Education Minor Capstone Publication

Gabi Lapointe
Last night I just couldn't sleep because today is my first day of first grade.
And I can’t wait.
“Tranquila, mi ja! Calm down,” Papá says. “Pronto llegamos. We’ll be there soon.”
School is perfect except for one thing.
Anthony.
When we’re supposed to be listening, Anthony is talking about jellyfish.
When we’re supposed to be reading, Anthony is drawing sea turtles.
When we’re sitting down, Anthony is moving like an octopus.
ANTHONY!
Our teacher, Ms. Martin, says that tomorrow we are going to have a show and tell. She wants each of us to bring in something special to share about ourselves.
I’m bringing in my favorite shell collection.
Anthony brought in his artwork. His drawings are beautiful! He tells us that he sometimes has trouble sitting still or focusing because instead he’s drawing, thinking about, or even acting like sea creatures!

His favorite are jellyfish.
Ms. Martin says Anthony has something called ADHD, which means that it is hard for Anthony to pay attention sometimes. He might do some things differently than the rest of us, but he is still learning. And he is still a part of our class.

Now everyone wants Anthony to tell them about his drawings. We all crowd around his desk.
I guess we don’t all learn the same way. And that’s okay.

I can’t wait for Anthony to teach me how to draw sea creatures!
What is Attention Hyperactive Disorder (ADHD)?

The behaviors Anthony exhibits in the classroom stem from his attention-deficit/hyperactivity disorder (ADHD). ADHD is the most common childhood neurodevelopmental disorder that involves difficulty sustaining attention and controlling impulses and actions. School can be a challenging place for children with ADHD, academically as well as socially. They may face peer exclusion due to behaviors out of their control. In order to benefit these children and those with other disorders and learning disabilities, understanding the neural dysfunction behind these disorders is the first step. The chemistry and structural functioning of the brain is often an intangible concept, and so it can be difficult to attribute something like ADHD to the divergent ways in which our brains develop and connect throughout childhood. Understanding the mechanisms behind attention and impulse control allows us to understand the science behind ADHD, reducing stigma from this disorder and encouraging the implementation of programs to support children with ADHD.

However, there is no way to pinpoint one single cause of ADHD: a variety of factors are involved, including genetics and environment. Recent research suggests that ADHD stems from a disconnect between processing systems in the brain due to delays in typical maturational patterns in these systems. Brain imaging studies demonstrate that in those with ADHD, there is, on average, a three-year delay in maturation. This delay is most prominent in regions of the brain responsible for thinking, attention, and planning because it affects the relationships between systems responsible for introspective attentional orientation and extrospective orientation. Because there is not enough control over introspective attentional systems, there is intrusion during externally demanding tasks and individuals are more distractible, experience lapses in attention, and exhibit variability in task performance.
What can we do?

Studies have demonstrated that diminishing social rejection or peer exclusion in school-like settings can be successful when programs are implemented to not only target the child with ADHD, but also to target his or her peers. The program that focused both on the ADHD child and his or her peers, called Making Socially Accepting Inclusive Classrooms (MOSAIC), had more success and reduced social exclusion. In the MOSAIC treatment, teachers fostered a positive image of the student with ADHD by demonstrating his or her efficacy and modeling positive interactions. This was compared to the behavioral management treatment, contingency management training (COMET), which rewarded or detracted points from children in front of the class, devaluing children with difficulty behaving in front of their peers. By having each child in the class demonstrate a worthwhile aspect about him or herself, Anthony's teacher was able to draw attention to Anthony’s unique talents that may not have been otherwise displayed. This enabled Anthony's peers to focus on his talents rather than what they may view as abnormal behavior. His peers realized that he has something to contribute, just like the rest of them.
This book is a culmination not only of my experience in the education minor at Cornell University, but of my educational experience thus far. Born to a biology teacher and a research scientist, I grew up in a household that held education and science in great esteem. My father the entomologist can talk for hours about his latest project and the logic behind it. He is enthralled with the beauty of a simple experiment and its ability to measure exactly what it was designed to. My mother always expressed great excitement over the curricula she planned for her students, becoming especially excited when it came to the unit on cells and the intricacies of their design and structure. What they had was something I wanted, something to propel me into my future. My parents clearly had a passion for learning and discovery. Throughout my own education and even into my college years, I waited and waited for a passion of this sort to hit me. I wanted an “aha!” moment that would set me on a career path, something to motivate my own exploration and passion.

