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Assessing the Limitations of Interventions-focused Case Studies in Influencing Positive Outcomes For Students With EBD

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ASSESSING THE LIMITATIONS OF INTERVENTIONS-FOCUSED CASE
STUDIES IN INFLUENCING POSITIVE OUTCOMES FOR STUDENTS WITH EBD

by

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A capstone project submitted in partial fulfillment of the
requirements for the degree of Master of Arts in Teaching.

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DEDICATION

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CHAPTER ONE

Introduction

Personal Interest and Background

My first role as an educator was as a one-to-one paraprofessional for a particularly energetic kindergartener. My student was often full of joy; his exuberance simply overflowed the classroom cup, as it were, and we would have to move to a quiet space in order to calm down. On occasion, however, my student was not demonstrating exuberance in his actions and demeanor; rather, he was distressed, frustrated, and would physically lash out at his peers, his teachers, and me. Now, I understand that kindergarteners are prone to swings in behavior and mood. But it was interesting that my student's reaction to negative stimulus was not to cry out or express his displeasure in some way. Instead, my student would attack whatever he perceived to be the source of the negative stimulus. He had immense difficulty processing through not only the emotions that he was feeling in a situation of considerable stress, but also, based on what I imagined to be a number of factors, had not learned or internalized prosocial behaviors with which to address and process the source of his dissatisfaction. Again, very few kindergarteners are highly successful at navigating emotionally fraught situations. But this student's actions and reactions were so aggressive that he required constant minding and care in the classroom space. His teachers had no idea how to positively interact with him when his moods and behaviors became too large. He would often resort to biting and hitting anyone that caused him to feel distressed, classmates included, and often with very little warning that he had been triggered.

This physical reaction to distress was troubling to teachers. So much so, in fact, that by the time I was introduced to his classroom, my student was already being labeled a “problem” by school staff, and considered potentially harmful to his peers. My fellow paraprofessionals and I would talk about how the labels that teachers and other adults place on children, no matter the age, can have lasting impacts on their overall development. Given enough years of being labeled a “problem” or a “danger,” eventually anyone would start to internalize these messages. Who knows how damaging that could be to a person’s long-term development? Though I was just beginning in my professional journey in the field of education, I was already considering how small actions in schools compound to cause significant and damaging trends in the real world, the most currently galvanizing example of which is the school-to-prison pipeline.

I have not forgotten the work that I did with that kindergartener, nor the experiences I gained through my additional placements as an elementary school paraprofessional. It was fascinating tracking the developmental changes in all students between grades at the primary level. There was, however, one subset of students that consistently captured and maintained my interest and focus: the students who struggled with prosocial behaviors in stressful situations. I was privileged enough to work, as a one-to-one and a classroom paraprofessional, with a few of our school’s “high flyers,” including my kindergarten friend. I reveled in the exciting, incremental progress, and the frequent frustrations that are associated with students who struggle emotionally. My work with those students has followed me to my current high school setting where I work as a special education case manager. At the secondary level, I now see the near-end result of

those students whose Social-Emotional Learning needs were not met sufficiently in the lower grades. I originally set out in this process to assess how and why those needs were not being met, and what factors, inside and outside of school, caused such needs to exist. My rationale was, if I could determine where those needs arise from, I could help create an argument for a more comprehensive support plan for students who struggle with their behavioral regulation. My hope was to establish a background that objectively determined where those needs came from, thus causing teachers to be less inclined to blame student behavior on the students themselves and to cease labeling them. My original research question was: what impact does the implementation of a Social-Emotional Learning (SEL) curriculum have on the greater academic, behavioral, and social aspects of students with Emotional or Behavioral Disorders (EBD)? What is considered best practice for teaching students with EBD?

What I found in the course of my research was that many other wonderful, noble scholars had already undertaken this question and mission. It was gratifying to read about! Everywhere I looked for more sources I found assessments and analysis, sometimes in the form of case studies, focusing on the implementation and execution of interventions designed to promote expressive and explicit communication skills, social and emotional awareness, and regulation strategies. Many of the scholarly articles I dove into claimed, with scientific backing from psychologists, neurologists, and pediatricians, that Social-Emotional Learning (or programs that subscribed to SEL principles without explicitly naming SEL as a practice) is of utmost importance to the social and academic

development of children, and especially those who struggle with behavioral difficulties.

What was I trying to prove?

I started applying a more critical lens to my own practice, as a teacher, pedagogical scholar, and researcher. There were many studies that identified best practices. There were many studies that attempted best-practices interventions. And yet, the outcomes for students with behavioral challenges, and especially those students diagnosed with Emotional or Behavioral Disorders (EBD) remained abysmally low (Davis & Cummings, 2019; Jolivet et al., 2000). Where, I asked myself, was the disconnect?

I looked more deeply into case study examples because these documents were the most practical application of all the theoretical and philosophical underpinnings that scientists and scholars who focused on this topic explored. I noticed that, while students who received interventions were able to obtain the skills that were the focus of those interventions, they seemed to have difficulty generalizing those skills to contexts that existed outside of the special education classroom or group in which they practiced the interventions. And if the students who are being taught these skills were not being promoted in the transfer of that knowledge to the other areas of their lives, then they were, in effect, not practicing those skills at all; thus the interventions, even as they were being applied, seemed to be rendered ineffective.

This realization led to a new focus for my research, one that still involved the basics that I had covered earlier, but included a focus on what impact there *could be* on this demographic of students if we addressed the limitations that we, as scholars, face in

our research, and how our acknowledgement of these limitations should inform the recommended practices of educators. My new research questions became: *What are the limitations of intervention-focused case studies in the practical increase of positive outcomes for students at risk for or diagnosed with Emotional or Behavioral Disorders at the secondary level? What are best practices in the classroom for students with EBD that compensate for these study limitations?*

My motivation for addressing this question is first and foremost to improve the practice of general education teachers for instructing students with EBD. I intend to use my research to create a website that provides highest-leverage strategies for checking in with students who struggle with behavioral regulation; for creating positive classroom culture for all students; for helping teachers to connect with and build relationships with students who struggle with behavioral regulation; to help teachers to develop empathy for students with EBD by explaining some of the science behind their struggles; and to equip my fellow educators with needed resources to help them do the best job that they can, for each of their students regardless of background or disability status.

In this first chapter, I will address in greater detail my rationale for the creation of this study, introduce the educational context that led to this course of study and how that context compares to more broad contexts, and summarize my expectations and the value of this proposed research. Finally, I will introduce the subsequent chapters of research that the reader will find in this study, as well as the broader overview of my project.

