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A Review of Choice and Preference Interventions and Their Impact on Students With Disabilities

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A REVIEW OF CHOICE AND PREFERENCE INTERVENTIONS AND THEIR IMPACT ON STUDENTS WITH DISABILITIES

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Abstract

This empirical research literature review was conducted in order to better understand the effects that students' choice and preference have on increasing academic performance rates and decreasing disruptive behaviors within classroom and residential settings for students with disabilities. 30 peer reviewed publications were included in this review and were organized into sections pertaining to instructional/material choice, task-sequence choice, preference/task choice, and consequence (reward) choice. Results from this study provide evidence that implementing choice and preference into the classroom setting can decrease disruptive classroom behavior while simultaneously increasing student work performance.

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CHAPTER I: INTRODUCTION

The United States of America holds at its core the belief that its citizens have the unalienable right with regards to the individual pursuit of happiness as outlined in the Declaration of Independence which was adopted on July 4, 1776 by the Second Continental Congress. This personal pursuit comes with the implied notion that individuals have the right to make choices within their everyday lives to supply them with their desired happiness. Furthermore, many believe that the opportunity to express oneself through choice is an essential factor in leading a healthy life in that providing choice and decision making not only enables individuals with the power to express themselves, but is also assists in maintaining high levels of personal motivation as well. This day in age, North Americans make a multitude of daily snap-decision choices that offer us almost instant gratification for our basic everyday desires. Simply stated, choice surrounds all of us. But are we letting choice-making opportunities surround our school age students who have diagnosed disabilities?

Choice in the Inclusive Classroom

The Education for All Handicapped Children Act (EHA) was passed into law in 1975. Better known by its 1990 reauthorized name, the Individuals with Disabilities Education Act (IDEA) ensures that all students with disabilities will have free and appropriate access to a public education that is tailored to their individually unique and specific needs. The No Child Left Behind Act (NCLB) was signed into law in 2002 by President George W. Bush which ensured all students will have the opportunity to not only learn, but excel and live out their personal dreams. In order to provide this

unrestricted access to the general education classroom, educators have embraced and implemented countless universal design elements that assist all learners, regardless of their abilities, learning styles and diagnosis, in gaining access to proven highly effective research-based curriculum within the classroom setting.

One such element that has been explored and researched as an intervention strategy is offering choice-making opportunities within the established curriculum. Joviette, Wehby, Canale, and Massey (2001) described *choice-making opportunities* as the teacher identifying two or more options that a student can choose from under a specific condition. Utilizing high preference items and offering students choices within the classroom is not a new concept and therefore has been implemented in classrooms across the United States of America in the form of classroom-wide and school-wide behavior management plans, tiered intervention strategies, and accommodations/modifications for students with emotional/behavioral challenges, intellectual disabilities, learning disorders, and Autism. In fact, some research suggests that offering choice-making opportunities within the general education and special education classroom settings can have many significantly positive implications that can provide teachers with highly practical methods that may enhance students' classroom performance including higher rates of academic achievement (Stenhoff et al., 2008), lower incidents of disruptive behaviors (Peck et al., 1996), increased student task engagement times (time-on-task), and higher levels of task completion rates (Mechling et al., 2006).

The Inclusive Classroom and Students with Behavioral Disorders

Students with emotional and/or behavioral disorders have a significantly different school day than their peers without behavioral disorders. They tend to experience a higher rate of inadequate academic progress as a result of inappropriate classroom behavior choices due to depression, anxiety, learning difficulties, somatization, and difficulties with interpersonal relationships. Dunlap et al. (1994) state that these frequent behavioral challenges are highly incompatible with the daily routines and requirements of the general education classroom setting. These incompatible behaviors create a learning environment that is not only detrimental to the social and emotional success of the student, but it can greatly affect their academic progress as well. Furthermore, the inappropriate and oftentimes highly disruptive behaviors exhibited by students with emotional and/or behavioral challenges can have a negative impact on the academic progress for the non-disabled peers within the inclusive learning environment.

Classroom teachers respond to the disruptive behaviors with a wide variety of research-based methods which may impact the general education classroom as a whole by decreasing the amount of time-on-task behaviors of the other students as well as significantly reducing the amount of quality instructional time offered by the teacher. Often times these frequently displayed behaviors result in students with behavioral disorders being placed in more restrictive learning and/or residential environments which may not be conducive to supporting maximum academic growth because the emphasis is on behavior management rather than proven academic instruction.

To combat the use of utilizing restrictive learning environments educators have sought the implementation of choice-making and preference as an intervention strategy. Lane et al. (2015) describe choice-making and an easy to use, low-intensity intervention that supports content instruction within the inclusive classroom that requires very little preparation time to implement. When assignments or classroom activities are selected by the teacher there is very little room for students to complete tasks that are personally motivating. Offering a variety of academic tasks, instructional materials, consequences (rewards), or highly preferred activities for the student to choose from empowers them to explore not only the instructional content being addressed in class, but it also enables them to strengthen their abilities with regards to decision-making skills. Dunlap et al. (1994) explains that choice-making is a vital component in behavioral support programs due to the important role that making decisions can have on a students' personal control and dignity.

The purpose of this literature review is to seek a deeper understanding with regards to choice-making and preference as an intervention strategy and to determine the effects that choice-making and preference can have in the inclusive general education classroom. The main question that this paper seeks to answer is: How does choice-making and preference within the classroom affect the academic achievement and behavioral responses of students with disabilities?

CHAPTER II: LITERATURE REVIEW

Literature Search Procedures

Articles for this literature review were located through searches of ERIC, Academic Search Premier, and EBSCO MegaFILE for publications from 1990-2015 with a focus on reviewing published empirical studies from peer-reviewed journals that focused on student choice and preference within inclusive and restrictive educational settings as well as residential settings for students with disabilities. Additional focus was placed on articles that pertained to the impact that choice and preference can have in the areas of academic performance and socially appropriate behaviors. The key words that were used in these searches included “choice problem behavior,” “preference choice problem behavior,” “academic choice students with disabilities achievement," "choice task preference students with disabilities", and “academic choice making disabled students.”

Instructional/Material Choice

The implementation of offering students within-task (choosing between instructional materials and/or environmental arrangements) and across-task (choosing between tasks) options is a simple intervention that requires very little time and effort from the classroom teacher, thus making it a valuable asset within inclusive and restrictive educational settings. Several studies suggested that students demonstrated higher reading fluency rates (Daly III et al., 2006), increased rates of task completion (Kern Koegel et al., 2010), and decreased incidents of disruptive behavior (Kern Koegel et al., 2010; Rispoli et al., 2013) by simply offering students instructional and/or material

choice. However, when comparing the results of a study conducted by Rispoli et al. (2013) to subsequent studies performed by Hua et al. (2014) and Lane et al. (2015), it must be noted that within-task choice may not be as effective in reducing challenging behaviors and increasing task accuracy as compared to other choice interventions explored later in this literature review.

Daly III et al. (2006) examined the direct measurement that student choice could have on academic performance through a multiple-probe design focused on increasing reading fluency rates for middle school aged students with behavioral disorders. Two seventh grade students (one male and one female) were selected as the participants from a public school setting that were identified as having a behavioral disorder. Academic performance data was gathered through reading probes conducted individually in a resource room setting. Independent variables within the study included choice, antecedent instruction, and rewards. Students were able to choose whether they would be instructed or not, choose which form of instruction they preferred, and choose between either tangible or edible rewards upon the successful completion of a session. Results gathered report that both of the participants used the majority of the available instructional time to be instructed in the most difficult instructional method rather than choosing to not be instructed. Oral fluency rates were increased in both participants of this study as well as an increased rate of opportunities for the participants to respond within instruction which may decrease problem behavior within the classroom setting.