Once I began to take courses related to neuroscience and neurobiology, I was hooked, and decided to concentrate in Human Neuroscience within the Human Development major. This was not my “aha!” moment, but I was getting close. Soon after, I enrolled in a course called *Multicultural Issues in Education*, which introduced me to the importance of culturally relevant pedagogy and inspired me to minor in education. I was fascinated by the nuances and controversies surrounding the world of education and wanted to know more. My passion for both neuroscience and education spread, and I became excited and fascinated by the connections I could make between these disciplines and many others. I was able to use concepts and ideas from one course to supplement my knowledge in other courses and in my day-to-day experiences, allowing me to engage with my coursework at a level I had never experienced. This was my long awaited “aha!” moment; as a junior in college, for the first time, I felt as though I had finally found an academic path I was excited about, something I was passionate enough to pursue. I finally understood my parents’ passion for learning and discovery.

This led to my first insight, which is that education is truly a multidisciplinary field. It is a community effort involving the engagement of expertise from many different fields. Every field and profession is in some way
connected to the educational field and has something important to contribute. The multidisciplinary quality of education is applicable both in our efforts as teachers and also as students. I designed my project keeping this in mind. Anthony's story itself could be used by both teachers and parents as a way to introduce to young children issues of learning disabilities and to foster a discussion about acceptance and diversity. It draws from the scientific community, using research surrounding ADHD as a basis for suggestions on how to encourage social acceptance of peers with ADHD in the classroom and at home. Regarding my journey as a student and teacher, I chose to employ my own expertise throughout this project, drawing from my love for art, my background in neuroscience and human development, and, of course, my experiences in the classroom.

Through my experiences in the classroom, both observing and engaging with students, I came to my second insight, which may seem pretty self-evident: honesty is the best policy. Easy enough to agree with, but harder to put into action, this insight challenges me regularly. In the classroom, where teachers are expected to know everything, honesty in difficult situations can be daunting. It can be hard to admit you don't know something to a classroom full of students, and I have seen teachers gloss over issues that they perhaps did not feel equipped to handle. If an issue is brought to the attention of the class and then left unaddressed, this might be more dangerous than leading a discussion around the issue. Left uninvestigated, students may form their own, uninformed opinion of the matter without any guidance. In addition, failure to address uncomfortable topics does students a disservice because it leads them to consider the topic taboo, and thus they remain uninformed. The idea to provide background information about ADHD so that teachers will be better equipped to approach the subject came from an experience I had observing a classroom. The discussion centered around disabilities and difference. When asked why some people might be different, the teacher replied, "I don't know. It happens," and moved on without taking the time to honestly answer the student's inquiry. In her failure to address the causes of disabilities, the teacher may have done more harm than good because it seems to attribute difference to something inherently wrong with the person in question, and not to a factor out of their control, like cognitive development.
In order to combat negative assumptions his peers might make about Anthony, Anthony’s teacher took the time to address his differences in a way that did not ignore the tension in the classroom, and instead found a positive way for Anthony to demonstrate his abilities. In my book, I like to think that perhaps the teacher, although she was aware of Anthony’s ADHD, wanted to give him a chance to be himself and get to know him as a student instead of immediately applying restrictions or segregating him from the rest of the class because of what is labeled as a learning disability. This demonstrates a third insight I had, which is an approach to diversity that encourages difference but doesn’t let risk factors or certain labels interfere with interactions with individual students. It is important to acknowledge differences, and culturally relevant pedagogy takes these into account. When deciding how to illustrate this book, I was unsure of how I wanted my main characters to look. In the interest of cultural inclusivity and diversity, I decided to use cut outs to represent my characters. This allows the reader to create his or her own images, producing characters to relate to and identify with. We should also make sure to not further polarize students in our minds and treat them differently, because this can be subconsciously communicated to students. Instead, finding commonalities and promoting their sense of efficacy and ability will help create a sense of belonging and acceptance in the classroom.

References: