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Identifying, Diagnosing, and Interventions for Children with Autism

Abstract

The purpose of this literature review is to inform the reader about identifying, the diagnosis, and interventions for children with autism. It explains the research that is written about the exact criteria necessary to diagnose a child with autism and what symptoms a family member, educator, or any other person would need to identify if the child may have autism. The literature also goes into detail about what interventions work best with children who have autism. It shows what evidence is written in recent research and also how efficient each intervention is. I handed a questionnaire out to seven autism specialists in School X and all of the questions were based off each section of my literature review. The topics of the questionnaire were: their definition of autism, the definitional discrepancies, the most prevalent characteristics of autism in the students in their classroom, what they believed caused the increase in prevalence of autism, interventions that work with their students, and interventions that they believe they should be using with their students but are not able to.

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Table of Contents

Abstract	2
Introduction	4
Literature Review	4
Methodology	16
Findings	17
Discussion	19
References	22
Appendix A	24

Identifying, Diagnosing, and Interventions for Children with Autism

Introduction

This literature review is organized into four categories about autism: the definition of autism, definitional problems of autism, increases in prevalence, and interventions that work. The category of interventions that work will be broken into six subcategories: ABA, Floortime, gluten free or casein free diet, using Secretin, Sensory Integration Therapy, and TEACCH. These categories are the big controversies that have been discussed in recent research.

My research stems off of these topics. My research is categorized into six categories about autism: the definition of autism, definitional problems of autism, most prevalent characteristics in students with autism, increase in prevalence, interventions that work, and interventions that should be used with their students but are not. Exploring these six topics helped me to get into the heads of the people who work with students with autism on an every day basis and understand their thoughts about autism and what should be done to better support their students.

Literature Review

The Definition of Autism

Autism was first identified in 1943 by Dr. Leo Kanner, a psychiatrist at Johns Hopkins University (Autism Speaks, 2008). Based on a study of 11 children, Dr. Kanner published the first description of what he called “autistic disturbances of affective contact” (Centers for Disease, 2008). It is a disorder that is found in the category of autism spectrum disorders (ASD). Autism Spectrum Disorders are developmental disabilities that cause substantial impairments in social interaction and communication and the presence of unusual behaviors and interests (Centers for Disease, 2008). Autism is also defined as a bio-neurological developmental disability that impacts normal development of the brain in the areas of social interaction,

communication skills, and cognitive function. People who have autism typically have difficulties in verbal and non-verbal communication, social interactions, and leisure or play activities (National Autism Association, 2008). Autism is characterized by varying degrees of impairment in communication skills, social interactions, and restricted repetitive and stereotyped patterns of behavior. Children with autism may have tremendous difficulty learning to engage in the give-and-take of everyday human interaction, they avoid eye contact, are not attached to anyone, miss social cues, have difficulty seeing things from another's perspective, have difficulty regulating their emotions, show immature behavior, are disruptive and physically aggressive, lose control, have difficulty sustaining a conversation, carry on monologues on their favorite subject, participate in repetitive motions, and obsess or be preoccupied with something (National Institute, 2008).

Definitional Problems

As you can see with the information above, there are many different definitions available for autism and ASD. The criteria used to diagnose ASDs have changed many times since Kanner's original description (Centers for Disease, 2008). Because the definition and criteria has changed throughout the years, there are definitional problems. Each definition may contain some of the same criteria, but there is a need for a universal definition. This is hard because each child with autism is very different from another. Ages of diagnosis, severity of behaviors, levels of communication, sensory needs, looks and size are different from child to child (Moffett, Dunn, & Conn, 2006). Though it may be easier to look at the research that is online to identify symptoms of a child with autism, there needs to be something that can be used to diagnose that child. There is a necessity for some kind of guide to look at that can tell you if that child can be diagnosed with an ASD. The guide that is in place for this purpose is called the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders-IV). For Pervasive Developmental Disorders, the DSM-

