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11 Pages

Primary Disability:

Autism

Secondary Disability:

Sensory Disabilities

High School Biology

Autism: Description of the Disability and its Expression

Official Definitions:

According to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM IV), autism is defined as the following:

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 impairments in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body posture, 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 to other people)
- d) lack of social or emotional reciprocity (note: in the description, it gives the following as examples: not actively participating in simple social play or games, preferring solitary activities, or involving others in activities only as tools or "mechanical" aids)

(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 two 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
 - (3) symbolic or imaginative play
- C. The disturbance is not better accounted for by Rett's Disorder or Childhood Disintegrative Disorder

A more succinct definition is provided by the Autism Society of America,

“Autism is a severely incapacitating lifelong developmental disability that typically appears during the first three years of life. It occurs in approximately fifteen out of every 10,000 births and is four times more common in boys than girls. It has been found throughout the world in families of all racial, ethnic and social backgrounds. No known factors in the psychological environment of a child have been shown to cause autism.

The symptoms are caused by physical disorders of the brain. They include:

- 1) Disturbances in the rate of appearance of physical, social and language skills.
- 2) Abnormal responses to sensations. Any one or a combination of senses or responses are affected: sight, hearing, touch, pain, balance, smell, taste, and the way a child holds his body.
- 3) Speech and language are absent or delayed while specific thinking capabilities might be present.
- 4) Abnormal ways of relating to people, objects and events.”

Finally, autism is defined by the Individuals with Disabilities Education Act (IDEA) as:

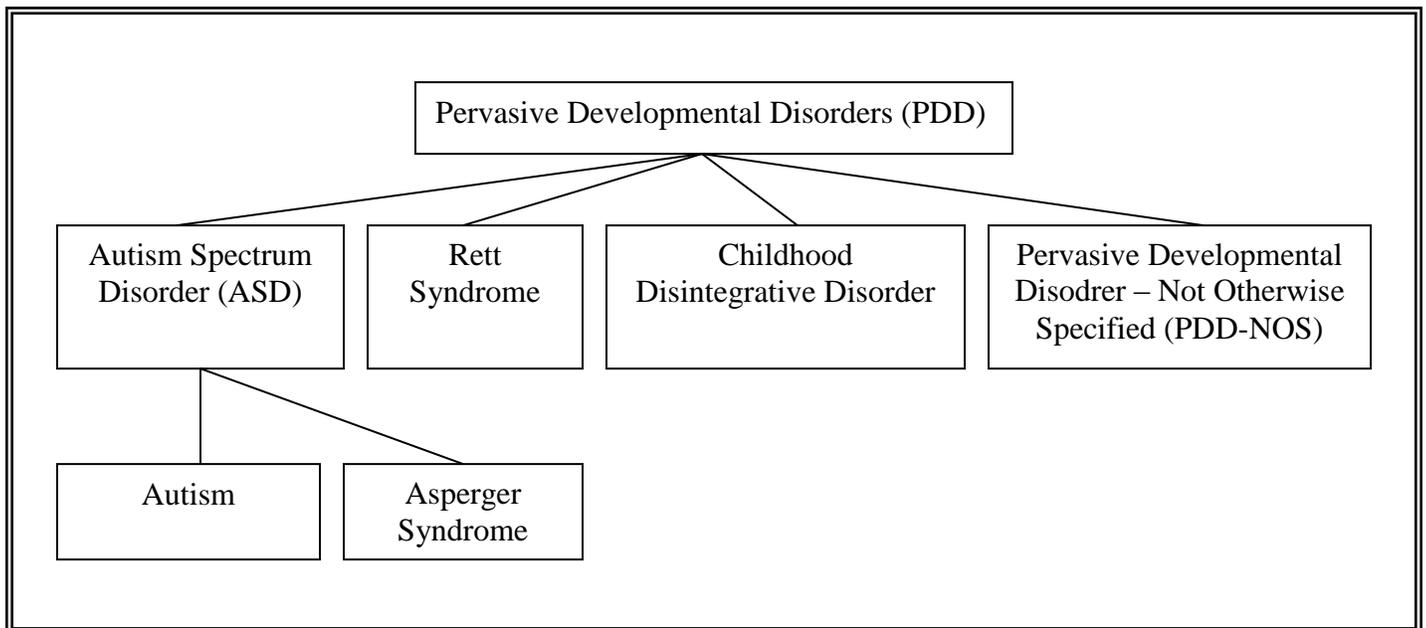
“A developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age 3, that adversely affects a child’s performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual

responses to sensory experiences. The term does not apply if a child’s educational performance is adversely affected primarily because the child has a serious emotional disturbance.”

