice for students of all ages and abilities is necessary to increase usage and understanding of the benefits and effect choice has on student motivation. Additional studies are also needed to determine if student-choice can be effectively implemented across subjects and other school activities for both students with and without autism. It will be important to look at the types of choice implemented and whether the type of choice and level of autonomy given will have different effects on student motivation based on age. Further studies are necessary to examine the components needed (teacher education, school-wide programs) to effectively implement choice to increase student motivation to learn.

Definition of Terms

Asperger's Syndrome: See Autism Spectrum Disorder (ASD).

Autism: See Autism Spectrum Disorder (ASD).

Autism Spectrum Disorder (ASD): Classified under pervasive developmental disorders, this category includes Autism, Asperger's Disorders, Childhood Disintegrative Disorder, Rett Syndrome, and Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS). Common characteristics are social deficits, communication difficulties, narrow interests; disruptive behaviors (see pervasive developmental disorder).

Autonomy support: Defined as allowing the children to explore their own environment and decide what is important for them.

Child-preference: See Preference.

Choice: Having the power or ability to make a decision based on two or more possible options.

Democratic classroom: The sharing of power and choice between teacher and students.

Inclusion: Students with disabilities are supported in chronologically age-appropriate general education classes in their home schools and receive specialized instruction as outlined in their individualized education programs within the context of the core curriculum and general class activities (Halvorsen and Neary, 2001).

Individuals with Disabilities Education Act (IDEA): The familiar short term in relation to the Individuals with Disabilities Education Improvement Act (IDEIA) of 2004. IDEA term originally comes from the Individuals with Disability Education Act of 1975. IDEA requires schools to provide a free and appropriate education to all students and special services to those with disabilities.

Intrinsic Motivation: The drive from within the self to perform an action or task out of interest, a self-determined activity, that requires no prods, rewards, promises or threats for the person to perform (Ryan, Huta, & Deci, 2008 cited in Brophy, 2010).

Least Restrictive Environment (LRE): A principle of IDEA that requires schools to educate students with disabilities to the maximum extent appropriate with non-disabled students in the regular education classroom.

Motivation to Learn: A disposition to value learning; when a student purposefully engages in a learning activity by adopting its goal, actively tries to learn a concept, and masters the content or skills (Brophy, 2010).

Pervasive Developmental Disorder: Refers to a group of psychological disorders characterized by impairments or delays in communication, social behavior, and cognitive development.

Preference: Interest or liking for something over another or more than others.

Student-preference: See Preference.

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Appendix A: Example of Questions for Teacher Interviews

What type of accommodation do you currently make for students with autism in your classroom?

Do you find some of these accommodations easier to implement than others? Do they seem to help across different academic areas and/or activities throughout the day?

Are there specific areas of difficulty for the participant-student with autism such as transition issues, processing issues, or sensory issues that you feel make learning difficult for the student?

What types of accommodations are made to address these issues?

Are there specific areas of interest the child has? Do they have a fascination with any particular objects, topics, or characters or some other individualized interest that you are aware of?

Do you provide students with choice regarding class assignments or homework? If yes, how often?

Did you see a change in the classroom environment once choice and child-preference were introduced into the writing sessions? If so, what was the most significant difference you observed?

Did you see a change in the interest toward the assignment or quality of writing submitted during choice-intervention as compared to the teacher-directed sessions?

Do you think you will incorporate choice options as a regular part of your classroom environment? Why or why not?

Appendix B: Parent Consent Form – Student with Autism Participant

Dear Parent or Guardian:

We would like to include your child in a research project on the effect of choice and child-preference on students with autism motivation towards writing and behavior. This study will be conducted by a researcher from Eastern Michigan University.

Your child's participation in the project will help us determine if choice and child-preference can effectively be implemented in general education classrooms and act as interventions to increase student motivation to learn and reduce disruptive behaviors in student with autism. The results of this study will be used to support the primary researcher's thesis research, published in scholarly journals, and presented at future conferences.

Each student will participate in 20-minute writing lessons conducted daily over the course of two weeks with one follow up session one week after the intervention phase of the study is concluded. **All sessions will be held in the child's current classroom during normal instructional hours.** We will not interact directly with your child. His/her teacher will simply be presenting a 20-minute independent writing assignment once a day, in two different formats (with and without student choice) over the course of the study. Both teaching methods are acceptable methods for writing instruction and your child will have the continued and expected level of support from their current teacher and aide (if normally provided). Each session will involve audio-video taping of your child engaged in these writing activities. We will record data on latency (time to begin task after instruction is given), disruptive behavior, and level of student interest during the writing task.