IV states:

DSM-IV Criteria, Pervasive Developmental Disorders

299.00 Autistic Disorder

- A. A total of six (or more) items from (1), (2), and (3), with at least two from (1), and one each from (2) and (3):
 1. qualitative impairment in social interaction, as manifested by at least two of the following:
 - a. marked impairment in the use of multiple nonverbal behaviors, such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction
 - b. failure to develop peer relationships appropriate to developmental level
 - c. a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest)
 - d. lack of social or emotional reciprocity
 2. qualitative impairments in communication, as manifested by at least one of the following:
 - a. delay in, or total lack of, the development of spoken language (not accompanied by an attempt to compensate through alternative modes of communication such as gesture or mime)
 - b. in individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others
 - c. stereotyped and repetitive use of language or idiosyncratic language
 - d. lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level
 3. restricted, repetitive, and stereotyped patterns of behavior, interests, and activities as manifested by at least one of the following:
 - a. encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
 - b. apparently inflexible adherence to specific, nonfunctional routines or rituals
 - c. stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting or complex whole-body movements)
 - d. persistent preoccupation with parts of objects
- B. Delays or abnormal functioning in at least one of the following areas, with onset prior to age 3 years: (1) social interaction, (2) language as used in social communication, or (3) symbolic or imaginative play.
- C. The disturbance is not better accounted for by Rett's disorder or childhood disintegrative disorder.

(American Psychiatric Association, 1994).

Autism is on the autism spectrum and is also considered a Pervasive Developmental Disorder according to the DSM-IV. In order to diagnose a child with autism, the directions in this manual need to be followed. There needs to be a total of six or more of the listed symptoms, and some are specified in specific categories. Some of the symptoms are in the criterion as listed in the definitions that were given earlier, but they were not set in stone. The DSM-IV gives you a place to look in order to see if the symptoms that the child you are assessing are any of the criteria on the list.

In order to diagnose the child, there are many assessments that can be used. These assessments or screenings are used along with the DSM-IV to identify and diagnose the child so that that child can start receiving appropriate services. These assessments are the Checklist of Autism in Toddlers (CHAT), the modified Checklist for Autism in Toddlers (M-CHAT), the Screening Tool for Autism in Two-Year-Olds (STAT), and the Social Communication Questionnaire (SCQ) for four years and younger (National Institute, 2008). The multidisciplinary team (psychologist, neurologist, psychiatrist, and speech therapist, or other professionals who diagnose children with autism) will then use a second kind of assessment that is comprehensive that evaluates neurologic and genetic assessment and in-depth cognitive and language testing. These assessments are the Autism Diagnosis Interview-Revised (ADI-R), the Autism Diagnostic Observation Schedule (ADOS-G) and the Childhood Autism Rating Scale (CARS) (National Institute, 2008). Using the assessments, the professionals can look at the DSM-IV to figure out if the child shows the criteria for autism.

But even so, in order to diagnose a child with autism, it is based on the perspective of the professionals. Everyone thinks differently. Complexities in interpreting the available data include variations in approaches to diagnosis of autism and differences in screening (Lord & McGee, 2001, p. 24). If the professionals do not look at the tests that are given in the same way, then the

diagnosis may not be the same as if the professionals looked at the tests the same. There are also the different screening tools that are listed above. Each may assess the child differently. If the professionals only use one type of assessment, it may not give enough information to be able to diagnose the child with autism. There needs to be multiple assessments done in order to get better results that may correspond with each other and to get more accurate results. The more information that you can assess on the child, the better. This way there is more to work with when coming to a diagnosis.

Increases in Prevalence

About 1 in 150 children is diagnosed with autism in the United States. One in 94 boys are on the autism spectrum. Boys are four times more likely than girls to have autism. Sixty seven children are diagnosed with autism per day. A new case of autism is diagnosed almost every 20 minutes (Autism Speaks, 2008). This number has been rapidly increasing each year. Autism is the fastest-growing serious developmental disability in the United States (Autism Speaks, 2008). It seems that more and more people are becoming aware of the signs and symptoms of autism, and more children are getting diagnosed because of it.

