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Learning Disorders Within the Classroom: How Do Teachers Fit In?

Education is an integral part of this constantly evolving society. The foundations built through education help shape and push students to their fullest potentials. Classrooms are the epicenter for learning and enduring new challenges, challenges that may be troublesome for some. Students walk or log onto these classrooms every day, but it is hard to see exactly what progress they have made and how to push them further. Every student may appear the same; however, every student is an individual with different learning curves and methods. Teachers have so much to focus on, that some students may end up falling through the cracks they are not aware about. Research done over the past couple decades has shown that there are many Learning Disorders that hide themselves from the people who have them. With the large population of students in the classroom, paired with other external stimulation, it can be difficult to pick up on the small signs. Knowledge on the different types of learning disorders significantly helps improve overall retention and understanding in the classroom.

Dyscalculia is a learning disorder that appears heavily when dealing with arithmetic or any mathematics. This disorder is very similar to Dyslexia, which appears heavily in literature or anything having to do with extensive readings, and so on; however, this specific disorders targets confusion on basic arithmetic functions: addition, subtraction, division, and multiplication. Dyscalculia can also be a hindrance when dealing with mathematical problems or text relating to

Commented [w1]: You mention that these small signs are hard to pick up but the symptoms listed for each disorder are small signs. Address a solution or remove this sentence because it is contradictory to your claim.

Commented [w2]: I'm assuming this sentence is the thesis, mention the responsibility teachers have on picking up the symptoms that may appear in class and how assistive devices play a role in improving learning.

Commented [w3R2]: Also mention the specific disorders that will be discussed: Dyscalculia, Dysgraphia and Auditory processing disorders.

math. Symbols and numbers are scrambled for the person viewing them, preventing them from solving the problem that is in front of them. Regardless of complexity of the given math sequence or problem, Dyscalculia can affect the way people view and solve the problem. This is not a disorder that gets grown out of, it affects many adults in their careers as well as personal lives. Seeing as though this disorder can present itself the same way Dyslexia does, children who suffer without knowing it will then have it carry on in their future.

There is not a lot of awareness on the existence of Dyscalculia, leaving many to go undiagnosed due to inability to identify the symptoms. These symptoms can vary depending the person, but these are some of the common symptoms: difficulty to count backwards, poor sense of estimation, addition tends to be the default operation, high levels of mathematical anxiety, and the list goes on. Many of the symptoms get easily brushed off as just "being bad at math", prompting students from just glancing over these issues when dealing with math. Students will overlook these symptoms and just settle with poor grades in their math class, teachers will then continue to wonder why it is that student repeatedly does poorly. Diagnosing Dyscalculia consists of an exam with a cutoff score to better assess what issues the specific person is having. The cost of these exams can skyrocket, prompting students to look elsewhere or even turn a blind eye to how bad they are struggling. There has been plenty of innovation in broadening the parameters of diagnosing Dyscalculia, using a student's work within the classroom, and asking them direct questions to better assess that student's understanding of mathematical concepts.

Within the classroom setting, there are many signs to look out for. As a child moves on through grades, an important sign to pay attention to is if the student still uses their hands to count or solve basic arithmetic. This is often a sign that the student cannot visualize or do basic math problems in their head, they need to visually see the numbers and the effect that goes on

Commented [w4]: Instead of separating the two, explain that students and teachers would brush off these symptoms as being bad at math. Then explain how this relates to the importance for more awareness

Commented [w5]: In the previous sentence you go over how it's hard to tell the symptoms in classrooms, include a bridging sentence to explain how those symptoms can be used to seek out a diagnostic test.

with the different operations. Another sign to look out for in the classroom is understanding of the different mathematic relationships: communitive, associative, distributive, and identity properties. Specifically, the teacher can learn a lot about their student through their understanding and execution of the communitive property. This property simply means that the order of numbers does not matter, the sum or product will always remain the same. Students with Dyscalculia will have a hard time understanding that order does not matter, leading to further trouble down the line as the math progresses in complexity. One last sign to look out for in the classroom is if a student has poor time management. This could be the student appearing consistently late, losing track of time when working on math problems, or even keeping track of scores. Poor time management is a huge giveaway when identifying Dyscalculia, students with this learning disorder may run into challenges when determining how long it will take to do something. There are many other smaller tells at when a student may be struggling with Dyscalculia, but these are very important signs that a teacher or classroom facilitator should keep an eye out for.