To help us in our research, we also would like permission to ask your child's teacher for information regarding their experience teaching your child. This information will consist of the types of accommodations they currently make for your child (such as visual schedules, timers, and teacher-aids), information regarding possible problems or areas of concern (such as transition issues, sensory processing issues, or disruptive behavior) and information on the types of interests and personal preferences of the child.

Only the researchers will have access to the information collected in this project, which will be kept in locked storage in the office of the principal researcher. All electronic data and videos will be protected with encryption and passwords and only the researcher will have access to the data and passwords. Research assistants will only have limited access through a secure online system to the pieces of data they are assigned to code. This limited use data will be destroyed after coding is completed. Neither your name nor your child's name will appear in the reported results of this research. Pseudonyms will be used when referencing the subjects in this study. You have a right to review the assignments and question the teacher and researcher regarding the details of this study.

Taking part in this study is voluntary.

Participation in this project is voluntary. The intended benefit is to increase your child's interest and motivation toward writing activities and help your child in areas of concern regarding behavior they may have. This study involves no unusual risks to you or your child than would normally be encountered in a typical school day. You may rescind your permission at any time with no negative consequences. Your child can refuse to participate or withdraw from the project at any time with no negative consequences (e.g. their grades, right to receive services, etc.).

If you are interested in learning more about the results, have questions about this research, or would like additional information prior to giving consent, please feel free to contact me, at thaskin2@emich.edu or (330606-4987. If you have questions about your and/or your child's rights as a research subject, you may contact Dr. Jon Margerum-Leys, Interim Associate Dean of the College of Education, Eastern Michigan University at jmargerum@emich.edu (734) 487-1416.

If you agree to let your child participate, please indicate this decision on the following page and mail the form back to us in the postage-paid envelope provided.

Sincerely,

Theresa M. Haskins

Eastern Michigan University

*This research protocol and informed consent document has been reviewed and approved by Eastern Michigan University Human Subjects Review Committee for use from December 2011 to April 2012. If you have questions regarding the approval process, please contact Dr. Jon Margerum-Leys (734-487-1416, Interim Associate Dean of the College of Education, Eastern Michigan University, jmargerum@emich.edu).

Permission for Child to Participate in Research

As parent(s) or legal guardian(s), I/We authorize _____

(child's name) to be a participant in the research study described in this form.

Name of Parent(s) or Guardian(s): _____

Signature _____ (Date) _____

Signature _____ (Date) _____

*Please return this page in the postage paid envelope.

Appendix C: Teacher Consent Form

You are being invited to participate in research to study the effects of choice and child-preference on students with autism motivation towards writing and behavior. This study will be conducted by Theresa Haskins from Eastern Michigan University.

Your participation in the project will help us determine if choice and child-preference can effectively be implemented in general education classrooms and act as intervention techniques to increase student motivation toward writing and reduce disruptive behaviors in students with autism. The results of this study will be used to support the primary researcher's thesis research, published in scholarly journals, and presented at future conferences.

Each teacher participant will instruct their students to complete 20-minute writing lessons to be conducted daily over the course of two weeks with one follow up baseline session a week after the intervention phase of study has concluded. All sessions will be held in the classroom during normal instructional hours. We will not interact directly with your students. You will present a 20-minute independent writing assignment once a day in two different formats: teacher-directed with-out choice during baseline data collection and with student-choice, giving students options such as where to write (at desk, at table, on floor) what type of instrument to write with (pen, pencil, or crayon), and topic allowing for student preference and personal interests. Both teaching methods are acceptable methods for writing instruction and your students will be provided with the same supports they current receive (schedules, teacher's aides, etc). You will be provided with a video-camera to record the daily writing sessions of your students, with camera focus on the student-participant with autism. Additional instructions on how data will be collected throughout the study will be provided during the initial pre-study

meeting. We will use the video records to obtain data on latency (time to begin task after instruction is given), disruptive behavior, and level of student interest of the student-participant with autism during the writing task.

We will also ask you, as the teacher of the student-participant with autism, general questions in regard to your experience teaching this child as part of your general education classroom. This information will consist of the types of accommodations you currently make for your child (such as visual schedules, timers, and teacher-aids), information regarding possible problems or areas of concern (such as transition issues, sensory processing issues, or disruptive behavior) and information on the types of interests and personal preferences the child has.

Only the researchers will have access to the information collected in this project, which will be kept in locked storage in the office of the principal researcher. All electronic data and videos will be protected with encryption and passwords and only the researcher will have access to the data and passwords. Research assistants will only have limited access through a secure online system to the pieces of data they are assigned to code. This limited use data will be destroyed after coding is completed. Your name will not appear the reported results of this research. Pseudonyms will be used when referencing the subjects in this study. You have a right to ask questions or request additional information from the researcher regarding the details of this study.