Two simple reasons explain the difference in current and historical rates: more complete diagnoses and a broader definition of autistic spectrum disorders (Lord & McGee, 2001, p. 24). There is not single behavior that is always typical of autism and no behavior that would automatically exclude an individual child from a diagnosis of autism, even though there are strong and consistent commonalities, especially relative to social deficits (Lord & McGee, 2001, p. 211-212). In the DSM-IV, there are specific criteria that a child that is diagnosed with autism needs to exhibit. The child only needs to have six of the many different criteria in order to be classified. There are many to choose from and therefore an easier time finding six that fit for many different children.

There are also more assessments that can be used to evaluate the child. These assessments provide a more complete diagnosis. Research is also looking into a greater prevalence of autism because of misdiagnosis. Children were previously diagnosed with something else and now are diagnosed as having autism. The Department of Education's Office of Special Education Programs (OSEP) could support a research study examining the prevalence and the incidence of autism, using OSEP data gathered for school-aged children since the autism category was recognized in 1991. This study can investigate in particular whether the dramatic increases in number of children served with autistic spectrum disorders are offset by commensurate decreases in categories in which children with autism might have previously been misclassified (Lord & McGee, 2001, p. 25). The children and disorder haven't changed as much as our definitions and classifications. Children who might have been labeled as retarded or "brain-injured" a generation ago are now said to be on the autistic spectrum. What we call "autism" is an umbrella term for a number of different kinds of mental problems, but they all share some common symptoms – just as fever might be a sign of many different kinds of illnesses (Greenspan, 2006). Studies suggest that many children eventually may be accurately identified by the age of 1 year or even younger. The appearance of any of the warning signs of ASD is reason to have a child evaluated by a professional specializing in these disorders (National Institute, 2008). With more and more people able to be diagnosed with autism because of the broader definition and more complete diagnosis, the prevalence of ASDs will continue to rise.

Interventions that work

Since the prevalence of autism has gone up rapidly, so has the research about beneficial interventions for children with autism. Every child is different, so an intervention that works with one may not work for every child. Since individuals with autism spectrum disorders are not

exactly the same, treatment plans need to be made specific for each individual (National Autism Association, 2008). The characteristics of young children with autistic spectrum disorders and their life circumstances are exceedingly heterogeneous in nature. This heterogeneity creates substantial problems when scientists attempt to use standard research methodology to address questions about the effectiveness of educational treatments for young children with autistic spectrum disorders (Lord & McGee, 2001, p. 193). All children are diverse and unique and will respond to intervention differently.

When it comes to intervention, the earlier you are able to start the better for the child. Early intervention is critical to gain maximum benefit from existing therapies. The earlier the diagnosis is made, the earlier interventions can begin. Research indicates, however, that early intervention in an appropriate educational setting for at least two years during the preschool years can result in significant improvements for many young children with autism spectrum disorders (Autism Speaks, 2008). Early intervention is key for a better outcome.

There is no cure for autism, but there are plenty of interventions available for each child. Some of these interventions are Applied Behavior Analysis (ABA), Discrete Trial Training (DTT), Floortime, gluten free or casein free diet (GFCF), PECS, Relationship Development Intervention (RDI), the SCERTS Model, Sensory Integration Therapy, Training and Education of Autistic and Related Communication Handicapped Children (TEACCH), and Verbal Behavior Intervention. Determining what is best for each child is the difficult part since they are so different. Individualizing the intervention works best for children with autism. This literature review will discuss ABA, Floortime, GFCF diet, using Secretin, Sensory Integration Therapy, and TEACCH.