> **Commented [w6]:** Repetitive. See highlighted words.

> **Commented [w7]:** How does keeping track of scores relate to poor time management?

> **Commented [w8]:** You already listed this as one of the symptoms

Students are conditioned to listen to extensive amounts of information and trusted that they will retain all the information spoken to them. The reality of this is quite shocking, many students do not retain the information they hear. There are so many different types of learning, especially with how diverse and different every student is, no one student is alike. Some students may not be aware that that they have an Auditory Processing Disorder. An Auditory Processing Disorder (APD) relates to the brain's ability to filter and interpret sounds and voices. People with Auditory Processing Disorders can hear normally; however, their brains have trouble organizing verbal information as well as receiving and processing those sounds. Although there is a great deal of awareness on this disorder, there is a great deal of controversy that surrounds diagnosis

> **Commented [w9]:** For fluidity, removing this would be better so we get a direct example of a disorder preventing individuals from not retaining auditory information

> **Commented [w10]:** Include after introducing APD

and treatment. A lot of the symptoms for this disorder crossover in the realm of ADHD/ADD, making the distinction between the two a bit tough for others to decipher. Students may find it incredibly hard to stay focused and engaged when they are being spoken to, they cannot determine what is important to remember so they choose to zone out completely. It may not be voluntary for the student to zone out, they may be overly stimulating and cannot figure out what specifics are important. Trouble to follow directions is another symptom that is extremely common within people who have Auditory Processing Disorders. This specific symptom can be a huge issue within the classroom, it prevents the student from getting the most out of lesson activities as well as doing well on assignments. Students are unable to decipher the information around them, making it hard to perform well or even retain basic information. The testing for this disorder spans over different mediums of tests in specific area fields: auditory discrimination, processing, attention, and memory to name a few. Seeing as there is a major overlap with ADHD/ADD, there are times where people are misdiagnosed. Misdiagnoses are very common and lead to more issues within a person's comprehension of the world around them, it inhibits them from knowing the barriers they have when learning new things or simply existing. Allowing for a space in the classroom where the student can feel understood and choose different mediums of learning that works best for them is extremely powerful.

Auditory Processing Disorders may vary in appearance within the classroom, every individual is different. Signs from doodling on worksheets and daydreaming about random things can be signs that the student is not engaged in the lesson being given, they are trying to figure out how to listen and absorb that information best. Teachers should be wary of how long their lessons or how long they speak during the class period, seeing as though students may have a hard time keeping up. Throw in examples or visual aspects to make sure your class is properly

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Commented [w11]: This is repeated towards the end of the paragraph

Commented [w12]: How does this connect with misdiagnosis?

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engaged throughout and after the lesson. Although this disorder at large cannot solely be treated by the teacher in the classroom, some schools offer specialized programs for students that may be struggling with various disorders taught by coordinators who are properly equipped in teaching those students. Teachers can incorporate shortening lesson time and emphasizing activities in their classrooms to better assist students who may not even be aware that their struggling stems from different disorders.

One last learning disorder that is important to bring up is Dysgraphia. Dysgraphia is a learning disorder that appears in written expression, this in specifics is about spelling and issues with putting thoughts on paper. It can be extremely hard for people with this learning disorder to tune in all their thoughts and put them down somewhere, they are completely comfortable with verbally expressing their thoughts but are lost when it comes to writing them down. The initial signs of this typically appear when a child is first learning how to communicate through writing, learning how to do so, and carry on into their later years. Poor handwriting as well as minor or major spelling errors are also common in people who have Dysgraphia. This is due to their inability to transcribe their thoughts or narrow down what is going on in their mind. In many cases, students that may have Dysgraphia tend to be avid participators in conversation but have poor reception in written communication. Along with poor written communication skills, they may lack in grammar, order their words incorrectly, and mix up verbs. Teachers may be quick to gloss over these students as just having a bad time with English as a language, but Dysgraphia has nothing to do with the understanding of the language; this disorder shifts and disorganizes the student's mind regardless of language.