Taking part in this study is voluntary.

Participation in this project is voluntary. The intended benefit to you is improved student behavior in the classroom and increased interest in writing activities. The risks in participating in this study are minimal. The time commitment to be part of the study outside of normal instructional hours will be brief (less than 2 hours) if any is required at all. All efforts will be

made to meet with you for interview, instruction, and retrieval of video-data during your currently scheduled class-planning periods. The baseline and intervention treatments/assignments will be part of the normal instructional period and should not disrupt the current classroom environment. We believe the intended benefits outweigh the risks in this study. If you decide to participate, you are free to withdraw from the study at any time with no negative consequences (e.g. your employment, performance ratings, etc.).

If you have questions about this research, or would like to obtain additional information prior to giving consent, please feel free to contact me, at thaskin2@emich.edu or (330) 606-4987. If you have questions about your and your student's rights as a research subject, you may contact Dr. Jon Margerum-Leys, Interim Associate Dean of the College of Education, Eastern Michigan University at jmargerum@emich.edu or (734) 487-1416.

If you agree to participate, please indicate this decision on the following page and mail the form back to us in the postage-paid envelope provided and I will be in contact with you shortly.

Sincerely,

Theresa M. Haskins

Eastern Michigan University

*This research protocol and informed consent document has been reviewed and approved by Eastern Michigan University Human Subjects Review Committee for use from December 2011 to April 2012. If you have questions regarding the approval process, please contact Dr. Jon

Margerum-Leys (734-487-1416, Interim Associate Dean of the College of Education, Eastern Michigan University, jmargerum@emich.edu).

Participant in Research – Consent Form

You are making an informed decision whether or not to participate in this research study.

Your signature indicates that you have agreed to participate, having read the information provided above.

Signature _____ (Date) _____

Please return this page in the postage paid envelope.

Appendix D: Parent Consent Form for General Education Students – Notice of Research

Dear Parent or Guardian:

A researcher from Eastern Michigan University will be conducting research in your child’s classroom to study the effects of choice and child-preference on student motivation and behavior.

During the next few weeks, a researcher from Eastern Michigan University will be conducting a research study in your child's classroom. The study compares the effects of choice and child-preference on student behavior and motivation toward writing assignments, specifically focusing on students with special needs. Due to the nature of the study, all students will be exposed to the writing treatment assignments, however only specific individuals will have identifiable data collected during the study.

Your child will not have individual or identifiable data collected.

We will not interact directly with your child. His/her teacher will simply be presenting a 20-minute independent writing assignment once a day, in two different formats (with and without student choice) over the course of the study (approximately two weeks). Both teaching methods are acceptable methods for writing instruction and your child will have the continued support from their current teacher.

The only measure of performance in regard to your child will be group scores provided by the teacher to the researcher to measure average class performance. Video-tape and audio recordings will be used to collect data on special needs participants who have agreed to be full participants in the study.

No reports about the study will contain your child's name or identifying information. Due to the nature of video and audio recordings, your child may be indirectly recorded while data is collected on special needs student participants. Please know that video and audio will only be viewed by the researcher and research assistants for data collection purposes. The video and audio recording will not be used for any other purposes in regard to this research and will be destroyed at the conclusion of the study.

Taking part is voluntary.

All students in the class will complete the writing assignments, with and without choice options, provided by the teacher. Participation in this project is voluntary and involves no foreseeable risks or benefits to you or your child other than those ordinarily encountered in a typical school day. You may rescind your permission at any time with no negative consequences. Your child can refuse to participate or withdraw from the project at any time with no negative consequences (e.g. their grades, right to receive services, etc.).

If you do not wish your child to be part of this study, which will mean that we will not include his/her writing results in the data and/or you do not want your child to be present during the video-taped sessions, please fill out the form at the bottom of this letter and return it to me in the postage paid envelope.

This project will help us determine if choice and child-preference can effectively be implemented in general education classrooms and act as interventions to increase student motivation to learn and reduce disruptive behaviors in students with autism. The results of this study will be used to support my thesis research, published in scholarly journals, and presented at future conferences.

Should you have questions about the study, please contact Theresa Haskins, Eastern Michigan University, College of Education, at thaskin2@emich.edu or (330) 606-4987. If you have any questions about you or your child's rights in relation to this study, please contact Dr. Jon Margerum-Leys, Interim Associate Dean of the College of Education, Eastern Michigan University at jmargerum@emich.edu or (734) 487-1416.