Applied Behavior Analysis is one of the top choices for many families with children who have autism. It is the one exception to all of the interventions that has been proven to be

consistently effective (Leaf, McEachin, & Taubman, 2008, p. 106). Applied Behavior Analysis is the functional relationship between specific events that precede and follow behaviors is analyzed so that we can develop procedures to increase desired behaviors and decrease undesired behaviors. Applied Behavior Analysis uses operant conditioning which relies on systematically manipulating the consequences of behaviors to change the rate at which behaviors occur in the future (Leaf, McEachin, & Taubman, 2008, p. 2). Discrete Trial Training is based on ABA. It involves identifying needed skills, breaking complex skills into smaller parts, teaching one component skill at a time until mastered, allowing repeated practice within a concentrated period of time, providing prompting and prompt fading as necessary, using reinforcement procedures, and facilitating generalization of skills into the natural environment (Leaf, McEachin, & Taubman, 2008, p. 5). Applied Behavior Analysis is dependent on antecedents, behaviors, and consequences. Eventually, you want the consequences to be natural consequences rather than being given from another person. It is used to help a child to carry the skills that they learn into places other than the classroom and to become successful in more than just the classroom.

Regardless of the age of the learner with autism, the goal of ABA intervention is to enable him or her to function as independently and successfully as possible in a variety of environments (Autism Speaks, 2008). The child makes accommodations based on the environment they are in rather than other people making accommodations for the child (Leaf, et. al., 2008, p. 93). The child should be moving toward a more independent life, and in the future, may be able to live on their own like everyone else. They will be able to make accommodations for themselves wherever they go in order to be successful in any environment they are in.

Another intervention is Floortime. Floortime is based on the premise that the child can increase and build a larger circle of interaction with an adult who meets the child at his current developmental level and who builds on the child's particular strengths. The goal is to move the

child through the six basic developmental milestones that must be mastered for emotional and intellectual growth (Autism Speaks, 2008). The six milestones are self regulation and interest in the world, intimacy or a special love for the world of human relations, two-way communication, complex communication, emotional ideas, and emotional thinking. During Floortime, the parent engages the child at a level the child currently enjoys, enters the child's activities, and follows the child's lead. The parent is instructed how to move the child toward more increasingly complex interactions. Floortime addresses speech motor and cognitive skills through a synthesized emphasis on emotional development (Autism Speaks, 2008).

Following a GFCF diet is debatable. The GFCF diet is the removal of gluten (a protein found in barley, rye, oats and wheat) and casein (a protein found in dairy products). These proteins are seen to be absorbed differently in children with autism and they are seen to act like false opiate-like chemicals in the brain. It is shown to help regulate bowel habits, sleep, activity, habitual behaviors and enhance overall progress in the individual child (Autism Speaks, 2008). Though these behaviors have been seen through GFCF diets, there are no specific laboratory tests that can predict which children might be observed by their families to have a positive response to dietary intervention (Autism Speaks, 2008). This is an intervention that parents try with their children who have autism just to see if it will help.

This diet may also be very difficult. Since casein is found in dairy products, these products are usually where most of the calcium in a person's diet is found. Gluten is found in most of the bread products that people consume today also. Since gluten and milk are found in many of the foods we eat, following a gluten-free, casein-free diet is difficult (National Institute, 2008). The child will have to cut a lot of foods out of his diet because of these proteins. The questions that the child and the parents may need to ask are if it is worth it. If the diet works for the child and greatly decreases autistic tendencies, then it may be worth it. If the tendencies are

still there, then it may not be a treatment that is worth it for the child. Each child is different, and this treatment may work for some, but not for others. It all depends on the specific child with autism.

The research on this intervention is based on social validity. Social validity is based on the opinion of the consumers. Social validity assesses the acceptability, variability and sustainability of an intervention by asking the consumers of the intervention if it was effective (Leaf, et. al., 2008, p. 67). A treatment becomes controversial when its social validity is assessed differently by different people. Thus, social validity does not evaluate the actual effectiveness of treatments (Leaf, et. al., 2008, p.67). These experiments are not scientifically based, so they are not as valid as experiments where a control group is compared.