Diagnosis for Dysgraphia is similar to the diagnosis process for Dyslexia, there is an extensive background check of the person's education history as well diagnostic test of spelling

Commented [w14]: I suggest writing this before any of the explanations of the disorder because it clarifies what the disorder is specifically, and the rest are consequences of it.

Commented [w15]: Good opportunity to connect with Dyscalculia and how teachers could brush it off as being bad at math.

Commented [w16]: You keep mentioning Dyslexia even though it is not one of the disorders being discussed in this essay.

and writing strengths/weaknesses. These tests rely heavily on the person's ability to put their thoughts down in writing as well as verbally communicate their thoughts to then compare complexity and similarities. Tutoring and other services that aid in Dysgraphia treatment are available, although cost and accessibility may vary. These disorders are still coming into the spotlight a bit too slowly, that and awareness is starting to grow a bit more. In the classroom, teachers should circle around their classrooms to see how their students find any prompts and extensive writing pieces. There are often where students will sit and doze off due to their inability to understand the assignment or the information being presented to them. A good way to figure out where a student is within the classroom is by checking in verbally and allowing the student to air out their misunderstandings.

> **Commented [w17]:** You mention that there are tutoring services available, what is the importance of teachers taking any action towards these disorders?

There are many ways to pick up and recognize students struggling with learning disorders within their respective classrooms. Excessive absences, low self-esteem and confidence in the classroom, major test anxiety, or s poor time management are all red alerts for students who may be struggling with learning disorders. Teachers are taught to instruct and educate their students based off of the curriculums given to them by school officials or school districts, there isn't a whole lot of leeway for teachers to take full control of their classrooms. This was the old fashion way of teaching. Nowadays, teachers have evolved and learned that was is a part of the curriculum is not always the best and correct way to learn. It is important for teachers to get to know their students and what methods of teaching truly works, student reception is an integral part of an effective classroom environment.

> **Commented [w18]:** Critical towards teachers who do not actively look out for several learning disabilities while trying to teach. Instead offer benefits of identifying and addressing students' disabilities.

Many assistive technologies exist and are very effective in making sure that students are engaged, no matter the disorder. Computer assisted instruction is one of the many assistive devices that can be implemented more into the classroom, this can help assist students on

previous areas that have been troubling them without so much reinforcement from the teacher; this can be an asynchronous activity. Specifically for Auditory Processing Disorders, speech to text softwares can truly be a game changer for students who struggle with keeping up in the classroom. Teachers should also make sure that there are worksheets or reference pages full of the important pieces of information that are verbally given during lessons, this may be tedious, but it really does help students who have a hard time retaining verbal information. There are so many math applications as well as different calculators to better assist students with Dyscalculia. Mindomo is a visual tool that helps students put their thoughts and brainstorm in ways that are easy to comprehend, it is excellent when generating ideas for big assignments or even organizing notes for future reference. There are so many other resources and devices that teachers and schools can further incorporate into their curriculum, they just must look and research.

> **Commented [w19]:** Also critical

Overall, learning disorders within the classroom are important to keep in mind as an educator. Students themselves may not be aware that this is what is preventing them from getting the most out of lessons and assignments, the reason they may keep doing poorly. It is the educator's job to make sure that they are considering the severity and effects of these disorders and incorporate a universal way of teaching. Assistive technologies are such an excellent and helpful resource to help students better the skills they are lacking in without ostracizing the student. It is important to reinforce and build on knowledge of various learning disorders to improve retention and understanding in the classroom.

> **Commented [w20]:** Why is it their job to consider these disorders

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