Rationale

Students with Emotional or Behavioral Disorders (EBD) struggle with mood regulation and prosocial responses to stress, challenging academic work, and the nuanced social dynamics of the school context. According to a study from 2000 (Jolivet et al.), the researchers claimed that students diagnosed with EBD are, on average, less likely to graduate high school, less likely to form and maintain positive relationships, and more likely to be incarcerated after they leave high school. The study also suggested that students diagnosed with EBD are less likely to pursue post-secondary education and more likely to work in part-time jobs compared to general ed peers (paras. 4-7). While this study is 20 years old, these circumstances, as well as the academic and social outcomes of students diagnosed with EBD, have not improved considerably. According to Davis and Cummings (2019), only 42% of students with EBD who had been out of high school for at least four years reported working full time (p. 325). Furthermore, Davis and Cummings reported that young adults diagnosed with EBD are more likely to face “involvement with the criminal justice system,” even in 2019. After twenty years the outcomes of young adults with an EBD diagnosis have not seen a significant positive shift. (For a comprehensive collection of studies and data pertaining to the disheartening expected academic and professional outcomes of students diagnosed with EBD, please review Tidmore’s, 2018, “Background of the study,” and specifically pp. 2-4.) Generally speaking, it is evident from numerous data-informed studies that students with EBD are traditionally under-served in our current academic contexts (Davis & Cummings, 2019; Gresham, 2015; Jolivet et al., 2000; Merrell & Walker, 2004; Mattison, 2015; Tidmore, 2018). I found these statistics to be fairly accurate based on my own professional

experience, where, at my former school of three years, students at risk for or diagnosed with EBD were more likely to drop out or transfer than they were to make it to their senior year or walk across a graduation stage and receive a diploma from our school.

While students with this specific diagnosis especially struggle in modern academic contexts, there has been an increased need for social-emotional education across all student demographics (Osher et al., 2018, p. 12). Documented instances of trauma among students are higher than they have ever been, and this is especially true for those students in lower socio-economic statuses. Children who live in poverty are more likely to experience traumatic events than children of a certain income level, and when untreated or unrecognized, these instances of trauma can result in increased diagnosis of anxiety, depression, and post-traumatic stress disorder among students (Giovannelli et al., 2016). Simply put, there is an increased need among students across a broad spectrum of demographics for social and emotional support.

I believe that students who are diagnosed with EBD, as well as students who typically struggle to cope with stressors and challenges, would benefit from the implementation of a *comprehensive* SEL curriculum across multiple contexts (behavioral, emotional, *and* academic) within the secondary school setting. Creating and maintaining Social-Emotional Learning interventions that span the variety of contexts within a single school setting for students who show an acute deficit in their ability to cope with stress and respond with prosocial behaviors to challenging situations is of utmost importance for reversing the troubling trends that dominate the expected outcomes of students with EBD. This study is conducted in an attempt to establish what limitations may exist in the

current scholarship for this demographic of students and to illustrate best practices for how to help all students with this challenging diagnosis (and any students who struggle with behavioral difficulties due to a variety of other factors to be covered later) learn the necessary skills to not only find success in school but also in their lives beyond school. Additionally, I believe this study will establish a rationale for delivering SEL curricula to the entire student body, not just a subset of students with acute difficulties in these social and emotional areas.

Context (Including Stakeholders)

This study was inspired by the lack of positive academic outcomes and gains among the EBD-diagnosed students within my former school setting. Though I no longer teach in the school I am about to describe, I am conducting this study in order to help promote a change in educational practices in this setting for students who are diagnosed with, or at risk for, EBD.

I worked for three years in a rigorous college-preparatory 9-12 public charter school. There was, and still is, tremendous emphasis in the school placed on ACT-style standardized testing and discipline. From what I understand based on reports from colleagues in the field of education, and my own research and experience, this philosophical approach to education is not uncommon in charter schools. In this particular context, students and parents sign a behavioral expectations contract upon enrollment in the school and teachers are expected to enforce “college-ready” behaviors (established in the contract) through their personal classroom management style, as well as a punitive system of consequences, known as the demerit system. Of itself, the demerit

system is not particularly nefarious (there have been instances where teachers use the demerit system in place of a system of classroom management, which is a common critique of these whole-school discipline systems), but when students earn more than thirty detentions (one detention per four demerits) on the year, they are potentially non-promotable (unable to move onto the next grade) for not having met the behavioral guidelines and expectations, per school statutes and standards (as described and agreed to in the behavior expectation contract when the student enrolled).

Academic rigor is emphasized through quarterly standardized testing practice, which is implemented in the form of the “Interim” test, a ACT-style test that grows progressively more difficult (eventually mirroring the rigor of the ACT) as the students grow from freshman year to the end of their junior year. Within this school context, the administration believes that testing data and behavioral data are the strongest indicators and predictors of student success, not just in getting into college, but also in finding success there. These metrics are not easily differentiated to provide the most individualized approach to engaging with school, and leaning on them to provide a comprehensive picture of student outcomes and gains leads to a typically reactive approach to supporting students with behavioral and emotional struggles. Thus, it should not be surprising that students who fit the EBD profile perform well-below the general school population in terms of academic gains, behavioral referrals, and even engagement with school culture (service learning, clubs, sports, etc.).

Students with EBD have traditionally struggled with the strict adherence to the demerit system in this context. Per special education law, the school cannot mandate that

a student with a disability be held back from moving onto the next grade for behavioral infractions alone. However, there is a strong correlation between academic success and behavioral adherence within this school context. Generally speaking, students who struggle with keeping their demerit counts down have also typically had very low grades; this is especially true for students with EBD in this context. This specific subset of students is the primary stakeholder group in this study, as the impact on their academics and behavioral data are just the most visible indicators of a general success in school that touches on more than just data points (including self-confidence, avoiding internalized stigma, and creating lasting and supportive friendships). And while students diagnosed with EBD are the primary stakeholders and beneficiaries of those impacts of this study, these are not the only students who have struggled behaviorally (and academically) within this, or similarly organized, school contexts. Any student who struggles with outside mental health diagnoses, untreated diagnoses, and/or the impacts of trauma, no matter their school situation, will likely benefit from this study's emphasis.

One last group of stakeholders in this study is the teachers who serve these children, teachers who desperately want to see every single one of their students succeed. By identifying the oversights within the current body of research around improving outcomes for students with EBD, this study will spotlight important and even immediate steps that teachers can generally make in their classrooms to help boost student success. SEL curricula are designed to support and train teachers as much as they are intended to support and teach students, and I believe that teachers at every school are in desperate need for hard data to contextualize the struggling learners that they see each day; data

that proves that there is additional support required for struggling learners to engage with content, as well as to help teachers to teach these students better.

Summary

Students who are diagnosed with EBD consistently struggle in academic contexts and there is a pronounced need for investigation into the possible limitations of the research designed to improve the outcomes for this subset of students. There is also the need for creating resources for teachers to be able to use quickly and effectively in their classrooms to provide a means of supporting these students. This study will attempt to determine the limitations of the current research and general approach to schooling for students diagnosed, or at risk for being diagnosed with, EBD in an effort to promote consideration of adopting SEL curricula as a comprehensive and systemic support. The potential benefits of SEL curricula for those subsets of students are significant and important. At this point, there have not been meaningful improvements to the school outcomes for students who fit this profile in many years of investigation and study (Anderson & Chiasson, 2012; Davis & Cummings, 2019; Gresham, 2015; Tidmore, 2018). We must consider a change in our approach to this area of study, because it is unacceptable for the current results to continue. There are numerous beneficiaries within this potential for study, and the results of this research could tremendously benefit not only my former school's student population, but any school that seeks more effective methods and better outcomes for their students with EBD.

In the next chapter, I investigate and detail the relevant literature that has been published on the topics of social-emotional learning, the neurology of learning and

trauma, the developmental levels of learning and pedagogy, and relevant definitions and understandings of Emotional or Behavioral Disorders. I also critically examine one typical case study designed to investigate and improve the outcomes for students with EBD in order to illustrate the limitations of those studies. These focuses of study will contextualize the information that is the necessary background for establishing what best practices ought to be for teaching students with EBD. Chapter Three describes my website project in greater detail, including the target audience and how I assessed the effectiveness of the tool that I built. Finally, Chapter Four commits to a significant review of the literature that continues to inform my practice and the development of my website. Chapter Four also includes an acknowledgement of the limitations of my project, how I intend for my website to evolve over time, and my reflection on the process of completing this capstone project.

CHAPTER TWO

Literature Review

Introduction

To develop a working understanding of the needs and best practices associated with students who struggle with Emotional or Behavioral Disability (EBD), there must be a context established that illustrates the development of these children and how they interact with their academic contexts. Only after we understand the context for development can we appreciate the complexity of the disability category itself, and critically consider the sorts of outcomes-driven studies that have been conducted in pursuit of improving student performance. This chapter begins with a brief overview of the developmental context for learning and cognition, followed by a brief dive into the concepts of toxic stress, trauma, and how these features can influence the previously considered neurological development. I then construct a comprehensive framing of EBD through the lens of special education law, followed by a consideration of the suggested interventions for teaching students with EBD. After reviewing these suggested interventions, I will critically assess a typical case study in the research domain of improving outcomes for students with EBD with the intention of highlighting the need for my project to provide students with easier access to Social-Emotional Learning strategies in their classrooms. This chapter will then conclude with a brief overview of Social-Emotional Learning to provide some background on the use and application of these types of interventions. Only by establishing all of this background information can we commit to a comprehensive analysis of the existing research and methodologies for

improving the outcomes of students with EBD and respond to the question: *What are the limitations of intervention-focused case studies in the practical increase of positive outcomes for students at risk for or diagnosed with Emotional or Behavioral Disorders at the secondary level? What are best practices in the classroom for students with EBD that compensate for these study limitations?*

The Neurology of Development and Learning

Cognitive development occurs within each individual's multiple contexts of existence (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006; Cantor et al., 2018; Osher et al., 2018). These physical and social contexts have a greater influence on the development of the brain and neural pathways than mere genetics, though genetics still is a recognized component of brain development (Cantor et al., 2018, p. 309). These influences can result in dramatically different flexibilities within neural development; for instance, a child that is exposed to risky or chronically stressful contexts during early stages of development can develop a neural network that is predisposed to triggering the "fight-flight-freeze" response in their body when confronted by stress or adversity, thus compromising overall self-regulation functioning; conversely, a child that is exposed to developmentally rich environments demonstrates more complex and greater neural connectivity to all areas of the brain, not just those cortical and limbic systems responsible for the fear response, and thus demonstrates greater neural flexibility (which is essential to the self-regulation component of executive functioning) (Cantor et al., 2018, Table 1; pp. 311-312, 324).

Executive Functioning and Self-Regulation

Executive functioning skills are crucial to human academic and personal success (Cantor et al., 2018, p. 314). According to the University of California: San Francisco's Weill Institute for Neurosciences (2020), executive functioning is “the higher-level cognitive skills you use to control and coordinate your other cognitive abilities and behaviors” (para. 1). Executive functioning is the organizational (attention, working memory, and problem solving) and regulatory (emotion and behavior regulation, assessment of information) responsibility of the frontal lobes, in communication with other regions of the brain (“Executive Functions,” 2020). As mentioned previously, genetic and epigenetic factors can influence the efficacy of the neural pathways that connect this executive functioning part of the brain (frontal lobes) to the emotional, behavioral, and memory regulating portions of the brain (amygdala and hippocampus). Effective communication between these areas of the brain results in the performance of academic and social skills that are essential to successful integration in society and are the foundation for goal-fulfilling behaviors and outcomes, also known as self-regulation (Cantor et al., 2018). According to Cantor et al. (2018), “Self-regulation skills and attributes encompass a foundational set of competencies that aid in managing cognition, emotion, attention, and action, and support goal-directed behavior” (p. 314). Self-regulation is very important not only for the ability to succeed in higher-order thinking, but especially in the “soft” skills of perseverance, resilience, conflict resolution, and interpersonal communications (Cantor et al., 2019, p. 314).

Relationships and development. Context is not composed, however, merely of the physical spaces that we occupy, but the interactions that we live within those physical spaces; our relationships to others have an outsized impact on our brain development (Osher et al., 2018, pp. 6-7). Individuals can grow their ability to self-regulate and continue building effective executive functioning, even after having been exposed to chronically stressful environments, through exposure to appropriate models of self-regulation. Consequently, parenting is a more significant determining factor in cognitive development than any other social or physical context (Osher et al., 2018, p. 9). However, development is not necessarily linear and predictable, but is rather more like a complex web that continuously expands in complexity over time (Cantor et al., 2018, pp. 312-313). These multiple other contexts that influence each individual can still have dramatic impacts on the overall connectivity and flexibility of the neural networks within the brain. School is of special importance in this regard. Students are interacting with multiple contexts every day within the school environment: their own individual, innate ability with academics or athletics compared to peers; their typical social interactions with peers and teachers; their interactions with competing political and cultural representations; the list could go on. Considering the disproportionate amount of time that children spend in schools compared to other contexts, surrounded by these competing and overlapping contexts of developmental influence, these institutions are of significant importance to the developing child (Osher et al., 2018, p. 8). Therefore, it is paramount that the institution of school commits to best practices for the comprehensive

development (cognitively, socially, emotionally, academically) of all children that it serves -- no small feat.

Best practices in schools for comprehensive development. Researchers have determined some higher-leverage strategies and approaches that profoundly impact the overall outcomes of students within their K-12 experience: scaffolded inquiry as a “major learning strategy,” opportunities for collaborative, culturally responsive learning, consistent and timely feedback, and “opportunities to develop metacognition” by way of being tasked with planning and self-management of academic outcomes and team outcomes (Darling-Hammond et al., 2019, p. 4). In addition, students learn best when they are developing these skills in a safe, consistent environment alongside scaffolded instruction and guided practice in the self-regulation of emotional and behavioral responses. Furthermore, children profoundly benefit from multi-tiered systems of support that integrate mental and physical health, the child’s need for dynamic, stable, and enriching adult- and peer-relationships, and restorative practices that honor the child’s dignity as they proceed through trial-and-error (Darling-Hammond et al., 2019).

While each of these approaches is important for providing a comprehensive educational experience, the significance of culturally responsive teaching on cognitive and social development is especially crucial to note. Culturally responsive pedagogy is the act of acknowledging and honoring students’ prior knowledge and cultural heritage, and of aligning goals and learning with student interests and the things that affect students. This approach to learning produces demonstrable success and evidence of student achievement. Committing to this culturally responsive approach includes training

staff on their cultural blind spots and the necessity of culturally responsive teaching, and in helping staff to develop means and methods for incorporating student prior knowledge and cultural heritage in their curricula (Osher et al., 2018, p. 12). The reason this educational approach is so important is because schools can cause actual and lasting harm to students if their learning culture is not built around centering students and valuing student identity and culture (Osher et al., 2018, p. 12). If classrooms and common spaces in a school are defined by conflict, then students' identities are not honored, and much of their cognitive load, or working memory and ability to learn, is taken up by fighting to carve out a place for themselves within the school, significantly hampering their ability to learn *new* material (Paas, Renkl & Sweller, 2004, p. 1). Furthermore, schools that are characterized by conflict and a devaluation of student identity and culture demonstrate drastically lower achievement overall (Osher et al., 2018, p. 12).

Learning in the ZPD and Cognitive Load Theory. The above recommendations are made with the pedagogical understanding that learning occurs within what Vygotsky (1978) called the *Zone of Proximal Development (ZPD)* (as cited in Vygotsky & Cole, 1978). The ZPD is that sweet spot in content acquisition where the content is not too hard, but not too easy either. Scholars have researched further into the notion of the ZPD and arrived at a theory of learning called *Cognitive Load Theory (CLT)*. CLT posits that there is a limited capacity to the amount of working memory any individual can access in the process of learning. If an instructional task is too complicated, or the content too inaccessible, then, according to CL theorists, the individual exerts an excess of energy just to try and figure out what the content is and what it does, and thus the instructional

task is ineffective because it results in inefficient learning (Paas, Renkl, & Sweller, 2003; Paas, Renkly, & Sweller, 2004).

Similar to Vygotsky's concept of finding a *Zone of Proximal Development*, cognitive load represents the amount of information and tasks that a person is undertaking in pursuit of an optimal learning amount. Too easy of a task and learning isn't accomplished because the learner is bored; too much difficulty and learning isn't accomplished because the learner is overwhelmed (Paas, Renkl, & Sweller, 2004, pp. 1-2). *Cognitive Load Theory* (CLT) is interested in the amount/interplay of tasks, concepts, and ideas that overwhelm the learner and cause learning to become inefficient or cease entirely (Paas, Renkl & Sweller, 2004, pp. 1-2).

Cognitive load theorists are concerned with that point at which a learner is challenged *just enough* to hold the new content in their working memory and establish new knowledge in the form of schemas (Paas, Renkl & Sweller, 2003). Schemas are “[c]ognitive constructs that incorporate multiple elements of information into a single element with a specific function” (Paas, Renkl & Sweller, 2003, p. 2). Schemas are an important concept to learning, and especially to CLT, because, according to cognitive models, there is only so much information that a person can maintain in their working memory at a given time (Paas, Renkl & Sweller, 2003). Paas, Renkl and Sweller (2003) argue that working memory can “handle only a very limited number—possibly no more than two or three—of novel interacting elements” at any one time (p. 2). Creating schemas allows the human brain to connect and contextualize information across multiple *access points* in their long-term memory, essentially packaging new information into

easily transferable and recoverable *buckets* of associated knowledge (Paas, Renkl & Sweller, 2004, pp. 1-2). The more schemas of transferred knowledge created through the interaction with content and instruction, the greater the ability of the learner to take on more cognitively demanding tasks (Paas, Renkl, & Sweller, 2003; Paas, Renkl, & Sweller, 2004).

According to Paas, Renkl & Sweller (2004), there are three types of cognitive load, all of which interact in the learning process in an additive way: intrinsic, extraneous, and germane (p. 2). According to Paas, Renkl and Sweller (2004), intrinsic load is “imposed by the number of information elements and their interactivity” (p. 2). This is essentially the variables in the learning task(s) and how they interact. The other two components, extraneous load and germane load, are the elements that represent how information is presented to the learner, and how the learner is expected to interact with that information (Paas, Renkl & Sweller, 2003, p. 2). The difference between extraneous and germane loads is that extraneous load is imposed by “information and activities that do not contribute to the process of schema construction,” or the process of learning (Paas, Renkl & Sweller, 2004, p. 2). Germane load is *only* related to information that contributes to learning (Paas, Renkl & Sweller, 2004, p. 2). As previously stated, these load elements are additive. An individual has only so much cognitive load to designate. The intrinsic load is a set cost, but the extraneous and germane loads are controlled by the contexts that influence the learner, including the all-important role of the educator as the one who is presenting and teaching new information. The critical difference between Vygotsky’s theory and CLT is consideration for these contexts of influence (Paas, Renkl, & Sweller,

2004; Vygotsky & Cole, 1978). While the ZPD occurs within the isolated and vacuous context of learners in a space of teaching, CLT takes into account all of the contexts that may be affecting a learner in the moment of content acquisition.

An example of this process might prove illustrative. Consider the following scenario in which you are the educator:

A student is hungry because they did not have time for breakfast before coming to school, and barely slept last night because of a domestic disturbance in their home. They arrive in your first period class and appear unable to focus on the instructional task that you have painstakingly crafted according to numerous data sets collected over the past several weeks of unit instruction. The student's functional cognitive load is limited because of the extraneous load that they carry with them as a result of their tumultuous evening and morning: they are considering where they might get food to settle their rumbling stomach; they are unable to escape thoughts of anxiety about how their family is doing; they are dogged by a pervasive need to close their eyes, just for a minute... The intrinsic load of your instructional content is clear and has been efficiently articulated.

But, as Paas, Renkl and Sweller (2004) stated:

If the load is imposed by mental activities that interfere with the construction or automation of schemas (*such as thinking of food, or worry*), that is, ineffective or extraneous load, then it will have *negative effects on learning*. If the load is imposed by relevant mental activities, i.e. effective or germane load, then it will have positive effects on learning. (p. 3)

No amount of cajoling or punishment will suddenly free up the cognitive load space necessary for this student to perform your prepared instructional tasks to the transformative capacity that the creation of new learning schemas requires. This is not to say that this student will learn nothing; just that there may not occur the necessary (and certainly not the efficient) transfer of new knowledge into schemas that is meant to result in seamless transition from the current instructional activity and content to the next level of instructional content that you hope to teach the next day, or week, or month.

Teachers (and researchers) must consider these outside factors when investigating student learning because learning does not happen in the vacuum-sealed classroom that is implied by the ZPD. And that sweet spot in Vygotsky's theory is going to be especially hard to hit if it is shrinking and/or moving due to a number of other issues, perhaps having nothing to do with school at all, that are welling up inside the individual doing the learning. Much like how multiple contexts influence the development of each individual's neural networks and brain flexibility, leading to unique effects on the individual's ability to learn in a broad scope, so, too, do a myriad of lived contexts inform an individual's ability to learn and develop on a much smaller, practical scale.

Teachers are adept at tracking the pulse of their classroom, and of those of the individual students that make the classroom tick. However, it is impossible for a teacher to be aware of all the aspects of a student's life that could be occupying their cognitive capacity and which complicate their interaction with their peers, academic content, and the function of attending school. By creating a resource page for teachers that includes check-in strategies and other methods of providing a quick touchpoint with students in

the moment to determine what may be distracting them from school, educators will have the tools necessary to quickly assess struggling students' needs. Just by identifying a student's needs, the teacher's practice becomes more student-centered and creates more opportunity for transformative academic potential; at the very least, the teacher will be able to acknowledge what might be getting in the way of their student's learning for that day and take steps toward alleviating their extraneous load.

The Neurology of Stress, Trauma, and Behavioral Disorders

Oftentimes, the contexts of development that influence an individual are neither rich nor particularly helpful for effective cognitive development. Difficulties in self-regulation and processing can arise from development occurring in such contexts. Eventually these difficulties in processing can result in the manifestations that are often associated with behavioral disorders: anxiety, inappropriate responses to stimulus, attention issues, etc. In order to better understand the genesis of behavioral issues, one must first look to contexts of development that can have an impact on the formation of these issues (Osher et al., 2018). Beginning with stress as a concept and eventually moving to Adverse Childhood Experiences (ACEs), or common, traumatic experiences that can adversely affect a child's development, we will track those elements of development that might negatively impact the overall cognitive outlook of an individual.

Stress and the Developing Brain

Stress is a part of life. Not only is it inescapable, but it is also necessary for cognitive development (Cantor et al., 2018). Cantor et al. (2018) defined a stressor as an experience that "activates neural pathways, generating energy flow through electrical

impulses that strengthen connectivity among existing brain structures and creates new ones” (p. 311). There are infinite possibilities for the development of existing and novel neural pathways due to the myriad contexts and interactions that inform a person’s daily development. For the purposes of this study, the term “stressor” will be used as a stand-in for *experience*, something that merely drives development.

We can consciously make a distinction between what is, to us, a “good” experience or a “bad” one. Experiences that leave us feeling elated, joyful, or energized are usually considered to be pretty good; conversely, experiences that leave us feeling pain or fear are usually considered bad. Our brain does not necessarily make that distinction (Cantor et al., 2018). Regardless of the connotations of an experience, the brain uses experience as a means to develop connectivity to those parts of its functioning which should most help the body respond to the experience in the moment. If we experience the same joyful, awful, or even neutral experience repeatedly, those neural pathways are travelled over and over again, creating more efficient connections that result in what is called a *template* response. Cantor et al. (2018) wrote this about the concept of templates: “The processing functions of the brain integrate information from diverse sources into templates —representations of various types of stimuli—so that the brain gains meaning” (p. 311). The idea of a response template is, essentially, just another way of thinking about the creation of a schema, covered in the section on Cognitive Load Theory (CLT): the brain prepares and programs the most efficient and predictable response to a repeatedly occurring experience in order to clear cognitive load space (Paas, Renkl, & Sweller, 2004). This demonstrates the importance of rich

developmental contexts for children: without being consistently challenged in a safe environment to adapt to new stressors, the brain falls back on the “tried and true” methods of responding to a situation, accessing the template that most commonly results in engaging a response that fulfills whatever goal is most immediately relevant to the individual (Cantor et al., 2018, pp. 311-312).

The tendency of the brain to construct templates is incredibly useful for the evolution of an individual’s thought and response. This tendency can result in long-term damage, however, when the majority of the stressors that an individual experiences are negative, a phenomenon that researchers have termed *toxic stress*.

The American Academy of Pediatrics defines toxic stress as “extreme and repetitive stress” (“ACES and Toxic Stress,” 2020). In this case, stress is considered to have a profoundly negative connotation, one that results in the recognition of pain or a fear response. As exposure to stressors results in the refinement and development of new or existing neural pathways, so then does prolonged or repeated exposure to adverse experiences create hindrances to the development of efficient neural pathways in the general connectivity of the brain in favor of developing connections that create template responses preoccupied with survival (Cantor et al., 2018, pp. 311-312). Incredibly, this development of survival-oriented pathways additionally impacts the size of the regions of the brain, as well as the inter-functionality of the regions. Cantor et al. (2018) wrote:

Exposure to chronic, unbuffered stress is associated with changes in brain architecture, including smaller volume of the prefrontal cortex and hippocampus, larger volume of the amygdala, altered brain chemistry, and heightened

production of inflammatory hormones, including cortisol and cytokines. A dysregulated stress response system is one of the few systems of the body that can affect the development of all four brain structures — brainstem, diencephalon, limbic system, cortex —and, in particular, the integration of these structures (e.g., Siegel, 2012). Indeed, research on the consequences of developmental trauma points to impairments in the growth of key integrative structures, including the corpus callosum, hippocampus, and prefrontal cortex. (p. 323)

The interaction of the prefrontal cortex with the hippocampus is especially important to highlight, as these structures in the brain work together to regulate memory and learning, while also playing roles in the regulation of emotions, behaviors, and, important to highlight now, the fear response (Herrington et al., 2013). Thus, in the estimation of Cantor et al. (2018), an individual exposed to toxic stress is more likely to develop brain functionality preoccupied with survival mechanisms rather than the development of learning.

The impact of toxic stress on the developing brain. Childhood exposure to toxic stress has been proven to alter brain circuitry regarding the fear response, resulting in heightened activity in the hippocampus and amygdala when, in one experiment by Herrington et al. (2013), children were exposed to angry faces. Additionally, test subjects demonstrated reduced hippocampal activation when focused on a memory task. These findings seem to suggest that children exposed to toxic stress develop response circuitries in their brain that *favor* fear and survival response while *limiting* recall and focus, two skills that are essential to success in academics. The study suggested that “prolonged

exposure to stress may impair connectivity among the components of the fear circuitry, thereby impairing the regulation of emotion and amplifying fear responses” (Herrington et al., 2013, p. 19119).

The study by Herrington et al. (2013) established a direct correlation between childhood maltreatment, or, exposure to toxic stress, and decreased functional connectivity between the prefrontal cortex and the amygdala and hippocampus. This decreased functional connectivity demonstrated a reduction in the ability to regulate their fear response. In other words, subjects with this decreased functional connectivity had trouble stopping their fear response even when no immediate threat was realized, or experienced significant difficulty with *regulating* their emotional and behavioral responses while experiencing a relevant threat in a given situation (Herrington et al., 2013). The implication of this finding is that children who are exposed to toxic stress are less likely to be able to regulate their behaviors and emotions adequately and are more likely to exhibit a fear response, such as fight-flight-freeze, to *perceived* stressors. These individuals are, essentially, *always* on the verge of a fear response; in fact, that response may be their first (unconscious) cognitive inclination (Herrington et al., 2013, p. 19121).

This inclination is especially troubling for the brain development of young people because such exposures lead to not only a consistent response to toxic stress in the form of a survival-focused template, but, according to Cohen et al. (2013), this response becomes increasingly generalized the more often it is experienced. “Even after the removal of the stressor, the development of prefrontal regulatory regions is not enough to dampen fearful behavior” (Cohen et al, 2015, para. 15). Or, as Osher et al. (2018)

succinctly stated: “Young people who experience recurring and continuous negative contexts cease to recognize them as abnormal and become habituated to these contexts” (p. 9). Repeated overwhelming experiences can result in a brain state that is more prone to recognizing stress and trauma, which results in an inordinate amount of attention being paid to experiences and stressors that *might* fall into that harmful template, in turn prompting a response that does not fit the authentic context of the stimulus. A developing brain that is inundated with messages about the need to survive does not develop the same connections and efficiencies as a developing brain that is immersed in enriched and predictable environments (Cantor et al., 2018, pp. 311-312). When an individual becomes habituated to negative contexts, their brain becomes habituated to the presence and influence of toxic stress. Over time, the individual develops predetermined, and usually non-productive, templates of response to ever-increasingly generalized contexts.

Adverse Childhood Experiences (ACEs)

Negative contexts for development are usually defined by what have come to be known as Adverse Childhood Experiences, or ACEs (CDC, 2019). The Center for Disease Control (CDC) summarized ACEs as: “potentially traumatic events that occur in childhood (0-17 years)” (CDC, 2019). According to the CDC, these events include: experiencing violence or abuse, witnessing violence in the home or the community, and/or having a family member attempt or die by suicide. Also included are aspects of the child’s environment that can undermine their sense of safety, stability, and bonding such as growing up in a household with: substance misuse/abuse, mental health problems,

and/or instability due to parental separation (e.g. divorce) or household members being in jail or prison (CDC, 2019).