Hua et al. (2014) investigated the academic effects of task presentation format and choice on the productivity of students with learning disabilities in a resource setting. Participants included three 4th grade students one being female the other two being male. Data was collected through mathematical curriculum-based measurement probes in three experimental conditions including (1) teacher-assigned worksheets, (2) teacher-assigned paper slips, and (3) students' choice between the worksheet or paper slip in which the total number of correct digits within a five minute timed sample were being tracked. Results show that there was little difference noted pertaining to the task accuracy between the choice and no-choice conditions, thus material choice may not be effective enough as a stand-alone intervention.

Kern Koegel et al. (2010) assessed the motivational variables of preferred reward choice incorporated with choices of materials and task completion and the impact it can have on the academic performance within writing and math activities for students with Autism in their individual residential and daycare settings. Four students diagnosed with Autism (Robbie, Annie, Aidan, and Mitchell) ages 4-7 years old participated in the study. Participants were presented with academic tasks during choice and no-choice conditions. Results show that during the choice conditions latency (amount of time it took the participant to begin the academic task) significantly decreased for all four participants, task completion increased for all participants, disruptive behaviors drastically decreased for all participants, and student interest within the tasks increased for all participants as well. The incorporation of motivational components or preferred rewards assisted in improving the students' interest with regards to completing the

tasks at an increased rate of speed without negatively impacting the outcome of the product.

Rispoli et al. (2013) sought to extend previous research by comparing the effects that choice can have across-task (choosing between tasks) and within-task (choosing between instructional materials and/or environmental arrangements) for students with Autism. Participants include 4 students (Alex, Dylan, Kelly & Eddie) between the ages of 5-11 years old. Data was gathered through an alternating ABAB research design to compare the effects of choice for within-activity choice and across-activity choice conditions. Results show that all participants demonstrated lower levels of disruptive behavior during the choice conditions with the lowest levels of disruptive behavior being documented during the across-task (task choice) condition and therefore it is possible that these choice interventions may be the strong facilitator necessary for students with Autism to access the inclusive classroom setting with their same age non-disabled peers.

Task-Sequence Choice

Allowing students the opportunity to choose the order of completion for multiple tasks can positively effect student classroom behavior (Jolivette et al. 2001; Kern et al. 2001; & Lane et al. 2015) and increase academic performance and/or engagement time (Jolivette et al. 2001; Lane et al. 2015; & Ramsey et al. 2015) along with increasing task completions rates (Ramsey et al. 2015). Research within this area opens the doors to many future applications including the impact of explicit instruction within choice-making skills of young students with Autism Spectrum Disorders and

behavioral disorders, the effects that task-sequence choice has on increased levels of task engagement, and decreased levels of disruptive classroom behaviors. Applying the research content from this study to inclusive settings within different content areas may offer students the external motivation needed to be more successful in the public school setting.

Jolivette et al. (2001) investigated whether offering students with emotional and behavioral disorders choice-making opportunities would result in positive behavior changes and how easily choice-making opportunities can be implemented into classroom routines. Participants included three male students ranging in age from 6-10 years of age within a self-contained special education classroom setting. Choice and no choice conditions were implemented in a multiple-baseline, across student design during independent work completion time in a mathematics class. Participants were offered a choice of the sequential ordering of the assigned tasks during the choice condition and were given the assigned order of tasks to complete during the no choice condition to which data was gathered for disruptive classroom behaviors including task engagement, off-task behavior and disruption. Results show that higher levels of task engagement were observed in two of the three participants during the choice conditions along with disruptive and off task behaviors being lower during the choice condition for two of the three participants. Furthermore, two of the participants' academic responding and accuracy increased during the choice conditions which provides evidence that giving choice-making opportunities to students with

emotional/behavioral disorders may assist in establishing and maintaining appropriate social behavior.

Kern et al. (2001) examined the influence that task sequence choice can have on behavior. The main purpose of the study was to further extend previous research by addressing whether choice making has reinforcement value beyond that of the chosen stimulus. Participants include three students (Danny, Shannon, & Kelly) ranging in age from 7-15 years old with a diagnosed behavioral or intellectual disability whom also displayed disruptive behaviors. Two of the participants participated in the study within an inpatient facility while the third participant engaged in the study within a special education resource classroom. A reversal design was used to gather data regarding task engagement within choice and no-choice conditions as applied to the task sequence. Participants were expected to complete randomly assigned tasks within the no-choice condition and during the choice condition each participant was allowed to choose the desired order of the tasks being completed. Results for all participants show that higher rates of disruptive behaviors were exhibited during no-choice conditions whereas there were lower levels of disruptive behavior and higher levels of task engagement during the choice conditions. Kern at al. (2001) concluded that choice making offers a feasible, effective, and practical intervention strategy that can be used for reducing problem behavior and increasing engagement for students with diagnosed behavioral and intellectual disabilities within the special education resource setting.

Lane et al. (2015) sought to explore the effectiveness of across-task choice and within-task choice through answering the following three questions: (1) Can

instructional choice be implemented with integrity in a classroom setting? (2) "Was there a functional relation between the introduction of the across-task and within-task choices and changes in students' performance?" (p. 496), and (3) "Was the intervention viewed as feasible from teacher and student perspectives?" (p. 496). Study participants included two first grade students, one male and one being female. The male student was diagnosed with Autism Spectrum Disorder and the female was considered to be a typically developing student. Both of the students were identified through report card grades and Student Risk Screening Scales (SSRS) as needing additional behavioral support within the classroom setting. Two types of instructional choice were examined in this study: "(a) across-task choice: the option to choose the order in which to complete assigned tasks; or (b) within-task choices: options of how to complete an assigned task (e.g. writing instrument)" (p.482). The students were offered choices in the quantitative research in an ABAB treatment design. Results of within-task choice show that the academic engagement time (AET) for both students increased while disruptive behavior only decreased for one participant in the presence of choice. Results of across-task choice show that academic engagement time and disruptive behaviors for the male decreased during the choice condition while the female student demonstrated higher levels of academic engagement and lower levels of disruptive behaviors in the choice condition. Lane et al. (2015) state that both types of choice explored within this study resulted in higher levels of academic engagement time which teachers are easily able to implement in the classroom setting for students with and without diagnosed disabilities.

Ramsey et al. (2010) explored the correlation between choice-making and time on-task behavior, task completion, and accuracy for students in the disability category area of Emotional/Behavioral Disorders within an ABAB withdrawal design research format. The purpose of this study was to replicate previous choice of task-sequence research for adolescents with E/BD in a residential facility. The study participants included five adolescents (three female and two male) within a residential facility located in the southeastern United States who were chosen based on a diagnosis of Emotional and/or Behavioral Disorders and that were functioning at least two grade levels below their same age non-disabled peers. Quantitative observational data was gathered during independent work time within the Language Arts and Math classes. Students were given two tasks to complete within the no-choice condition in which the teacher assigned the order of the tasks. Students were also given two tasks to complete during the choice condition to which they were allowed to pick the order of task completion. The results of this study yielded positive effects of choice-making within task-sequence for students with E/BD in a residential facility which therefore could be easily modified to practically fit into the classroom setting to assist students in improving their academic and social functioning. When presented with explicit choices within task-sequence, a functional relation between the variables of time on-task, task-completion, and accuracy were present for four of the participants. However, the results for the accuracy within the tasks completed did not increase enough to result in passing scores for four of the five participants.

Preference/Task Choice

Research shows that allowing students the opportunity to choose between multiple tasks may increase appropriate classroom behaviors (Cosden, Gannon, & Haring, 1995; Dunlap et al., 1994; Dyer, Dunlap, & Winterling, 1990; Powell & Nelson, 1997; Skerbetz & Kostewicz, 2013; & Ulke-Kurkcouglu & Kircaali-Iftar, 2010) which can result in higher levels of academic performance (Cosden, Gannon, & Haring, 1995; Patall, Cooper, & Wynn, 2010; Skerbetz & Kostewicz, 2013; & Stenhoff et al., 2008). Subsequently, when the student repeatedly or frequently chooses a task over other options available it is safe to presume that student 'preference' has been established. Student preference in the presence of choice can be used to assist in the design of effective behavior intervention plans while increasing on-task behaviors (Cole et al. 1997; Coniglio, 2000; Dunlap et al., 1994; & Killu, Clare, & Im, 1999), decreasing problematic and/or disruptive classroom behaviors (Conigilio, 2000; Dunlap et al., 1994; Foster-Johnson, Ferro, & Dunlap, G., 1994; Umbreit & Blair, 1996; & Vaughn & Horner, 1991), as well as increasing student work performance (Coniglio, 2000; & Patall, Cooper, & Wynn, 2010). One study concluded that the inconclusive data gathered during the research failed to produce effects and indicated that there is only some benefit to choice as an intervention (Cole et al. 1997). Overall, the research indicates that there is a direct correlation between student choice and positive effects within the learning environment.

Cole et al. (1997) sought to "compare the effects of choice and assignment of preferred and non-preferred tasks on work performance of students with behavioral

disorders" (p. 66). Study participants included three male students ages 11-13 all of whom displayed disruptive classroom behavior. Task preference baseline data was gathered through offering a choice between two out of five identified classroom/vocational based tasks until all of the task choices were exhausted. A multi-element design was implemented to gather quantitative observational data to which each student was (1) assigned a preferred task to complete, (2) assigned a non-preferred task to complete, and (3) provided a choice between a preferred and non-preferred task to complete. Results indicate that each participant identified clear task preferences, demonstrated higher levels of task engagement during choice conditions and/or teacher assigned-preferred task conditions, disruptive behaviors displayed during each condition remained relatively low and comparable, and the work productivity of two of the students was highest during the teacher assigned-preferred conditions while only one student demonstrated slightly higher work productivity during the choice condition. The data suggests that both choice and preference affected the behavioral outcomes of the participants along with the increase in task engagement.

Coniglio (2000) investigated the effects that choice-making had on on-task behavior, disruptive classroom behavior and academic performance in the presence of lower versus higher preference mathematical academic tasks. Participants included three elementary aged male students ranging in age from 8-10 all of which were referred to the study due to their low academic achievement levels and aggressive behaviors within the school setting. Problem Identification Interviews were completed for each student to assist in determining the function of the target behaviors. Disruptive

behaviors included participants out of seat, talking to peers, throwing work or other materials on the ground, yelling out across the room, refusal to complete the task, and aggression towards peers during independent work time. Data was gathered through an ABAB experimental design in which condition (A) offered the student a choice between two tasks and condition (B) the teacher assigned one of two tasks to the student. Implementation of the ABAB design was conducted twice in which the first time low preference tasks were tracked and during the second implementation high preference tasks were tracked. Results show that in the presence of choice versus no-choice in the low preference tasks, there was very little difference between the academic performance as well as the disruptive and on-task behavior exhibited by the participants. In the presence of high preference tasks "the rates of disruptive behavior exhibited by each participant were variable and inconsistent" (p. 20). Academic performance increased during the high preference choice conditions for two of the three participants which resulted in higher levels of work completion and accuracy rates. It must be noted that the participants in this study were labeled as *at-risk* and therefore were not receiving formal behavioral interventions which may be the cause of the inconsistencies within the results. Subsequently, they were all referred for behavioral interventions after the conclusion of the study.

Cosden, Gannon, and Haring (1995) explored whether academic benefit could be derived from student and teacher choice regarding academic tasks and rewards. Participants included three male students (Billy, Tim, & Carlos) within a residential facility ages 11-13 and were all diagnosed with having behavioral disorders.

Two phases of the study were conducted in which phase 1 contained an alternating treatment design containing the following three conditions: 1) teacher-control of task assignment and reinforcer, 2) student-control of reinforcer, and 3) student-control of task assignment and reinforcer. During Phase 2 an 85% accuracy condition was added to the previous three conditions along with a student control of task assignment condition in order to ascertain the independent effects of choice regarding task versus reward. Results show that the levels of performance for all three participants during phase 1 and phase 2 was significantly higher during the student-control of reinforcement and task condition versus the teacher-control of tasks and reinforcement.

Dunlap et al. (1994) conducted two qualitative analyses in which the "primary objective was to evaluate the possible benefits of choice making for elementary school students identified as having emotional and behavioral disorders" (p. 506) along with a secondary purpose to "explore a possible distinction between effects of preference and the operation of choice-making" (p. 506). The study participants included two eleven year old males and one five year old male all receiving special education services under the disability category are of Emotional/Behavioral Disorders. An ABAB research design was implemented in which the participants were offered first a no-choice condition followed by a choice condition. The participants were offered a "menu" of task options that directly correlated with the instructional subject matter in the classroom to which they had the power to choose their desired task to complete. When the data between the congruent studies are compared, results indicate that offering students the ability to make a choice within their academic tasks serves to heighten their levels of on-task

behavior while decreasing their levels of disruptive classroom behavior. Furthermore, during no-choice conditions the disruptive classroom behaviors for all participants increased drastically.

Dyer, Dunlap, and Winterling (1990) sought to expand the current literature with regards to choice-making for students with severe handicaps. The purpose of the study was to implement a choice package in which students were able to choose their tasks as well as reward in order to decrease serious problem behaviors. The study participants included three non-verbal children, (Lori, Mary, and George), ages 5-11 years old all with either autism or severe mental retardation. The Vineland Social Maturity Scale was used to assess the female participants to which the results indicated that they had social age scores of 1.8 and 1.0 years of age. The male participant was assessed with the Vineland Adaptive Behavior Scales and it was determined that he had a composite behavior of 1.5 years of age. The students were explicitly instructed with regards to choice-making previous to the start of study sessions. A reversal design was implemented to gather data for which there were two conditions: choice and no-choice. All behaviors within the session were addressed according to the participant's individual behavior plan. Results show that each participant displayed a decrease in problem behaviors during the choice condition sessions and an immediate increase in problem behaviors during the reversal no-choice conditions. "In summary, the principal finding from this investigation are that (a) the choice conditions always produced lower levels of problem behavior than did the no-choice conditions, (b) during the choice conditions, levels of serious aggressive behaviors were lower for Mary and nonexistent for George, and (c) there

were no systematic differences in the rate of unprompted correct responding across both conditions" (p. 519).

Foster-Johnson, Ferro, and Dunlap, (1994) examined the relation and influence between preferred academic activities and appropriate and problem behaviors for students with intellectual disabilities. Participants included three students (Charles, Cathy, and David) ages 9-15 years old with moderate to severe mental retardation. The study was conducted during two phases in which the participants activity preference was assessed during phase 1 and a comparison of preferred versus non-preferred activities and their relative influence on behaviors was assessed during phase 2. Results for all three participants show that there was a higher level of problem behavior exhibited during the non-preferred activity condition to which there was an average decrease of problem behaviors by 21% during the preferred activity condition. The authors state that "perhaps the most significant finding from this study is that the students' preferences for activities was associated consistently with substantial differences in behavior" (p. 501) and "the important point is that preferences can be identified and can be used to improve the quality of educational activities" (p. 503). The observations during this quantitative study lead to two important conclusions: (1) preferred activities result in fewer problem behaviors for students with intellectual disabilities, and (2) learning objectives do not need to be altered within a curriculum in order to create preferred activities.

Killu, Clare, and Im (1999) investigated the relationship between choice and no choice conditions in the presence of preferred versus non-preferred academic activities.

Participants included three middle school age boys (Eldon, Keith, and Jeremy) all receiving special education services for learning or developmental disabilities. Data was gathered through an ABCDEF research design in which the conditions included the following: (a) choice of preferred tasks, (b) choice of non preferred tasks, (c) no choice of preferred tasks, (d) no choice of non preferred tasks, (e) no choice of preferred tasks (yoked-control), and (f) no choice of non preferred tasks (yoked-control) (Killu, Clare, & Im, 1999) during spelling instruction. Results show that all participants demonstrated higher levels of task engagement during all of the conditions that involved preferred tasks regardless of choice or no choice which leads the authors to believe that the variable of preferred tasks is a greater factor in student engagement over choice of tasks.

Patall, Cooper, and Wynn (2010) examined how choice can impact student motivation with regards to homework completion and academic performance in the classroom. Two analyses were completed during the course of this study. Analysis 1 examined the impact that choice can have on homework performance and learner outcomes and Analysis 2examined the students' perceptions regarding the importance of choice at school. The study included 207 participants in grades 9-12 from 14 classroom at two different urban high schools. Participants were randomly selected to complete assignments within a homework-choice or no homework-choice condition. Results show that students had greater success during the choice conditions than in the no-choice conditions and that when provided the opportunity to make a choice, students may complete academic tasks more effectively and efficiently.

Powell and Nelson (1997) conducted a study to research the effect that choice between academic assignments can have on a student with attention deficit hyperactivity disorder (ADHD). The participant was a 7 year old male with a diagnosis of ADHD and was receiving 15 mg of Ritalin daily to treat the symptoms of the disorder. Quantitative classroom observations of the participants disruptive classroom behavior took place during Language Arts instruction. A reversal ABAB design was implemented used to evaluate the effects of choice making to which the student was offered choice and no choice conditions. During the no choice condition the participant was expected to complete the same assignment as the rest of his inclusive classroom and during the choice condition he was allowed the opportunity to choose one of three different assignments to complete. Results of the research show that the participants levels of disruptive classroom behaviors decreased during the choice conditions.

Skerbetz and Kostewicz (2013) examined the effect that assignment choice can have on the academic and behavioral success on students with emotional and behavioral disorders. The main purpose of the study was to replicate and extend previous studies of choice for students with ED through providing simultaneous intervention to multiple students diagnosed with ED in an inclusive classroom to which all of the students, disabled and non-disabled, will receive choice intervention. Participants included 5 eighth grade students (Dan, Bob, Donna, Lynn, and Karen) from an urban charter school and data was gathered during Language Arts instruction through an A1-B1-A2-B2 experimental design containing choice and no choice conditions. Overall results show that 4 students (Bob, Karen, Dan and Lynn) completed

assignments faster and demonstrated greater accuracy when provided academic choice. When their assignment scores for the same assignments were compared, it was noted that all of these students completed the assignment better during the choice conditions. The fifth participant (Donna) did not show the same experimental effects as her scores and the time to complete the tasks appeared unaffected through the condition changes. The authors hypothesize that this lack of change may be a result of an academic deficit rather than an interference due to inappropriate behaviors as her levels of task engagement remained relatively high through the duration of the study. "Results from the present study suggest that academic choice affects behavioral and academic gains" and "given the cost/benefit ratio of implementing academic choice, teachers may find incorporating academic choice an effective option to assist students with ED in inclusive settings" (p. 221).

Stenhoff et al. (2008) investigated the effects that choice between academic assignments has on task completion by a high school student identified as having a learning disability along with seeking to further explore the implications that assignment choice has on academic achievement. Information gathered through article research reports that allowing students a choice within and between academic tasks directly increases the amount of time-on-task behavior while subsequently decreasing disruptive behaviors displayed in the classroom. The study participant was a high school student receiving services under the disability category area of Specific Learning Disability within the context of a resource room setting for the core content area of Science. He was selected based on the qualifying factors of having poor homework

completion rates resulting in poor grades. There was a focus on two dependent variables within this quantitative study including (1) the percent of assignments completed and (2) the percent of items correct within each assignment while the independent variable included the choice between two assignments. The experimental design was administered in an ABAB format where the student was offered no choice pertaining to the required academic tasks and having a choice between two academic tasks. Stenhoff et al. (2008) reports that the student went from a failing grade of 52% during baseline data gathering to a passing grade of 76% upon completion of the study. In all instances the participant chose the classroom assignment rather than the secondary assignment option. The participant also increased the rate at which assignments were completed from an average of 2% during baseline to an average of 99% upon the completion of the study.

Ulke-Kurkcouglu and Kircaali-Iftar (2010) explored the relationship between choice and no choice conditions and the effects of providing a choice between either activities or the materials used to complete the activities. Study participants included four boys with ASD ranging in age from 5-8 years old. A discrete-trial format (most to least prompting) was used in a reversal design to gather data. Students were offered two different activities to choose from during the activity choice condition and during the material choice condition they were able to choose the specific materials used to complete the activity. Results show that participants' on-task behaviors increased during choice conditions with slightly higher levels of on-task behavior during the choice between activity and on-task behaviors decreased during no choice conditions.

Umbreit and Blair (1996) sought to determine whether the presence of preference, choice and attention from teaching staff would make a positive impact on a student with severe intellectual disability within a full inclusive classroom setting. The study participant included one 11 year old boy with diagnosed with pervasive developmental disorder including moderate-to-severe cognitive delay and extremely limited communication skills. He also displayed significant disruptive problematic classroom behaviors including making loud noises, hitting, throwing, running away, biting, spitting, and lying on the floor. Structured teacher interviews and student observations were completed in order to gather pertinent data regarding the participants classroom behavior and preferred classroom activities. The intervention phase of the study contained skills taught with preferred activities, participant choice with non-preferred activities, frequent attention when appropriate behaviors were exhibited, and instruction of appropriate communication skills. Information gathered during baseline show that the participant engaged in problematic behaviors during 55-100% of intervals within the first half of the day and 78-97% of intervals during the second half of the day. During the intervention phase of the study, Umbreit and Blair (1996) report that problem behavior was virtually eliminated and appropriate behavior occurred nearly all of the time. As the study progressed the participant displayed more interest in academic based computer games and less interest in non-academic based activities which resulted in a dramatic increase in the amount of time the participant engaged within academic tasks. The generalized problem behaviors ceased to exists

during the school day in the presence of preferred activities and choice within non-preferred activities.

Vaughn and Horner (1991) examined an informal approach to identifying lower preference and higher preference tasks and resulting problematic behaviors within each task set. This study also examined the effects that student choice versus teacher choice within these tasks sets have on problematic behaviors. Four students ranging in age from 7-12 years old with intellectual functioning in the moderately to severely profound range were chosen as the participants within this study based on teacher recommendations for their task escape behaviors. The quantitative study took place in the following three phases; *Phase 1: Functional Assessment and Teacher Nomination of Tasks,* included a structured interview to identify lower and higher preference tasks used to generate individual hypothesis for each participant, *Phase 2: Structural Analysis,* included the use of a multielement design to evaluate the effects of higher and lower preference tasks on problematic behavior, and *Phase 3:Choice Assessment,* included the examination of the effects on problematic behavior when participants were allowed to choose between two lower preference tasks or two higher preference tasks versus when the teacher choose between the same tasks. An ABAB reversal design was implemented to gather data for student choice versus teacher choice during this phase. Results of the preference assessment show that the participants displayed higher levels of problematic behavior on tasks that were identified as lower in preference and lower levels of problematic behaviors on tasks that were identified as higher in preference. The study participants almost always chose higher preference tasks when given the

opportunity for choice-making to which the problematic behavior remained low during task engagement regardless of whether the students chose the task versus the teacher choosing the task. When the participants were instructed to choose between two lower level preference tasks versus the teacher choosing between the same tasks, problematic behavior was slightly lower for two of the students when they were able to choose between non-preferred tasks while the other two students demonstrated equivalent disruptive behaviors. The author concludes that the results from this study add to the intervention options available to teachers and family members with regards to incorporating preference into the daily routines of students with disabilities.

Preference/Consequence (Reward) Choice

Findings show a strong correlation between consequence choice to higher levels of appropriate classroom and residential behavior (Peck et al., 1996; Peck Peterson et al., 2001), improvement of task completion and/or time-on task rates (Mechling et al., 2006; Skerbetz & Kostewicz 2015), and higher levels of academic performance (Peck Peterson et al., 2001). However, according to research conducted by Skerbetz and Kostewicz (2015) offering students a choice in reinforcement will decrease problem behavior but may not increase academic progress or work productivity. Similar to the results found for Preference/Task Choice, there are multiple researchers (Mechling et al., 2006; Dozier et al., 2207; Harding et al., 2002; Mechling, Gast, & Cronin, 2006) who examined the effects of pairing student preference with consequence choice. Student preference in the presence of consequence choice has been attributed to increasing students' on-task and/or task completion behaviors (Harding et al., 2002; Mechling,

Gast, & Cronin, 2006), decreasing problematic and/or disruptive classroom behaviors (Dozier et al., 2207; Foxx & Meindl, 2007; Harding et al., 2002), as well as increasing student work performance (Foxx & Meindl, 2007; Mechling, L.C., Gast, D.L., & Cronin, B.A., 2006; Mintz et al., 2007).

Dozier et al. (2007) sought to determine whether children with severe developmental and communication disabilities would choose treatment versus baseline conditions in the presence of preferred tangibles and activities. Two males age 14 and 6 were chosen for participation in this study each undergoing a functional analysis of their behaviors to determine baseline. Data pertaining to treatment preference versus no treatment conditions was collected through a concurrent choice experimental design in a restrictive setting. Results show that both participants chose the treatment condition over the baseline condition to which problematic behaviors for both boys were significantly reduced. While caregivers and teachers may prefer interventions that are considered easy to implement, students may require behavioral interventions that require more preparation time. Thus, teaching staff may need to consider sustainable intervention options that require additional time to develop and implement in order to obtain higher levels of desired outcomes.

Foxx and Meindl (2007) sought to provide a behavior program that would dramatically decrease severely aggressive/destructive problem behavior for a preadolescent with Autism while simultaneously increasing more socially appropriate or adaptive behaviors. The study participant is a 13 year old receiving special education services in a self-contained classroom setting within a public school. He was chosen for

this study due to his severely aggressive and oftentimes destructive behaviors. The lack of academic progress due to the intensity and duration of his behaviors was a concern identified by his teachers and parents. A functional assessment of the behaviors was conducted in order to gather baseline data as well as to ascertain the true function of the behaviors. The participant was moved to a new segregated school into his own classroom in order to receive the planned programming. A DRO (Differential Reinforcement of Other behaviors) program was implemented beginning with 5-minute intervals along with a token economy system in which the participant could earn tokens towards the acquisition of preferred consequence reinforcers. Over time the intervals increased along with the number of tokens necessary to earn a consequence reinforcer. Results gathered during the first three months of the study report that aggressive/destructive behaviors decreased from an average of 102 incidents per day to an average of five incidents per day. During the next three months incidents were further reduced to an average of .29 per day. Overtime, the aggressive behaviors displayed by the participant slowly changed into less severe forms of behavior. Foxx and Meindl (2007) report that "after eight months of treatment, negative verbal behaviors were occurring at such low frequencies that all specific consequences for them were discontinued" (p. 92). A limitation of this report is the lack of experimental design to which the authors justified its absence through the explanation that this was a clinical endeavor aimed at the treatment of severe behaviors. One of the main strengths of this study is the non-static nature of the program. For example, programmed consequences to inappropriate behavior were eliminated as the natural consequences to the

participants choices were implemented. The significant decrease in the problematic behaviors exhibited by this participant resulted in "excellent educational progress" (p. 95).

Harding et al. (2002) investigated an implementation of a choice assessment in order to evaluate the relative influence that preferred toys and parent attention can have on serious problem behavior that is maintained by positive and negative reinforcement. Participants include two boys (Zeke and Gary) both diagnosed with pervasive developmental disorder. The study consisted of two phases; *Assessment Phase:* reinforcers for each participant were identified within this phase, and *Treatment Phase:* treatment interventions were administered to each participant to test the individual hypotheses. Results for Zeke demonstrated that the choice conditions yielded a higher increase in work compliance and task completion rates and the problematic behavior all but ceased in the presence of choice. Results for Gary show that in the presence of choice problematic behavior was at near zero levels along with an increased rate of task completion. This study included the necessary modifications made to both treatment interventions as the study progressed in order to provide each participant with the optimal levels of positive reinforcement necessary to produce positive behavioral choices.

Mechling, Gast, and Cronin (2006) explored the introduction of high-preference items through video technology of student preferred stimuli and its effect on task performance for two students with Autism. Participants were middle school age and both had full scale IQ scores that placed them in the mild to moderate mental

retardation range of intellectual functioning. Data was collected within a self-contained classroom setting through an ABAB experimental design in which condition (A) the teacher chose the tangible reinforcement item and condition (B) through the use of video recordings, the student chose the reinforcement item. Results show that task completions times were shortest during choice conditions and the maintenance of task accuracy was consistent through the conditions which indicates that students were able to work more efficiently to complete a task in the presence of preferred reinforcement stimuli without compromising the quality of work being completed.

Mintz et al. (2007) explored the quantitative evaluation of consequence choice for students without learning or developmental disabilities in order to ascertain if the choice in preferred reinforcers identified by a teacher versus the individual student results in higher levels of responding for typically developing children. Four 10-12 year old students, three male and one female, receiving specialized instruction for behavioral problems within a public day treatment program were chosen as the participants for this study. The study participants demonstrated difficulties with regards to achievement in mathematics as identified by the Kaufman Test of Educational Achievement (KETA). Two of the students have a diagnosis of Bipolar Disorder, one student was dually diagnosed as having Attention Deficit Hyperactivity Disorder and Bipolar Disorder, and one student was void of having a diagnosed behavioral disorder. Participants were given timed addition facts tests to which they were held to an 80% accuracy mastery criterion before advancing to the next level of instruction. The study participants and the teacher were directed to generate a list of potential reinforcers to be used as a reward for the

completion of academic tasks done well. The study was conducted in five phases including: *Baseline;* four minutes assessment probes were administered to the participants to which there was no reinforcement offered, *Teacher generated list/teacher choice;* four minute assessment probes were administered to which the participants received a reinforcement choice randomly selected by the teacher that the participants had no previous knowledge of, *Teacher generated list/student choice;* four minute assessment probes were administered to which the participants were able to chose the teacher generated reinforcer prior to the assessment, *Student generated list/teacher choice;* identical to the teacher generated list/teacher choice phase with the exception being that the student generated the list of reinforcers, *and Student generated list/student choice;* identical to the teacher generated list/student choice phase with the exception being that the generated list of reinforcers was created by the students. Results indicate that there is an increase in all four methods which implicates that consequence choice in any stage can be an effective strategy to increase student responding. For all participants, effective reinforcers appear to have been identified based upon increases in level and/or trend across phases from which reinforcement was provided. Likewise, student and teacher choice were both effective methods for identifying and delivering reinforcers for all participants.

Peck et al. (1996) utilized a qualitative concurrent operants framework to explore the choice-making behavior of five children with severe developmental disabilities. Their main purpose of the investigation was to analyze the children's behavior choice-making skills within the context of their ongoing displays of aberrant

behavior versus the manding behavior to which the hypothesis for each child varied slightly based in the severity of the displayed behaviors. It was determined through individual functional analysis that the children were either escaping from demands or maintaining current behavior through negative attention. Participants included five children, one female and four males, ranging in age from 16 months old to four years old. All of the study participants were chosen based in their diagnoses of developmental delays, mental disabilities, or chronic health problems and engaged in inappropriate behavior that is considered life threatening and/or considered a serious risk to either themselves or others. The research was conducted in three phases including; *Phase 1: Experimental Analysis:* This phase of the research was conducted over the span of ten days and was used to gather pertinent information regarding the identification of the situations in which the subjects either rarely or commonly displayed inappropriate behaviors. Information was gathered through survey questionnaires and participant observations. This information was then used to formulate the hypotheses about the situations that maintained inappropriate behaviors. For four of the participants an antecedent analysis was conducted during this phase as well. *Phase 2: Choice-making analysis:* This phase of the research was conducted over the span of two days and focused on two steps (a) FCT and (b) choice making. Verbal and physical prompts were given during this phase to reinforce the mand. Each FCT session was conducted during 10-15 minutes intervals, twice per day until the child was independently displaying the mand for two consecutive sessions. *Phase 3: Follow-up treatment probes:* This phase of the research was conducted over six months in one

session per day for a duration between 10-20 minutes in length which focused on increasing the participants choice-making between longer duration and higher quality of reinforcement that was being supplied. Overall, each participant decreased the amount and duration of the inappropriate behaviors identified during phase 1 of the study. Furthermore, the implementation of explicitly teaching severely disabled children how to make appropriate choices can significantly decrease their potentially harmful behaviors from occurring in the future. The authors note that this study gives evidence that choice-making along with positive and negative reinforcement reduces the need for punishment of inappropriate behaviors. This study reinforces the belief that all behaviors are a form of communication, especially for those with very limited communication skills such as the severely and multiply impaired participants in this article.

Peck Peterson et al. (2001) applied a functional behavior assessment on a 10 year old male diagnosed with Autism and whom was displaying disruptive behaviors including crawling under tables and verbal outbursts throughout the school day in an attempt to show that choice-making has a positive effect on decreasing disruptive behaviors. A Functional Behavior Assessment (FBA) it was conducted in order to ascertain the main function of the problematic behaviors which subsequently determined the hypothesis that the participant engaged in the disruptive behavior to escape from the task demands presented in the classroom and to obtain attention from the teaching staff. Four conditions comprised the multielement design of the baseline data collection which included (1) Free Play, the participant was allowed to play with

teaching staff to which no tasks demands were in place and inappropriate behavior was ignored, (2) Contingent Attention Toys, the participant was allowed to play with his favorite toys during independent free play void of attention from teaching staff except when inappropriate behaviors were being mildly re-directed, (3) Contingent Attention Work, this condition was identical to the Contingent Attention Toys condition with the exception that the participant was prompted to complete an academic task independently, (4) Contingent Escape Work, the participant was prompted to work with the teaching staff to complete a difficult academic task to which the teaching staff would walk away from the participant if he displayed inappropriate behaviors. Results show that during the free play condition and the contingent attention toys condition the participant rarely displayed inappropriate behaviors. Peck Peterson et al. (2001) state that "these results suggested that Trevor's inappropriate behavior was not maintained by adult attention when toys were present" (p. 242). High percentages of inappropriate behavior were displayed by the participant during both of the work conditions with a more consistent occurrence of inappropriate behaviors being displayed by the contingent escape work condition to which the author stated "this indicated that when academic tasks were present, the participant engaged in inappropriate behavior both to obtain teacher attention and to escape task demands" (p. 243). During the application of the choice intervention, inappropriate classroom behavior during academic tasks decreased to which the intervention was applied across the participants school day. Results of observational classroom data report that the participant increased the

amount of time spent completing independent academic work along with decreasing the inappropriate behaviors displayed in daily school activities.

Skerbetz and Kostewicz (2015) sought to explore the effects that consequence choice would have in an inclusive setting for students that have been receiving specialized instruction for the disability category area of Emotional and Behavioral Disabilities (E/BD). A vast majority of research in the area of consequence choice has taken place within the confines of a segregated setting, therefore this study focused on the investigation of consequence choice for students within an inclusive setting. More specifically, Skerbetz and Kostewicz (2015) wanted to answer the following research questions: "What effect will consequence choice in the form of choice reinforcement during independent math activities have on the (1) task engagement and (2) academic performance of students with E/BD served in an inclusive setting?" (p. 16). The study participants included four fifth-grade students with either an Emotional Disturbance or a behavioral diagnosis recognized within the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM)-IV. Two of the participants were receiving specialized support through an individualized education plan while the other two participants were receiving support within the classroom through 504 plans. Support services were provided daily through a co-teaching model with the general education and special education teacher in an inclusive classroom setting. Students within the math class were grouped into ability levels to which the participants were placed in their own group that allowed for the special education teacher to directly implement the consequence choice and differentiated instructions. The four dependent variables

within the study included the duration and frequency of student academic engagement along with correct and incorrect mathematical digits gathered from daily probes. The independent variable used throughout the study involved the manipulation of consequence choice. Individual baseline data was gathered for each study participant that included both present levels of mathematical ability and reinforcer preference. Data gathered from this study indicated that students engaged more often on academic tasks and remained engaged for longer periods of time on difficult material when they were presented with a choice in reinforcement. It must be noted that participants in this study did not show an increase in task performance which indicates that offering students a choice in reinforcement will decrease problem behavior but may not increase academic progress or work productivity.

CHAPTER III: DISCUSSION AND SUMMARY

Summary of Literature

The purpose of this literature review was to determine the effects of student choice-making and preference on the behavioral responses and academic achievement of students with disabilities. Powell and Nelson (1997) found "that choice procedures may be helpful to educators in managing the behaviors of students in general education classrooms" (p. 183) and the results from several other studies strongly suggest that in the presence of choice and preference students display a significant decrease in problematic behavior (Cole et al., 1997; Dozier et al., 2007; Dunlap et al., 1994; Dyer, Dunlap, & Winterling, 1990; Foxx & Meindl, 2007; Jolivette et al., 2001; Kern et al., 2001; Kern Koegel et al., 2010; Lane et al., 2015; Peck et al., 1996; Peck Peterson et al., 2001; Rispoli et al., 2013; Skerbetz & Kostewicz, 2013; Ulke-Kurkcouglu & Kircaali-Iftar, 2010, Umbreit & Blair, 1996; & Vaughn & Horner, 1997) which could result in a more positive inclusive experience for students with disabilities. Dyer et al. (1990) went so far as to say that "choice conditions always produced lower levels of problem behavior than did the no-choice conditions" (p. 519) while Dunlap et al. (1994) and Jolivette et al. (2001) determined through their investigations that choice making provides substantial benefits for students with emotional and behavioral challenges including high levels of student task engagement that can positively influence the behaviors of students which provides proof that giving choice-making opportunities to students with emotional and/or behavioral disorders and Autism can assist in establishing and maintaining

appropriate social and classroom behavior while increasing the amount of time spent engaged in academic tasks without compromising the integrity of the curriculum.

This decrease in problematic behavior can also result in a more effective and efficient use of student work time, increased levels of academic engagement times, and an increase in task completion skills (Kern Koegel et al., 2010; Jolivette et al., 2001; Lane et al., 2015; Mechling, Gast, & Cronin, 2006; Mintz et al., 2007; Patall, Cooper, & Wynn, 2010; Ramsey et al., 2015; Ulke-Kurkcouglu & Kircaali-Iftar, 2010; & Umbreit & Blair, 1996) which can lead to significant academic gains (Cole et al., 1997; Cosden, Gannon, & Haring, 1995; Daly III et al, 2006; Foxx & Meindl, 2007; Lane et al., 2015; Stenhoff et al., 2008) including higher performance and accuracy scores on tasks that were chosen by the student versus tasks that were assigned by the teacher.

Killu, Clare, and Im (1999) "provide evidence to suggest that choice and preference are variables that have implications for education students with disabilities" (p. 252). When considering the impacts that choice can have within the classroom it is imperative for educators to also take into account the effects that preference may have on the behavioral and academic success of students as found in research conducted by Cole et al. (1997); Harding et al. (2002); Hua et al. (2014); Kern Koegel et al. (2010); Killu, Clare, and Im (1999); Mechling, Gast, and Cronin (2006); Umbreit and Blair (1996); and Vaughn and Horner (1991). It is also imperative that when utilizing student preference in conjunction with choice educators must identify high preference items for the students involved in the intervention (Harding et al., 2002) as this enables educators the ability to develop individualized and specific treatment packages. Furthermore, when

educators apply choice and preference simultaneously as an intervention package Kern & Koegel et al. (2010) found that "incorporating motivational components in academic tasks resulted in faster completion rates, decreased disruptive behavior, and improved interest" (p. 1065).