____ I **do not** wish my child's scores to be used as part of the group average for this study.

____ I **do not** wish my child to be in the presence of video-taping during data collection for this research.

Parent(s) or Guardian(s) of: _____

Signature _____ (Date) _____

Please return this page in the postage paid envelope.

*This research protocol and informed consent document has been reviewed and approved by Eastern Michigan University Human Subjects Review Committee for use from December 2011 to April 2012. If you have questions regarding the approval process, please contact Dr. Jon Margerum-Leys (734-487-1416, Interim Associate Dean of the College of Education, Eastern Michigan University, jmargerum@emich.edu).

Appendix E: Verbal Assent Script for Students

Hi. My name is Mrs. Haskins and I am a student at Eastern Michigan University. I would like to ask you to help me by being in a study, but before I do, I want to explain what will happen if you decide to help me.

Your teacher will give you different types of writing lessons over the next 2 weeks. Sometimes he/she will tell you exactly what to do during your writing time, and other days he/she will give you choices on what you may do when you write. These lessons will occur during your normal writing class time. We will record the writing lessons with a camcorder so I can see and hear your class even when I am not in the classroom. By being in this study, you will help me understand if choices help students during writing lessons. Your papers will be collected by your teacher but they will not be shared with any other people. When I tell other people about my study, I will not use your name and no one will be able to tell who I am talking about.

Your parents have been told about this study and are okay if you participate, but if you do not want to be in the study, you do not have to be. If you are not in the study, it means that you will not be video recorded and your papers will not be seen by me. You will still have to complete writing lessons and assignments your teacher gives you. No one will be upset if you do not want to be in the study. If you do want to be in the study now but change your mind later, that is okay too. You can stop at any time. If there is anything you do not understand you should tell me or your teacher so we can explain it to you.

You can ask me any questions you have about the study. If you have a question later that you don't think of now, you can call me, or you can ask your parents or teacher to call me or send me an email.

Do you have any questions for me now?

Would you like to participate in my study?

NOTES TO RESEARCHER: The child should answer "Yes" or "No." Only a definite "Yes" may be taken as assent to participate.

Name of Child: _____

(ASD Student) **Parental Permission on File:** Yes Date Signed: _____
 No (*If "No," do not proceed with assent or research procedures.*)

(Gen Ed Student) **Notice of Research Sent to Parent:** Date Sent: _____
Permission Revoked: (*Do not proceed with assent or research procedures*)
 Not to be part of study / group averages Not to be video/audio-recorded

Child's Voluntary Response to Participation: Yes No

Signature of Researcher: _____ **Date:** _____

Signature of Teacher/Witness: _____ **Date:** _____

Verbal Consent or (Optional) Signature of Child:

Appendix F: Scale for rating child's interest

(Adapted from Koegel and Egel, 1979 and Koegel, Singh and Koegel, 2010)

Low Interest (0-1)

(0): Student looks bored and attempts to leave the area of the activity. Student may attempt to avoid or escape the task by throwing tantrums, whining, throwing materials, crying, and/or refusing to perform the task.

(1): Student remains in the area of the activity but looks bored and is uninvolved. The student spends much of the time looking around and little time attending to task. The child is engaged in behaviors unrelated to the activity.

Neutral Interest (2-3)

(2): Student is fairly compliant with the teacher's instructions, but does not appear eager to participate. There may be moments of staring, inattention, fidgeting, or toying with stimulus materials.

(3): Student complies with the teacher's instruction but does not appear eager to participate in the activity. The student is generally focused on teacher and instructions and the writing assignment activity.

High Interest (4-5)

(4): Student responds to teacher's instruction and attends to tasks readily. Student is fairly alert, eager and involved in the activity. The student is attentive to the teacher's instructions and the writing assignment.

5): Student readily attends to the learning task. Student responds readily and willingly. Student is alert, eager and involved in the activity. Student attends to the teacher and instructions and/or the writing assignment intently.

Appendix G: Coder Data Log Form

LATENCY:

The amount of time it takes for the child to begin the task after instructions are given by the teacher.

Timing will begin immediately after instruction is given and stopped once the child actively begins in the task, which will be defined as putting pencil to paper and beginning to write or actively engaging in teacher directed task (picking out a pen, choosing place to sit).

TEACHER INSTRUCTION	TIME TO BEGIN TASK

DISRUPTIVE BEHAVIOR:

Behavior such as crying, screaming, hitting, kicking, laying on floor, **refusal to respond to teacher or attend to task** will be coded as a disruptive behavior.

Mark an "X" for any 30-second interval where disruptive behavior is exhibited.