Explanation:

Autism, along with Asperger syndrome, is categorized as an Autism Spectrum Disorder (ASD). Diagnostically, ASD falls in the category of pervasive developmental disorders (PDD), a group of five similar disabilities (Fig. 1).

Figure 1: Diagnostic Placement of Autism and Autism Spectrum Disorder



As evidenced by the definition provided from the DSM IV, autism requires a great deal of analysis to diagnose. There are a multitude of symptoms children with autism may express, many of which are similar to common features exhibited in Asperger syndrome and other PDDs. Generally, autism can be diagnosed within 3 years of birth. This means, for the majority of educators, students with autism should already be receiving treatment and intervention by the time they enter the classroom.

Traditionally, autism is expressed through displays of little to no eye contact, unresponsiveness to social cues, lack of oral communication, and a difficulty to adapt to new situations. Students with autism may also exhibit mental retardation or savant-like characteristics. Diagnostic difficulty may arise when attempting to distinguish between autism and Asperger syndrome. Both disabilities are often expressed in similar ways: delayed use of language; lack of flexibility in routines; and a lack of ability to distinguish social cues; however, Asperger syndrome is not as severe in its expression and there is no significant cognitive delay associated with it.

When those students with autism do develop language (approximately 50%), they often use it in non-traditional ways (Vaughn 147). It may take as long as 10 years for

these children to develop a form of language usage and in many of these cases, children are unable to combine words or phrases into coherent ideas. Other children with autism may exhibit echolalia; a condition where what is said to the child is immediately repeated back. Students with high functioning autism may possess incredible vocabulary and memory skills but still have extreme difficulty communicating with others, acting more as a disseminator of facts than someone to carry on a conversations with.

Students with autism may also engage in repetitive behaviors such as arm flapping, head turning, or body rocking (Vaughn 148). These behaviors can be disruptive to the classroom environment or they can be restrained and hard to notice. Teachers should pay careful attention to students with autism so they begin to recognize which behaviors to expect. When teachers are prepared for these types of behaviors, they can design a seating arrangement, lesson plan, or assessment with that in mind.

Finally, it is necessary to note that children with autism can present a wide array of ability levels (Vaughn 147). Some children with autism can function completely or nearly independently; however, for others constant assistance is required. A student with severe autism would be unable to function alone in social situations; he would have great difficulty controlling his emotions, interacting with others, and understanding basic social cues. Sufferers of autism may exhibit unprovoked and sudden outbursts of anger and aggression directed at other students or themselves. Because of this, it is necessary to monitor those students with severe autism to ensure their safety, and the safety of their classmates.

Autism's Effect in the Classroom

Student Challenges:

Since students with autism have increased difficulty interacting with peers, one of the many challenges they will be faced with is classroom isolation (Vaughn 147). The inability to understand what is going on socially in a classroom is an extreme educational disadvantage for these students. When teachers regularly employ the use of partner and group work in the classroom, children with autism may feel forced into a situation of discomfort.

Students with autism may also run into disciplinary difficulties in school. Autism can lead to a lack of emotional control, which in turn can lead to violent and disruptive outbursts. If a teacher is not understanding of that student's disability, he may overreact and refer that student for disciplinary action. Students with autism can also have difficulty distinguishing between people and objects in the environment around them. Because of this, these students can fail to realize they are directing their anger or violence at another person.

Another challenge students with autism may face is the inability to empathize (Vaughn 147). When a student is unable to understand another's thoughts, it makes social environments very unpredictable. This is one of the main reasons having a firmly established classroom routine is necessary. Once students with autism understand there is a routine to be followed, they become more able to fit into the social atmosphere of the class. Whereas, if there is not a routine in place, these students can feel completely uncertain as to what is going on around them.

Finally, one of the greatest difficulties students with autism may have in the classroom is the inability to communicate (Vaughn 147). As mentioned previously, approximately 50% of those students diagnosed with autism never talk. For those who do learn to vocalize, there is often difficulty in thought construction, use of body language, and intonation. Because of this, students with autism may never get the chance to express their thoughts and feelings. These students can resort to hitting, grabbing, or other disruptive behaviors to get what they want if their vocalizations are being ignored or misunderstood. Solutions like communication boards can be used for students to express basic wants and needs, but even with strategies like that in place, it may still be difficult or even impossible for students with autism to discuss their true thoughts and ideas.