In contrast to what much of the research shows, three research teams suggest that their data indicates that choice and preference may not be an effective intervention strategy. Skerbetz and Kostewicz (2015) caution that "based on the findings, teacher's should consider using reinforcements and consequence choice as a back-up strategy to maintain engagement levels on matched tasks and improve engagement when tasks may prove too difficult for a student" (p. 27) and Hua et al. (2014) determined that there was little difference noted pertaining to the task accuracy between the choice and no-choice conditions and state that "the results of the study also suggest that the effectiveness of choice-making depends on the relative discrepant preference levels of the choice alternatives" (p. 107) while Coniglio (2000) feels that due to the variable and inconsistent nature of the disruptive behaviors exhibited by the participants throughout the study that "it is still unclear if choices of activities or preference for various activities were responsible for behavioral changes in these participants" (p. 36). Thus, they conclude that choice and preference may not be effective enough as a stand-alone intervention to simultaneously decrease problematic behavior and increase academic work progress or work productivity.

Limitations of the Research

This literature review evaluated 30 empirical articles that investigated choice-making and preference and the impact that those intervention strategies can have on the academic progress and management of behaviors both in and out of the inclusive classroom setting for individuals with disabilities. Articles were located through searches of ERIC, Academic Search Premier, and EBSCO MegaFILE for publications from 1990-2015. The initial key words that were used in the search included “academic choice students with disabilities achievement” which located three articles that explored the effects of choice for students with emotional and behavioral disorders as well as learning disabilities in the naturally occurring inclusive setting. Subsequently the scope of the search was widened to include the effects of choice and preference for students with disabilities in restrictive settings such as special education resource rooms, after-school programs, and student home and residential facilities using the following key words; “choice problem behavior,” “preference choice problem behavior,” "choice task preference students with disabilities", and “academic choice making disabled students.”

In researching the topic of choice-making and preference interventions, the main limitation of the available research include the restrictive educational and residential settings in which the data was gathered. While there was a vast amount of articles available pertaining to restrictive educational or residential settings, very few researchers have tackled the implication of these intervention strategies in the naturally occurring general education classroom setting. This may beg the reader to ask the question, if the studies are replicated within a small group where the possibility of peer

modeling exists or within the naturally occurring inclusive classroom would there be higher levels of academic gain for the research participants? Furthermore, would there be additional benefits to the socially appropriate behaviors exhibited by these students including increased problem solving skills, decision making skills, and the acceptance of their non-disabled peers?

Another limitation of the available research includes the significant lack, almost absence, of data pertaining to the effects of choice and preference interventions with regards to students having a diagnosis of learning disabilities or developmental and cognitive disabilities. A relatively large pool of research has been conducted within the past twenty-five years resulting in data that exists for the effects pertaining to students with behavioral disorders and Autism, however it seems that if one wants to better understand the full ramifications that this intervention may have on those with learning disorders or developmental and cognitive disabilities, they may need to accept the challenge to conduct their own research to add to the pool of available data.

It also seems that researchers could have added further validation to results of their studies pertaining to the behavioral impact of the intervention by simply adding data regarding the participants work performance during these structured observations. Yoking the results from these two components would truly display the full impact that these intervention strategies could have on the education of students with diagnosed disabilities.

Implications for Future Research

After reviewing the available research pertaining to choice and preference for children with disabilities educators may want to see more data as it relates to: (a) the naturally occurring inclusive classroom setting, (b) the relationship that choice as an early intervention may have on the prevention of future disruptive behaviors, and (c) choice and preference as it applies to students with intellectual disabilities.

Over the past twenty-five years researchers have gathered data that shows the powerful impact of offering choice and preference within a restrictive setting can have on the behaviors and academic performance of children. In order to validate the effectiveness of choice and/or preference as an intervention within the inclusive setting researchers will need to focus on gathering future data in the naturally occurring inclusive classroom setting.

Failure or the fear of failure can be a powerful determination in an individuals willingness to participate in or complete a task. Students that experience high rates of failure early in their educational career may suffer from decreased levels of motivation resulting in increased levels of withdrawal and/or task avoidance. Experiencing early academic success may prevent these feelings of failure and offering students the extrinsic motivators of choice or preference within the learning environment may be the empowering tool necessary for success later in their schooling. The next step would be finding a research team daring enough to accept the daunting task of following students through their educational career in order to ascertain the impact that early choice interventions have on the long term academic success of students with disabilities.

Through researching choice and preference an overwhelming amount of data was located pertaining to its impact on students with emotional/behavioral disorders and Autism. Very little choice and preference research seems to have been conducted as it applies to students with intellectual disabilities. Having strong choice-making skills are vital to the self-advocacy, self-determination and preservation skills necessary for those with the most significant of disabilities to have a voice in their future roles within our society. Being that the individual education plans for this population of students are functional in nature, having a better understanding of how choice within their educational settings impacts them would allow for teachers to provide learning environments more suited to their specific and unique needs.

Implications for Professional Application

The research of the literature for this study has shown that choice-making and preference interventions can bring numerous benefits to the classroom setting for students with disabilities. The evidence suggests that including preference in the curriculum can increase student motivation to participate within and complete academic tasks and as Harding et al. (2002) stated, identifying highly preferred items is paramount to the success of the preference package within the curriculum.

Moving forward with the results discussed in this review will allow educators to improve their craft through the incorporation of preference and choice in student programming. Educators have the distinct opportunity to begin the implementation of this practical intervention through the simple data gathering tool of student interest surveys or, if the situation warrants, the more complex tool of a functional behavioral

analysis. Once preferred items have been identified by the education team, educators can integrate activity/task choice within the naturally occurring curriculum by simply allowing the student to chose the homework/academic task that they prefer. As it applies to students within a more restrictive ASD or DCD curriculum, allowing them to chose the order of the tasks that are required to be completed, the materials used to complete the tasks, or the environment in which the tasks are completed has been shown to result in significantly lower incidents of disruptive behaviors which in turn may result in higher levels of student work engagement time thus resulting in higher levels of work performance. Furthermore, if educators implement this strategy early in a students' educational career there may be a greater impact to the social, emotional, and behavioral success of students with significant behavioral disabilities.

Educators at the high school level have the distinct privilege to assist students with disabilities to set attainable goals for their futures that include important decisions pertaining to the five transitional areas of (1) jobs and job training; (2) recreation and leisure; (3) home living; (4) community participation; and (5) post secondary education in their programming. Using student preference information can be used to direct the IEP and create a highly motivating educational experience for students with disabilities. Including individual student preference and choice interventions within the identified transitional goal areas of the Individualized Education Plan (IEP) can increase student motivation to participate more fully in their programming. These opportunities to make choices will also provide much needed opportunities to practice and reinforce the

students decision making skills thus making choice a necessary component to the future success of the individual as they enter the work force.

Overall, the education team can use the information gathered from this literature review to assist in creating highly interesting curricular modifications for students with disabilities that engage, empower, and motivate the individual which can then catapult students towards greater academic success within the naturally occurring classroom setting.

Conclusion

In conclusion, choice-making and student preference are highly practical intervention strategies that teachers can feasibly and easily implement in the daily classroom routine with relatively minimal preparation time. These strategies can decrease disruptive and problematic classroom behavior while increasing the academic performance of students with disabilities without compromising the integrity of the curriculum.