As a last resort, parents may turn to medication. If nothing else is working with their child with autism, then they may result in having their child take secretin. Secretin is a hormone that functions as a neurotransmitter (chemical messenger). It helps control digestion by increasing the volume of water and bicarbonate produced by the pancreas and secreted into the intestine (Hirsch, 1999). Anecdotal reports have shown improvement in autism symptoms, including sleep patterns, eye contact, language skills, and alertness (National Institute, 2008). It is not unusual for children with autism to have gastrointestinal disorders. These individuals were evaluated for chronic diarrhea, and secretin was used in the diagnostic workup. Each of the children showed apparent improvement in social interaction, communication, behavior, interests, activities, and fine motor skills after their first and second doses of secretin (Hirsch, 1999). Secretin seems to work for children with autism with gastrointestinal disorders also.

There is controversy about this intervention also. Several clinical trials conducted in the last few years have found no significant improvements in symptoms between patients who received secretin and those who received a placebo (National Institute, 2008). Secretin has

shown no effect on behavior on many studies in the New England Journal of Medicine. There was no difference between the placebo group and the group taking secretin. There is a lack of efficacy in this intervention (Leaf, et. al., 2008, p. 73). Secretin seems to have mixed reviews when it comes to if it works with children who have autism.

Sensory integration therapy (SIT) is becoming a more popular approach also. Sensory integration is the process through which the brain organizes and interprets external stimuli such as movement, touch, smell, sight and sound. Autistic children often exhibit symptoms of Sensory Integration Dysfunction (SID) making it difficult for them to process information brought through the senses (Autism Speaks, 2008). Children with autism sometimes have heightened senses, or hypersensitivity. It may hurt when they are touched lightly, or bright colors may hurt their eyes. They can be very sensitive to sensory images around them. Children with autism may also be hyposensitive. These children may want to touch things all the time, needed the sensory images at all times. Using sensory integration therapy may help with these sensitivities.

Sensory integration therapy uses neurosensory and neuromotor exercises to improve the brain's ability to repair itself. When successful, it can improve attention, concentration, listening, comprehension, balance, coordination and impulsivity control in some children with autism (Autism Speaks, 2008). A specific program will be planned to provide sensory stimulation to the child, often in conjunction with purposeful muscle activities, to improve how the brain processes and organizes sensory information (Autism Speaks, 2008).

Results from SIT may not be able to be seen because there may be other interventions that are being used along with it. Sensory integration therapy experiments can not "demonstrate that the benefits were attributable to the SI alone" because there were no control groups to compare them to (Leaf, et. al., 2008, p. 83). There is no way to know if it is the therapy that is working or if it is something else in the environment or situation that is working for that child

because there is nothing to compare it to. Unless you only change that one intervention, then there is no telling if it works.

The last intervention that is being discussed is TEACCH which stands for Training and Education of Autistic and Related Communication Handicapped Children. This intervention is a special program that is tailored to the autistic child's individual needs. This intervention shows that children with autism can become independent people. The focus is on the design of the physical, social and communicating environment. The environment is structured to accommodate the difficulties a child with autism has while training them to perform in acceptable and appropriate ways (Autism Speaks, 2008). Structure and organization seems to work for children with autism. Training and Education of Autistic and Related Communication Handicapped Children brings visual clarity to the learning process in order to build repetitiveness, understanding, organization, and independence. The children work in a highly structured environment which may include physical organization of future, clearly delineated activity areas, picture-based schedules and work systems, and instructional clarity. The child is guided through a clear sequence of activities and thus aided to become more organized (Autism Speaks, 2008). This intervention provides a clear organized way for the children with autism to learn skills that they need to learn in order to carry these skills into their environments outside of school and to allow them to become more independent in the future.

There is not one ticket cure or even intervention that works for every child with autism. In order to find the one that works for your child, the research needs to be done and it needs to be valid research. Social validity may sound good on paper, but it often leads to controversy. There are always going to be mixed ideas about all of the interventions out there, but you need to find the one that fits for your child. Every child is different and an individual intervention is necessary for success with every child that has autism.

Methodology

Setting

- § A City school with over 600 students and over 125 teachers including general education teachers, special education teachers, and specialists.
- § Specifically a one to one setting with two rooms: one for primary students and the other for intermediate students.
- § There is one autism specialist in each room along with appropriate teacher's aids.

Participants

- § The participants were two autism specialists, and five teacher's aids that work in the classrooms with students with severe autism.
- § One autism specialist and three teacher's aids are in the primary classroom and one autism specialist and two teacher's aids are in the intermediate classroom.
- § The specialists and teacher's aids have all been teaching in these classrooms for at least five years.
- § Three out of seven of the people who were asked to participate filled out the questionnaire.
- § Out of these three participants, two are female, Caucasian, and above the age of forty, and one is male, Hispanic, and below the age of thirty.
- § Participant A is the autism specialist in the intermediate classroom, Participant B is the autism specialist in the primary classroom, and Participant C is a teacher's aid in the primary classroom.

Procedures

- § Design of study

- ∅ Questionnaires: informal, structured
- ∅ Questionnaires handed out to all seven teachers in both the primary and intermediate classrooms.
- ∅ These were the exact instructions written at the top of the questionnaire: My name is Amy Campbell and I am writing a piece about autism for my Capstone (What autism is and what are the best practices for autism). Please fill out the questionnaire so that I can further explore autism through the minds of the instructors. Please sign your initials to confirm that I may use the information that you write in my piece. (I will not use any names in my piece, just initials). Thank you.
- ∅ Confidentiality will be established in the following ways:
 - All of my records will remain in my possession at all times and will only be seen by myself and my advisor.
 - All records will be maintained in a manner that allows me to deny others access to them.
 - No individual characteristics that can be traced to individuals will appear in the final report, (i.e. name, position, etc.).

Findings

Participation Rate

- § Over 42% of the surveys were returned.
- § Out of the 7 questionnaires distributed, 3 were returned on time.

Results from the research

- § When given the question, “What is your definition of autism?” 100 percent of the participants stated that autism is a developmental disorder. Where they differed was how

they characterized autism. Participant A stated that autism is characterized by stereotypical repetitive behaviors and cognitive levels can vary depending on the individual. Participant B stated that the disorder affects social, language, behavior, and academic skills. Participant C did not add any additional characteristics.

- § When given the question, “What are some definitional discrepancies you have seen or heard relating to autism?” the participants reported different views. Participant A stated the child can control how he or she reacts to the world and is faking the disorder. Participant B stated children with ASD don’t feel emotion or compassion. Don’t engage. Participant C did not have an answer.
- § When given the question, “What are the most prevalent characteristics of autism that you have seen in your students?” the participants all reported that the most prevalent characteristics they see in their students with autism are repetitive behaviors and echolalia speech. Participant A added that some other characteristics that she sees are repetitive stimulating (self) behaviors such as spinning objects; hand flapping, ball bouncing, and scripting. Participant B added Lack of language, and lack of awareness of peers. Participant C did not answer this question.
- § When given the question, “What caused the increase in prevalence of students with autism?” the participants reported different views. Participant A stated that she was on the fence: Reflection of increased awareness of the disorder or the junk we put in our system through air pollution and chemicals in our foods. Participant B stated better diagnosing. Kids were previously labeled as other things. Participant C did not report an answer to this question.
- § When given the question, “What are the interventions that work for your students?” the participants reported some similar interventions that they use with their students such as

nonverbal cues (visual cues, visual schedule, sign language, and nonverbal reminders), limited language or simple speech, and consistency (repetition and predictable routine). They also differ in some interventions that they use with their students. Participant A reported that she also uses 1-1 instruction, flexible setting, short activities, visual timers, choices, social stories to prepare for changes, and fieldtrips. She stated that they are working because students show growth and they react negatively when something is different, but positively when they have been prepared. Participant B reported that she also uses individualized work, structured and concrete activities, classroom with reduced visual and auditory distractors, behavior plans, multisensory activities, and a staff that works together. Participant C reported that he also uses observing an interest item such as a “power card” that would have an obsessive interest item on it paired with rules that need to be followed – If a student is interested in Sponge Bob, his or her power card will have a picture of Sponge Bob and text that says “Sponge Bob says: eyes on teacher, listen to teacher”.

- § When given the question, “Are there any other interventions that you do not use but you believe would be beneficial for your students?” the participants agreed that a sensory room and a behavior therapist or interventionist is beneficial for their students’ success. Participant A also reported that a strong doctor consult would benefit her students. Participant B also reported that appropriate sensory equipment – equipment designed to meet the child’s sensory needs would benefit her students. Participant C did not answer this question.

Discussion

- § Using all of this research, I conclude that identifying, diagnosing, and interventions that

work are based on the individual student and adult that is working with that student. As you can see, though they all work in similar kinds of classrooms and with students classified with the same classification, the teachers may have some different views of how to help the child to succeed. Some ideas were similar and some were very different. For example, all of the participants reported that the definition of autism is a developmental disorder, but they reported different views on what is affected by the classification. All of the participants reported that they saw repetitive behavior as a prevalent characteristic in their students with autism, but they reported different views on other characteristics that they saw in their students with autism. The participants reported that nonverbal cues, limited language, and consistency are appropriate interventions that they use in the classroom with their students with autism, but they reported different views in the other interventions that they use in their classroom to help increase success in their students with autism. The participants agreed that a sensory room and a behavior therapist or interventionist would be beneficial for their students' success, but they had different views in other interventions that they believe that they should be using in their classrooms.

Limitations of the study

There were many limitations to my study. One limitation was that each child with autism is different, so the interventions that are used will be individualized for each child. Some interventions work well for some children but not for others and vice versa. Another limitation was that teachers have different views. Each teacher may like to use one intervention over another based on what they like, not based on what works for that child. One other limitation is the wording of one of the questions. The second question of the questionnaire could have been

stated more clearly. Some of the participants may have interpreted the question differently than implied. One last limitation of my study was the lack of responses. Even though I received almost half the amount of questionnaires returned than I had asked to be filled out, it would have been beneficial if more of the questionnaires were filled out because then I would have had more information to compare. Without these limitations, I may have been able to make a more thorough connection between the literature about autism and real life situations relating to autism in action.

Next Steps

The next step for more in depth research would be multiple observations of the interventions in action in the classroom. If I was able to see how the interventions are applied in the classroom and how the teachers interact with their students with autism, then I would be able to give a more detailed description of what works for the majority of the students and how I know that the interventions are working. Another step that could be considered is asking the students that are classified with autism questions along the lines of the questions that were asked to their teachers. I could use this information to see what the students think works for them and what they enjoy about their classroom and education.

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Appendix A

My name is Amy Campbell and I am writing a piece about autism for my Capstone (What autism is and what are the best practices for autism). Please fill out the questionnaire so that I can further explore autism through the minds of the instructors. Please sign your initials to confirm that I may use the information that you write in my piece. (I will not use any names in my piece, just initials). Thank you.

Person filling out the questionnaire (initials): _____ Date _____

Name of position: _____

1. What is your definition of autism?

2. What do you think are some definitional discrepancies of autism that you have seen or heard?

3. What are the most prevalent characteristics that classify a student as having autism in your program?

4. What do believe caused the increase in prevalence of autism?