:30s	1:30	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00

5:30	6:00	6:30	7:00	7:30	8:00	8:30	9:00	9:30	10:00

10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00

15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00	19:30	20:00

20:30	21:00	21:30	22:00	22:30	23:00	23:30	24:00	24:30	25:00

25:30	26:00	26:30	27:00	27:30	28:00	28:30	29:00	29:30	30:00

INTEREST:

Please refer to the "Scale for Rating Child's Interest" code description details.

Low Interest (0-1)

Neutral Interest (2-3)

High Interest (4-5)

:30s	1:30	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00

5:30	6:00	6:30	7:00	7:30	8:00	8:30	9:00	9:30	10:00

10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00

15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00	19:30	20:00

20:30	21:00	21:30	22:00	22:30	23:00	23:30	24:00	24:30	25:00

25:30	26:00	26:30	27:00	27:30	28:00	28:30	29:00	29:30	30:00

Appendix H: Baseline Writing Sample

JOEY - BASELINE DAY 4

Bio Poem

Student Name: _____

Date: 5-3-12

Historical Figure's Name: Laura Ingalls Wilder

3 Words that Describe person traveler, sister, Author

Lover of Pa and Ma

Who lived in Kansas

Who liked to Pick flowers

Who feels great when she picking flowers

Who knows someone that is blind

Who learned about being a teacher

Appendix I: Intervention Writing Sample

Joey - Intervention Day 7 (Page 1 of 2)

5-11-12

ONE night I was locked
in the school building. First I
eat chicken tenders
at the cafeteria. Next I
sleep on the cot
in the gym.

Joey - Intervention Day 7 (Page 2 of 2)

Then I Do Math
Into The SmartBoard.
last I go to the
library and read books
I can't wait if I was
locked in the school

Appendix J: Post-Intervention Writing Sample

Joey - Post-Intervention Writing Sessions Day 9

5-16-12

One Night I was locked
inside of toysrus I get
toys. I got Beyblades
and Ninjago. you spin
them. I play with Legos
I play Lego Angry Birds.
I can't ~~wait~~ locked in Adventure

Appendix K: Thesis Proposal Approvals

**EASTERN MICHIGAN UNIVERSITY
Master's Thesis PROPOSAL
Approval Form**

Student Name Theresa M Haskins Date of Meeting 11/11/2011
Program of Study Educational Psychology ID# E 1026617
Thesis Committee Chair Patricia Pokay

TENTATIVE TITLE OF PROPOSED THESIS

Choice and Student Preference on Motivation to Learn for Students with Autism

COMMITTEE REPORT ON THESIS PROPOSAL

After review of the thesis proposal, the Thesis Committee certifies that:

- The proposal is satisfactory and the candidate may proceed.
- The proposed research does not involve the use of human subjects OR
- The proposed research involves human subjects and will be sent to the College Human Subjects Review Committee prior to data collection.
- The proposal is not satisfactory and the following deficiencies must be corrected:

Description of deficiencies

[Empty box for description of deficiencies]

COMMITTEE SIGNATURES

Chair *Patricia Pokay*
Member *Diane Starks*
Member _____
Member _____
Member _____

ACKNOWLEDGEMENT OF PROPOSAL APPROVAL

Date 11-11-11 Program Director/Coordinator *Patricia Pokay*

Signed original form remains in the student's departmental/program file.

Eastern Michigan University
College of Education
Review Committee on Student Research
Involving Human Subjects Committee Action

Project Title: Choice and Student Preference on Motivation to Learn for Students with Autism: Effect on Writing Achievement and Classroom Behavior in the General Education Classroom
Principal Investigator (must be a faculty member): Dr. Patrica Pokay; Dr. Alane Starko
Department: Special Education/ Teacher Education
Co-PI/ Student Investigator: Theresa Haskins

Approved [] Conditional Approval [] Disapproved []


Exempt [] Not exempt []

Reasons, if disapproved:
 N/A

Comment:

Comment from Reviewer 1: This study is not exempt due to the inclusion of minors. The study is conditionally approved under the following conditions:

- 1) General Education students should have a form for their consent--this form should be along the lines of that given to their parents but in a language they can understand; this may take the form of an oral statement to be read to those students.
 - 2) The students with autism also need to be given the opportunity to assent to participate in this study and should be informed orally of the study so that they have the option of participating or not.
- Under the above conditions, the study meets requirements of minimal harm and informed consent.

Signature for the Committee: 
 30, 2011

Date: November

* Please note that all Human Subjects Proposals need to be submitted well in advance of scheduled solicitation of potential participants and that **no data involving Human Subjects should be collected prior to approval.**

XC: File

Revised 2/28/2011
 jml