References

Andersen, M., & Daly, E. J. (2013). An experimental examination of the impact of choice of treatment components on treatment integrity. *Journal of Educational & Psychological Consultation*, *23*(4), 231-263. doi:10.1080/10474412.2013.845493

Cole, C. L., Davenport, T. A., Bambara, L. M., & Ager, C. L. (1997). Effects of choice and task preference on the work performance of students with behavior problems. *Behavioral Disorders, 22*(2), 65. Retrieved from https://search-proquest-com.ezproxy.bethel.edu/docview/219674094?accountid=8593

Coniglio, J. (2000). Identification and effects of choice of higher versus lower preference assignments for students at risk for ed. *Annual Meeting of the American Pschological Association, August 4-8.*

Cosden, M., Gannon, C., & Haring, T.G. (1995). Teacher-control versus student-control over choice of task and reinforcement for students with severe behavior problems. *Journal of Behavioral Education, 5*(1), 11-27. doi:10.1007/BF02110212

Daly III, E. J., Garbacz, S. A., Olson, S. C., Persampieri, M., & Hong, N. (2006). Improving oral reading fluency by influencing students' choice of instructional procedures: An experimental analysis with two students with behavioral disorders. *Behavioral Interventions*, *21*(1), 13-30. doi:10.1002/bin.208

Dozier, C. L., Vollmer, T. R., Borrero, J. C., Borrero, C. S., Rapp, J. T., Bourret, J., & Gutierrez, A. (2007). Assessment of preference for behavioral treatment versus baseline conditions. *Behavioral Interventions*, *22*(3), 245-261. doi:10.1002/bin.241

Dunlap, G., DePerczel, M., Clarke, S., Wilson, D., Wright, S., White, R., & Gomez, A. (1994). Choice making to promote adaptive behavior for students with emotional and behavioral challenges. *Journal Of Applied Behavior Analysis*, *27*(3), 505-518. doi:10.1901/jba.1994.27-505

Dyer, K., Dunlap, G., & Winterling, V. (1990), Effects of choice making on the serious problem behaviors of students with severe handicaps. *Journal of Applied Behavior Analysis, 23*(4), 515-524. doi:10.1901/jaba.1990.23-515

Foster-Johnson, L., & And, O. (1994). Preferred curricular activities and reduced problem behaviors in students with intellectual disabilities. *Journal of Applied Behavior Analysis*, *27*(3), 493-504. doi:10.1901/jaba.1994.27-493

Foxx, R.M. & Meindl, J. (2007). The long term successful treatment of the aggressive/destructive behaviors of a preadolescent with autism. *Behavioral Interventions,* 22(1), 83-97. doi:10.1002/bin.233

Harding, J. W., Wacker, D. P., Berg, W. K., Barretto, A., & Rankin, B. (2002). Assessment and treatment of severe behavior problems using choice-making procedures. *Education & Treatment of Children*, *25*(1), 26-46. Retrieved from http://www.freepatentsonline.com/article/Education-Treatment-Children/86044700.html

Hua, Y., Lee, D., Stansbery, S., & McAfee, J. (2014). The effects of assignment format and choice on task completion. *Journal of Education and Learning*, *3*(1), 101-110. doi:10.5539/jel.v3n1p101

Jolivette, K., Wehby, J. H., Canale, J., & Massey, N. G. (2001). Effects of choice-making opportunities on the behavior of students with emotional and behavioral disorders. *Behavioral Disorders, 26*(2), 131-145. doi:10.1177/10983007040060040401

Kern, L., Mantegna, M. E., Vorndran, C. M., Bailin, D., & Hilt, A. (2001). Choice of task sequence to reduce problem behaviors. *Journal of Positive Behavior Interventions*, *3*(1), 3-10. doi:10.1177/109830070100300102

Kern Koegel, L., Singh, A. K., & Koegel, R.L. (2010). Improving motivation for academics in children with autism. *Journal of Autism & Developmental Disorders*, *40*(9), 1057-1066. doi:10.1007/s10803-010-0962-6

Killu, K., Clare C.M., & Im, A. (1999). Choice vs. preference: The effects of choice and no choice of preferred and non preferred spelling tasks on the academic behavior of students with disabilities. *Journal of Behavioral Education, 9,* 239-253. doi:10.1023/A:102214376509

Lane, K. L., Royer, D. J., Messenger, M. L., Common, E. A., Ennis, R. P., & Swogger, E. D. (2015). Empowering teachers with low-intensity strategies to support academic engagement: Implementation and effects of instructional choice for elementary students in inclusive settings. *Education and Treatment of Children, 38*(4), 473-504. doi:10.1353/etc.2015.0013

Mechling, L. C., Gast, D. L., & Cronin, B. A. (2006). The Effects of Presenting High-Preference Items, Paired with Choice, via Computer-Based Video Programming on Task Completion of Students with Autism. *Focus On Autism And Other Developmental Disabilities*, *21*(1), 7-13. doi: 10.1177/10883576060210010201

Mintz, C., Wallace, M., Najdowski, A., Atcheson, K., & Bosch, A. (2007). Reinforcer identification and evaluation of choice within an educational setting. *Journal of Behavioral Education*, *16*(4), 333-341. doi:10.1007/s10864-007-9045-y

Patall, E.A., Cooper, H., & Wynn, S.R. (2010). The effectiveness and relative importance of choice in the classroom. *Journal of Educational Psychology, 102*(4), 896-915. doi: 10.1037/a0019545

Peck, S. M., Wacker, D. P., Berg, W.K., Cooper, L.J., Brown, K.A., Richman, D., McComas, J.J., Frischmeyer, P., & Millard, T. (1996). Choice-making treatment of young children's severe behavior problems. *Journal of Applied Behavior Analysis*, *29*(3), 263-290. doi:10.1901/jaba.1996.29-263

Peck Peterson, S. M., Caniglia, C., & Royster, A. J. (2001). Application of choice-making intervention for a student with multiply maintained problem behavior. *Focus on Autism & Other Developmental Disabilities*, *16*(4), 240-246. doi:10.1177/108835760101600407

Powell, S., & Nelson, B., (1997). Effects of choosing academic assignments on a student with attention deficit hyperactivity disorder. *Journal of Applied Behavior Analysis, 30*(1), 181-183. doi:10.1901.jaba.1997.30-181

Ramsey, M. L., Jolivette, K., Patterson, D. P., & Kennedy, C. (2010). Using choice to increase time on-task, task-completion, and accuracy for students with emotional/behavior disorders in a residential facility. *Education & Treatment of Children*, *33*(1), 1-21. doi:10.1353/etc.0.0085

Rispoli, M., Lang, R., Neely, L., Camargo, S., Hutchins, N., Davenport, K., & Goodwyn, F. (2013). A Comparison of within- and across-activity choices for reducing challenging behavior in children with autism spectrum disorders. *Journal of Behavioral Education*, *22*(1), 66-83. doi:10.1007/s10864-012-9164-y

Skerbetz, M. D., & Kostewicz, D. E. (2015). Consequence choice and students with emotional and behavioral disabilities: Effects on academic engagement. *Exceptionality*, *23*(1), 14-33. doi:10.1080/09362835.2014.986603

Skerbetz, M. D., & Kostewicz, D. E. (2013). Academic choice for included students with emotional and behavioral disorders. *Preventing School Failure*, *57*(4), 212-222. doi:10.1080/1045988X.2012.701252

Skinner, C. H., Wallace, M. A., & Neddenriep, C. E. (2002). Academic remediation: educational applications of research on assignment preference and choice. *Child & Family Behavior Therapy, 24*(1), 51-65. doi:10.1300/J019v24n01 04

Strain, P. S., & Hemmeter, M. L. (1997). Keys to being successful when confronted with challenging behaviors. Young Exceptional Children, 1, 2-9. doi:10.1177/109625069700100101

Stenhoff, D. M., Davey, B. J., & Lignugaris/Kraft, B. (2008). The effects of choice on assignment completion and percent correct by a high school student with a

learning disability. *Education & Treatment of Children*, *31*(2), 203-211. doi:10.1353/etc.0.0011

Ulke-Kurkcouglu, B., & Kircaali-Iftar, G. (2010) A comparison of the effects of providing activity and material choice to children with autism spectrum disorders. *Journal of Applied behavioral Analysis, 43*(4), 717-721. doi:10.1901/jaba.2010.43-717

Umbreit, J., & Blair, K. (1996). The effects of preference, choice, and attention on problem behavior at school. *Education and Training in Mental Retardation and Developmental Disabilities*, *31*(2), 151-61. doi:10.1177/109830070100300303

Vaughn, B. J., & Horner, R. H. (1997). Identifying instructional tasks that occasion problem behaviors and assessing the effects of student versus teacher choice among these tasks. *Journal of Applied Behavior Analysis*, *30*(2), 299-312. doi:10.1901/jaba.1979.30-299