Teacher Challenges:

As mentioned previously, there are many ability levels associated with autism, from low functioning students who have extreme difficulty interacting and communicating to high functioning students who can learn to function in a social environment on their own. Because of this, every student with autism that enters a teacher's classroom will likely have a different presentation of symptoms and thus a different set of needs. The teacher is therefore faced with the challenge of creating a classroom environment that best meets the needs of this unique student. Teachers must necessarily meet with the student's parents, attend IEP meetings, discuss the student's progress with the SPED department, and have an open discussion with that student's other teachers to ensure adequate learning is taking place.

Teachers may also have difficulty creating and implementing the strict organizational routine necessary to keep children with autism feeling comfortable in class. Many teachers enjoy finding those "teachable moments" where they can run with an idea brought up by the class. However, while these may be beneficial for students without autism, they also have potential to throw off the daily routine and cause discomfort for students with autism. If a teacher is aware something like this may arise during a class period, they could attempt to discuss the issue with the student prior to class, this may help ease the student into the new activity.

An additional challenge teachers must face when designing curriculum for students with autism is the necessity to create individualized assignments and assessments. Since all students with autism have different strengths and weaknesses, teachers should always discuss with the student, past teachers, and SPED staff what the best assignment and assessment types are. For example, since students with autism often have difficulty communicating, an oral exam would most likely be an ineffective form of assessment. However, if the student has strengths in drawing or writing, the teacher could design assessments with that in mind.

Finally, since students with autism may experience verbal or physical outbursts in the classroom, teachers must find ways to calm these students down while keeping the rest of the class on task. These students engage in this behavior for different reasons, sometimes to escape an activity, sometimes to obtain a desire, but regardless of the cause, teachers must react quickly, considerately, and efficiently, to ensure all students can continue learning effectively.

Peer Challenges:

The classroom is typically a very social environment. Because of this, students may have difficulty adjusting to a student with autism. Students may find it difficult or awkward to attempt interactions with someone who has autism, or they might be afraid their interaction could lead to an outburst. Therefore, peers may choose to avoid students with autism rather than risk interacting with them. It is the role of the teacher to ensure all students are instructed in how to best communicate with students who have autism, how to assist that student should the need arise, and how to help maintain a positive learning environment.

Students may also have difficulty accepting their peers who have autism into social circles. Since autism can be socially debilitating, it can often lead to exclusion from peer groups both in and out of school. This, along with many other symptoms of autism, can lead to extreme social isolationism. Peer groups should work to get students with autism involved in extracurricular organizations, such as after school clubs, with a well-established and repetitive routine, but also involving enjoyable activities with peers. Experiences like this can help build social relationships as well as necessary communication skills.

Strategies for Intervention and Success

Before Class:

There are several steps a teacher should take when he finds out there will be a child with autism in his classroom that year. First, he should take time to meet with previous teachers, the SPED staff, and if possible, the student and his family. This will give the teacher a baseline for what to expect, what strategies have worked in the past, and what to avoid. Additionally, the teacher should take steps to create a strict classroom routine that can be followed throughout the school year. Creating a routine will ensure that the child with autism is provided with an organized and structured environment that lends itself to autistic education.

Many teachers may worry about the class reaction to a student with autism. However, provided this is not a kindergarten classroom, it is highly likely the students will already be familiar with the disability from having that student in previous classes. While it might be necessary for the teacher to spend some time discussing autism, if the student feels comfortable with that and so the class is aware of what to expect, it will most likely not be necessary to elaborate excessively on the disability.

On a daily basis, there are a few things teachers should keep in mind when preparing for a class that has a child with autism. First, when planning the lesson, teachers should be aware of what forms of activities and assessments the student prefers. For example, “playing on the computer might be a preferred activity, whereas playing football with the class might be disliked.” (Vaughn 149) When teachers keep the student’s preferences in mind, they will be better able to design curriculum that actively engages the student.

Second, teachers should spend time before each class period discussing the day’s

lesson with whatever para-educators and SPED support staff will be involved in assisting the student. Giving paras the student's work in advance allows them time to familiarize themselves with the lesson, which in turn, leads to better support being provided during the class period.

Finally, the teacher needs to ensure that the class is set-up and organized as the child with autism is used to. Resources, supplies, and materials should all be located somewhere in the classroom that the child is familiar with. The teacher should also make sure any assistive technologies (communication boards, note taking devices, etc.) are functioning and available for use.

During Class:

One of the most important strategies a teacher can utilize during class to best serve those students with autism is to keep a well-established routine running at all times. Students with autism may be, "prone to challenging behavior when placed in a new classroom situation." (Vaughn 150) Therefore, it may be helpful to allow the student with autism to assist in creating the classroom routine or daily schedule. Getting input from that student allows them to express what activities they feel comfortable with. Additionally, if students have a hand in creating a routine or schedule, they will know what to expect, thus alleviating any fears of spontaneity.

Secondly, as mentioned earlier, teachers should be aware that communication is one of the core difficulties children with autism are faced with. Because of this, it is imperative teachers allow these students to communicate by whatever means they have found to be effective and successful. Many students with autism communicate through the use of assistive technologies, gestures, facial expressions, and other various behaviors (Vaughn 151). This is why it is important for teachers to find out about incoming students with autism before classes begin. Most likely, additional planning will be necessary to ensure the successful implementation of whatever communication strategies the student finds beneficial.

Finally, teachers must necessarily incorporate a student with autism's strengths into class and group work. Doing so will allow that student to feel more a part of the social atmosphere of the classroom. Along with that, by focusing on the student's strengths, the teacher can ensure the student is working in an area he feels comfortable with. Hopefully, allowing the student to perform in areas he is comfortable with will act as a preventative measure in regards to classroom outbursts and disruptions. The teacher should always keep a careful eye on students with autism throughout group work activities, making sure that they are in a relaxed environment where their needs are being met.

After Class:

There are several important activities teachers should engage in after class in order to prepare for future lessons. Teachers should try to set aside a brief period after class (no more than 1 minute) to quickly discuss with the para how the lesson went for the day. By providing a brief rundown of their impressions of the lesson, para-educators can offer invaluable insight into what worked and what did not.

Additionally, teachers should spend time at the end of each day reflecting over their lesson plan. Especially when instructing students with autism, reflection is an imperative step in designing future lessons. Teacher should use this time to remember instances where the student seemed most comfortable and involved, and what antecedents may have triggered an outburst or some form of social awkwardness. Reflection can be one of the best sources of inspiration for future curriculum as it allows a teacher to analyze exactly what occurred in the classroom that day.

Introduction of Sensory Disabilities and their Relation to Autism

A Brief Background on Sensory Disabilities:

Sensory impairments or sensory disabilities are a broad category of diagnoses which include both hearing and visual impairments. Like autism, sensory disabilities cover a wide array of conditions, ranging from being blind or deaf to needing glasses or a hearing aid.

For educators, there are two definitions associated with visual impairments that should be noted. A student with low vision has, “an impairment and who with standard corrective lenses (glasses) continues to have difficulty accomplishing visual tasks but can enhance [his] ability to accomplish these tasks with the use of compensatory visual strategies, low-vision and other devices, and environmental modifications.” (Vaughn 187) Students may also be considered on a basis of functional vision, a “visual impairment including blindness . . . that, even with correction, adversely affects a child’s educational performance. The term includes both partial sight and blindness.” (Vaughn 187) The important distinction is that low vision students can receive support through additional strategies aside from glasses; whereas, students with functional vision impairments suffer academically even if they receive this support.

Students diagnosed with visual impairments often have difficulty with concept development, communication, motor skills, self-help, and social skills (Vaughn 188). Similar to students with autism, students with visual impairments will sometime develop echolalia when developing language skills. Students with visual impairments also face challenges unique to that condition and not found in autism. These students often have difficulty with gross and fine motor skills such as running and writing. Additionally, children may be unable to function alone in simple tasks such as eating a meal or picking out clothing.

The Individuals with Disabilities Act defines a hearing impairments as, “the capacity to hear, with amplification, is limited, impaired, or absent and results in one or more of the following: reduced performance in hearing acuity tasks; difficulty with oral communication; and/or difficulty in understanding auditorally-presented information in the education environment. The term includes students who are deaf and students who are hard-of-hearing.” (Vaughn 193) Hearing impairments, as with visual impairments, present a wide array of causes and severities. They can occur in one or both ears, and in many different locations within the ears and brain.

The main difficulties that present themselves to students with hearing impairments are similar to those students with visual impairments. Language acquisition, communication, and social skills are areas where these students may face challenges.

While students with hearing disabilities may not face the same experiences with motor skill development that those with visual impairments are exposed to, they may be challenged by balance issues depending on the location of their impairment. Students with hearing impairments also have greater difficulty with speech acquisition due to their inability to fully recognize their own, and others', vocal patterns.

Overall, there are two main similarities between autism and sensory impairments: Both conditions manifest themselves in social and communication difficulties. The inability to take-in a situation and communicate ideas in a traditional manner make surviving a school environment challenging for students with these disabilities. A feeling of isolation may dominate students' days until they learn to use new tools and strategies which can ease or eliminate the communication divide. With increased communication ability, students can begin interacting with their peers and teachers, building necessary social skills, and ultimately feeling like a part of the school experience.

Successful Classroom Strategies:

As with any student, each individual case of autism or sensory impairment will be unique. Because of this, teachers must take a great deal of time finding out about these students' histories, preferences, abilities, and expectations. Teachers should synthesize this information and use it to create successful lesson plans and assessment ideas. Additionally, there are several strategies mentioned earlier in regards to autism that could also be applied to students with sensory impairments.

Since both groups have difficulty with communication and language development, strategies offering individualized forms of communication can greatly benefit students with these impairments. Using modified assessments allows these students to show what they have learned in a format that best suits their special needs. Blind students may prefer an oral exam, rather than use a Braillewriter or having some dictate for them. Students with hearing impairments would not be able to participate in the auditory exams common to many foreign language classes. Instead, they might need to receive a transcript of what is being heard or, have a translator sign it to them.

Accepting alternate forms of communication is also a necessary strategy for teachers of students with autism and sensory impairments. As mentioned before, students with autism may often be unable to communicate orally and can require the use of assistive technologies to help them participate in class. Similarly, students with hearing impairments may require the use of a classroom translator or need to read lips. Students with visual impairments may have to dictate their work or have a Braillewriter and assignments written in Braille.

As a result of these communication difficulties, both groups of students face challenges in the social arena as well. Strategies such as self-monitoring behaviors, which work well for students with autism, can also benefit students with sensory impairments. Requiring these students to monitor their behaviors, record them, and be held accountable for them, is one way to help bring about social awareness. Role-play activities can also prove successful and can go hand in hand with group work (Vaughn 152). Assigning students with these disabilities specific roles to play in a group, giving them a specific job to act out such as group artist, can also help build necessary social skills.

Unique needs for students with Sensory Disabilities:

While there are a number of similarities between students with autism and those with sensory disabilities, there are a few unique needs that must be noted as well. Students with visual impairments are faced with the inability to see or to see clearly which can have a great affect on classroom organization and presentation. Media forms like videos, PowerPoint presentations, slide shows, and even using the whiteboard have to be modified for students with visual impairments. In these cases, teachers must provide alternate forms of presentation either through auditory forms or Braille.

Similarly, for students with hearing impairments, adjustments will need to be made for some presentation types. For videos, teachers may need to turn on closed captioning, provide a written transcription, or utilize an interpreter. The student will need to sit in a specific spot in the room where they can see the interpreter or the teacher's lips at all times. Additionally, students with hearing impairments may need the teacher to use a special microphone or hearing amplification system that allows them to hear the lesson.

Conclusion

The main theme presented throughout this analysis is that teachers who have students with autism or sensory disabilities in their classroom must spend time learning those students' histories and finding out from parents and staff what techniques work and what does not. For both of these disabilities, there are several general strategies that need to be kept in mind, in addition to the student's unique needs, when designing lessons.

Students with autism tend to benefit from a well organized and routinized classroom setting. Teachers should also be aware that these students often exhibit verbal or physical outbursts in order to avoid a certain situation or to get something they want. To avoid this, teachers should find out what triggers these outbursts and discuss with the student and SPED staff how to best avoid these antecedents.

Finally, students with autism share many difficulties that students with sensory impairments also faced with. Both groups have difficulty with communication and social skills and benefit greatly from strategies focused at these areas. Teachers need to be aware that alternative forms of communication will likely be necessary to ensure these students have a voice in the classroom. Using different forms of communication can allow these students to actively engage in the classroom setting and more fully participate in social activities, helping bring these students closer to a fully inclusive experience.

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