Adverse Childhood Experiences, like the aspects of cognitive load, are additive; the greater the ACEs score, the more likely that the negative contexts of development will impact the individual at the cognitive and even biological level (Felitti et al., 1998). Felitti et al. (1998) executed the original ACEs study that determined that stressors felt in childhood have a direct and lasting impact on a person's health overall. Their figure essentially says that the foundation of social, emotional, and cognitive impairment (as well as more profound issues later experienced in life, including "Early Death") is laid in the ACEs experienced by a child, representing a social proof that emotional disturbance and/or impairment is at least in part resulting from macro- and micro-interactions at personal, familial, and societal levels (Felitti et al., 1998, Figure 2). Giovanelli et al. (2016) expanded this study to demonstrate not only a higher prevalence of ACEs in urban and impoverished populations, but that the detrimental impacts of exposure to toxic stress as a child can have wider reaching effects than just on a person's physical health; rather, higher prevalence of ACEs can result in heightened risk for incarceration and lower gains in academic settings.

The ACEs studies assessed the long-term impact of toxic stressors through a macrospective lens, but the findings correlate to what pediatricians and developmental psychologists witness at the individual level (Johnson et al., 2013). In the study, "The science of early life toxic stress for pediatric practice and advocacy," Johnson et al. (2013) argued that stressors can be individualized experiences, such as trauma in the

immediate social context, or generalized impacts, such as socioeconomic status.

Furthermore, these impacts have significant and variable influence on how a child builds out their brain functioning (Johnson et al., 2013, pp. 320-322). Cantor et al. (2018) wrote that “intergenerational transmission (of toxic stress) is rooted in biological and social processes that begin before a child is born” (Table 1, p. 310). When children are born into and developing in environments of heightened and possible toxic stress, they are more prone to negative associations with regard to multiple features in their lives, including their perceptions of their relationships with others. Past traumas significantly influence their understanding and model of relationships, which can cause the same issues of stress and trauma to perpetuate in the child’s future relationships (Cantor et al., 2019, p. 324). Additionally, children who experience trauma and adversity “show biomarker brain structure and activation differences that increase their vulnerability to high-risk behaviors (e.g., being a perpetrator or victim of violence, suicide, drug addiction) later in life” (Osher et al., 2020, p. 21). In this way, the toxic stress of Adverse Childhood Experiences can profoundly impact not only the cognitive development of an individual, but the physiological, social, and emotional components of that development, as well as profoundly influencing future personal outcomes.

The impact of toxic stress on the developing individual cannot be overstated. Not only does prolonged and/or repeated exposure to stress immediately impact the production of efficient and healthy neural pathways, but the onset of consistent toxic stress early in life can result in cognitive and learning difficulties, emotional/behavioral regulation difficulties, generalized health problems (such as chronic illness and

heightened risk for infectious disease), and psychological problems (Johnson et al., 2013, Figure 2).

Implications for schooling and impact on tendency for behavioral disorder.

Giovanelli et al. (2016) summarized the genuine risk that is posed to development due to a young person's exposure to prolonged and/or repeated toxic stress:

Our findings of deleterious impacts across domains of functioning are consistent with the neurobiological effects of early adversity on the developing brain.

Cumulative exposure to severe physiologic stress affects many structures and functions that would limit or impair coping and self-regulatory skills required for successful performance in educational, occupational, and social pursuits. Early exposure to risk factors within the home and family exacerbate these consequences. (p. 8)

Exposure to these risk factors is correlated to a lack of development in emotional and behavioral regulation, a reduction in accessible working memory when committed to academic tasks. This inability to regulate behaviors and emotions is likely to have a profoundly negative impact on an individual's ability to perform academics successfully, as students who exhibit heightened fear responses to perceived stimuli have less cognitive load capacity to focus on academics when in school. This correlation is also relevant to the eventual development of symptoms of anxiety, depression, and attention issues in adolescence, conditions of which can dramatically impact a child's ability to engage with academics without some (or even significant) interventions, including specialized

instruction and/or explicit social-emotional learning practices (Herrington et al., 2013, pp. 19120-19121).

Trauma has become a buzzword in education circles, which is an unfortunate distinction for such an important topic in the profession; despite its popularity, this concept is still not addressed appropriately or effectively in our classrooms. Teachers quickly recognize whether a student is capable of self-regulating within a classroom space, but the science behind these student actions might not be so widely known. Access to a resource that contextualizes the sometimes explosive behavior of our traumatized students helps to build empathy for those students in their moments of distress. Such a resource would serve the additional benefit of keeping a teacher's mind trained on solutions that can be found within their own locus of control, rather than defaulting to special education referrals or consistently removing that student from the classroom.

Emotional or Behavioral Disorders

While there are many factors that can influence the development of an Emotional or Behavioral Disorder (EBD), there is no single element that has been proven to lead to the manifestation of such a diagnosis (A. Paulson, personal communication, April 4, 2020). EBD is an incredibly complex, broad, and controversial diagnosis within the field of special education. To develop an understanding of this disability category, this section first examines a definition, and some examples, of EBD. It then explores the breadth of the disability category and investigates its controversies. It then assesses the academic, social, and long-term implications of this diagnosis, and then, finally, discusses best practices for supporting the needs of students with EBD.

IDEA Definition

While there is some consternation about how EBD is labeled in various federal and state laws, the description of the disability, according to the Individuals with Disabilities Education Act (IDEA) is as follows:

Emotional disturbance means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance:

1. An inability to learn that cannot be explained by intellectual, sensory, or health factors.
2. An inability to build or maintain satisfactory interpersonal relationships with peers and teachers.
3. Inappropriate types of behavior or feelings under normal circumstances.
4. A general pervasive mood of unhappiness or depression.
5. A tendency to develop physical symptoms or fears associated with personal or school problems.

This definition does not include students who are considered socially maladapted, unless they have an emotional disturbance. (Code of Federal Regulations, Title 34, §300.8 (c)(4)(i), 2017)

The definition of this disability is incredibly broad and, some would argue, vague (Merrell & Walker, 2004). Much of the data required to determine whether a student struggles with Emotional Disturbance is qualitative; in fact, the very first criterion is an unexplained "inability to learn." Each of the other descriptors depends on anecdotal and

situational data that is acquired from teachers, parents, and other stakeholders in the student's life, as well as depending on subjective qualifiers (words such as "satisfactory" or "inappropriate") for diagnosis (IDEA, 2017). Finally, there is the troubling final disclaimer of the definition, which is restated here: "This definition does not include students who are considered socially maladapted, unless they have an emotional disturbance" (Code of Federal Regulations, Title 34, §300.8 (c)(4)(i), 2017). This subsection will cover the controversy of this last statement in greater detail later. The most salient detail at this point is that "emotional disturbance," as the disability is described in IDEA's legal definition, spans multiple contexts and, consequently, influences, and manifests in, more than just the academic domain of a student's life.

What's in a name? Emotional disturbance is the original descriptor in the federal definition for a diagnosis that includes the following conditions:

- Anxiety disorders (including obsessive-compulsive disorder (OCD), panic disorder, anxiety disorder, post-traumatic stress disorder (PTSD), social anxiety disorder, and "specific phobias.")
- Bi-polar disorder
- Conduct disorder (aggression toward people or animals, destruction, cheating/stealing, and/or truancy/breaking serious rules)
- Eating disorders
- Psychotic disorders (delusions and hallucinations, schizophrenia) (Emotional Disturbance, 2017)

The scope of “emotional disturbance” is incredibly broad and functions as an umbrella term that encompasses numerous mental illness diagnoses and tendencies. It should be noted that children with emotional disturbance *may* be considered for special education depending upon the factors listed previously, with the significance of the emotional disturbance’s impact on the child’s academics playing a significant role in determining whether a child qualifies for special education services or not (Emotional Disturbance, 2017).

As is the case with mental health writ large in our country, there is significant concern regarding the stigma associated with not only receiving special education services, but especially with being described as “emotionally disturbed” (A. Paulson, personal communication, April 4, 2020; Stewart & Dikel, 2011). Even though the federal definition still claims this description of the disability, state departments of education are allowed to adjust the verbiage and the required qualifications for diagnosis of the disability, provided the adjustments do not contradict the federal law (Stewart & Dikel, 2011). Minnesota actually changed the title of the category, from *Emotional Disturbance* to *Emotional or Behavioral Disorder* and made the criteria and evaluation requirements broader for the diagnosis of the disability (Stewart & Dikel, 2011, para. 6). This sort of adjustment is necessary to consider in the broad narrative of EBD because so much of this disability category is defined by subtext: the difference between appropriate vs. inappropriate behaviors and responses; the difficulty of identifying and “establish[ing] a pattern” of behavioral and emotional responses significantly different from age-appropriate responses and behaviors; the fluid definition of a social competence that

is “significantly different from appropriate age, cultural, or ethnic norms”; all the while, proving these instances as a manifestation of something other than “social maladjustment” (Office of the Revisor of Statutes [Revisor], 2007, subp. 2a).

EBD vs. social maladjustment. According to the National Association of Special Education Teachers (NASSET), social maladjustment is defined as a “persistent pattern of violating societal norms, such as multiple acts of truancy, or substance or sex abuse, and is marked by struggle with authority, low frustration threshold, impulsivity, or manipulative behaviors” (NASSET, 2018, para. 8). Each of these indicators could be evidence of someone struggling with emotional disturbance; however, according to NASSET (2018), a special report by the Wayne County (Michigan) Regional Educational Service Agency (WCRESA, 2004) on identifying social maladjustment in the EBD diagnosis process, and the professional opinion of a currently practicing school psychologist (A. Paulson, personal communication, April 4, 2020), the main indicator of social maladjustment, rather than EBD, seems to be *choice*.

According to NASSET, a student who is considered socially maladapted is one whose anti-social behaviors and responses are directed toward goal-fulfillment and self-interest, and are not consistent across multiple settings. The report by WCRESA seems to agree with this assessment, and described socially maladjusted students as fully capable of behaving appropriately, and even being aware of the rules that guide appropriate behavior, but choosing not to adhere to those rules. The report found that “*intentionality* is the distinguishing feature between social maladjustment and emotional

impairment” (WCRESA, 2004, p. 2; emphasis added). The report went on to illustrate the difference between social maladjustment and emotional impairment as follows:

The primary argument used to support the exclusion of socially maladjusted students from placement in emotionally impaired programs is that students with social maladjustment are not truly disabled. These children are *believed* to engage in deliberate acts of self-interest to gain attention or to intimidate others, while experiencing no distress or self-devaluation about their own internalized distress about their behavior. In contrast, children with emotional impairment are believed to engage in *involuntary* patterns of behavior and experience internalized distress about their behavior. Thus, there are two distinctive behavioral disorders, socially maladjustment and emotional impairment. However, it is possible for a student to exhibit behaviors characteristic of both disorders and then appropriately be certified as emotionally impaired. (WCRESA, 2004, pp. 4-5; emphasis added)

Choice is a very tricky thing to prove. As previously covered in this paper, there are multiple layers of context that inform the development, and subsequently the perceived possible actions, of any given individual (A. Paulson, personal communication, April 4, 2020). Parsing through every sphere of influence to arrive at a quantifiable determination of what an individual *chooses* to do seems impossible, especially considering the rigidity of the institutions where these negative emotional or behavioral manifestations are tracked and studied (Paulson, 2020). Indeed, considering the significant overlaps between the behaviors and actions that determine EBD as compared to social maladaptation, one could argue that, regardless of precipitating factor, if the

commonality of the behaviors leads to extremely negative outcomes (as has been mentioned earlier in this paper) for students, then why is there a designation in the first place?

Merrell and Walker (2004) argued that there should not be any differentiation between emotionally disturbed (ED) and socially maladjusted (SM) when the issue at stake is providing services to students. They claim that the controversy of this differentiation has distracted from, and subsequently lead to, myriad issues in the special education field regarding ED. They highlighted three main problems in the field of EBD: how underrepresented ED diagnoses are in the general school population, compared to the probable number of students who would fit the criteria for the diagnosis (meaning many kids might otherwise qualify for special services that they are not receiving); that the academic outcomes for students diagnosed with ED are abysmal; and that school special education programs are poorly equipped to provide adequate and appropriate services to students diagnosed with ED (Merrell & Walker, 2004, pp. 905-906). In highlighting these pervasive issues in our national educational approach, they argued: “What is needed is a true cascade or continuum of appropriate and effective services for promoting behavioral and emotional health, which extends from all students in a school to a select few who have been targeted for intensive intervention” (pp. 904-905). It should be noted that Merrell and Walker (2004) contended that more targeted, universal support for students’ social and emotional well-being should be foundational to any school setting. By dropping the differentiation of SM from ED, they are also advocating for the (sometimes seemingly) radical readjustment of school priorities to create social,

emotional, and behavioral interventions that can be increased in focus and intensity to support students who demonstrate the potential classification of ED within a framework that is already designed to help support their social and emotional needs (Merrell & Walker, 2004, pp. 905-906).

The intention behind my project is directly related to my belief in the appropriateness of the argument posed by Merrel and Walker (2004). Students who are diagnosed with EBD, and those students who struggle from some of the traditional manifestations of traumatic experience that *look like EBD*, would absolutely benefit from the creation of an entirely new system of schooling, and support in schooling, that emphasizes and promotes prosocial skills and coping methods in the face of adversity, whether real or perceived. Teachers would also benefit from the resources and training that would be necessarily associated with such a systemic transformation. Such training would help teachers to feel more preemptive and less reactionary toward student behavior. The website I am proposing will, at the very least, provide teachers with some of those needed resources for student support.

Abysmal Outcomes of Students with EBD

There has already been some context built for the alarming statistical outcomes of students with EBD, but there is a need for an inflection point. Students with EBD traditionally fare very poorly in their academic and post-academic outcomes (Jolivet et al., 2000). This demographic of students faces significantly higher incarceration and jobless rates, and significantly reduced rates of college acceptance and graduation (Davis & Cummings, 2019; Jolivet et al., 2000). Furthermore, there is a chronic

under-diagnosis of EBD in special education (Mattison, 2015). Mattison (2015) remarked about the high frequency of EBD co-occurring with another, primary disability. In the scope of special education support within an academic setting, students are likely to only receive interventions along the lines of their primary disability category, with potential co-occurring disabilities either undiagnosed or underserved in educational plans. This preference for primary category interventions at the expense of other manifestations of secondary disabilities results in significant hindrance to academic gains (p. 204).

According to Mattison (2015), it is important to properly and comprehensively classify student disability categories because if students' disability categories are not classified properly, or if there is a gap in diagnosis (say one category is assigned but there are manifestations of other disabilities that occur within the academic setting which are not included), then there are not "coherent" services in place for that student. Without coherent services in place for a student with special needs, then the likely gains or outcomes that can be expected of that student are not equivalent to general ed peers who have not been diagnosed with a disability (pp. 196-197). This tendency to ignore the secondary disability category is especially true and difficult for students with manifestations, and potential diagnosis, of EBD because the criteria for evaluation and diagnosis of emotional disturbance has typically been rather vague; without a clear idea of what the student's comprehensive disability status is, then there cannot exist effective services that allow for that student's success (Mattison, 2015, pp. 196-197).

Students with disabilities traditionally struggle in their academic and social-emotional domains within the school context; students diagnosed with EBD

typically struggle even more than the general special education community (Davis & Cummings, 2019; Jolivet et al., 2000). The gaps in services provided for special education students in general, and students with EBD in particular, raise some uncomfortable questions: Do the classification guidelines of special education themselves have some sort of negative impact on academic outcomes for students classified as EBD? Are students with this diagnosis receiving secondary (and ineffective) or nonexistent treatments/interventions for their EBD classification because their teachers are more focused on their primary, more academic/cognitive-aligned disability category? How many students are not being considered for services under the EBD category due to social maladaptation diagnosis? How many of those students are struggling because they are not having their needs met? And how would the overall statistical impression of students with an EBD diagnosis change with a more accurate representation of individuals who qualify for that disability category and services? (Mattison 2015, pp. 197-198). As Merrell and Walker (2004) have mentioned, our school systems may not even be set up with the necessary systems to accommodate for all the students who *could* possibly be diagnosed with EBD. So how could we adjust those systems?

What Do Students Diagnosed with EBD Need?

As Cantor et al. (2018) mentioned, “positive developmental relationships are particularly significant for students whose developmental pathways have been *altered* due to trauma and/or chronic stress” (p. 319, emphasis added). Make no mistake about it: the manifestations of EBD *are* the result of altered neural pathways and there is likely some correlation to trauma in that individual’s background (A. Paulson, personal

communication, April 4, 2020). While it is true that not everyone who experiences trauma also has a disability, there is a neurological connection between toxic stress and the development of “inappropriate emotional or behavioral responses” that “adversely affect educational or developmental performance” (Revisor, 2007, subp. 1). Jolivet et al. (2000) succinctly described the problem that derives from the development of these responses: “The connection between academic and social behaviors appears to be reciprocal, with failure in one precipitating failure in the other” (p. 2).

Among the many best practices highlighted for educators working with students with EBD, two stand out as especially worth noting. Mattison (2015) noted that it is necessary for educators to “collaborate with mental health professionals in the community,” while also leaning on mental health care providers for training and consultation in the development of behavioral intervention plans (p. 205). Several studies (Davis & Cummings, 2019; Gresham, 2015) noted that social skills interventions are effective and essential for students diagnosed with EBD. Cumulatively, much of the scholarship designed to implement and explore best practices attempted to do so with single aspects of instruction that focused explicitly on helping students develop individual social and emotional regulation and moderation skills.

Anderson and Chiasson (2012) hone in on the issues with a strictly interventionist approach by acknowledging that the current inclusionary model of high schools is not effective for the “generalization of assertive communication techniques” (p. 19). They investigated the limitations of this model and determined that students were able to “master” prosocial communication practices within the special education classroom, but

proved unable to generalize those explicitly taught skills to the multiple contexts of their existence in high school due to a variety of limiting factors, including the lack of opportunities to practice those skills within a variety of contexts (pp. 19-20). Anderson and Chiasson (2012) proposed the following recommendations for programmatic changes for students diagnosed with EBD:

1. Students with EBD diagnoses need to be taught new skills in flexible, inclusive settings.
2. An ecological assessment exploring all areas of a student's environment should be conducted before an educational plan is written to address areas as they relate to the student and disability.
3. Programming options for students with EBD should use a whole-child approach not just portions of what impacts the child.
4. Educators need to be given treatment options for students with EBD that can be carried out in the school setting, as it is the only setting for which an educator can have some level of control.
5. Families need to be integrated into programming so new skills are supported in multiple settings (pp. 19-20).

My project is designed to compensate for whatever gaps exist between the explicit instruction of a variety of skills within the relatively isolated context of the special education classroom and the application of those skills within the general education classroom and other contexts beyond school. Furthermore, the following assessment of an illustrative case study example is informed by my belief that the same

recommendations that Anderson and Chiasson (2012) make for the development of student programming should also be prominently considered in future research approaches concerned with the overall improvement of the outcomes of students with EBD.

On Improving Outcomes for Students with EBD

In the course of my research, I read many assessments of the outcomes for students with EBD and, as mentioned in this paper, the outcomes are generally and predictably poor. I also read some case studies that identified the instruction of prosocial competencies for groups of students with EBD via an applied behavior analysis (ABA) method: students are explicitly instructed in the use of a behavioral component (e.g., explicit communication practice, prosocial response); they are provided space to practice this behavior over time; eventually, students will feel comfortable and automatic about applying the behavioral response. These case studies all reported that students were typically and successfully able to learn the behavioral component, which is great. We can read a hundred case studies with the same result (students successfully learned behavioral component(s), demonstrated competency in class) and, as researchers, feel positive about the outcomes. The broad perspective for students with EBD, however, tells the story of the long-term impacts of these studies; essentially, that, despite these interventions, the outcomes for students with EBD have been consistently abysmal and unacceptable for at least the last twenty years, and almost certainly for longer than that.

I include the following case study as an illustrative example of excellent research into the domain of student behavioral outcomes that, unfortunately, has not truly moved

the needle for *practical* student outcomes over time. The discrepancy between the practice of research and the real-world results for students begs several questions: Are we researching the appropriate subjects? Are we consistently considering the practical application of our research in the field of education? And, maybe most importantly, who is our research actually for?

Tidmore (2018)

Overview. Tidmore began their research by outlining the need for social skills interventions for high school students diagnosed with EBD. The difficulty of assessing these needs, and also providing for student needs, was discussed at length (Tidmore, 2018, pp. 2-7). Tidmore's argument for the necessity of her research was persuasive and relevant: "Educators must implement additional social skills intervention strategies in conjunction with standard curriculum practices to effectively improve students' social, emotional, and behavioral deficits. While initial research shows the effectiveness of social skills interventions for elementary and middle school students, current high school level interventions fail to adequately address the academic, social, and emotional needs of students identified as emotionally and behaviorally disturbed" (p 7). She proposed the implementation of a blended learning (online and in-person) intervention course for secondary students that assessed students before the course and after to determine how much their social competencies had grown as a result of the intervention (pp. 9-10). The details of the intervention are as follows:

One special educator taught a researcher-created 9-week blended (online and in-person) social skills intervention to 7 students, all diagnosed with, or considered at risk

for being diagnosed with, EBD. The intervention curriculum was developed by the researcher and included online components, such as discussion questions. The special education teacher was trained by the researcher before the implementation of the curriculum. Part of the research was focused on the self-assessment of students about how they believed their social competencies had changed or improved over the course of the intervention. Students took a pre-test and a post-test on the *SEARS*. *SEARS* stands for: Social Emotional Assets and Resilience Scales, and it measures for the social domains of self-regulation, social competence, empathy, and responsibility using agree-disagree statements. The participating teacher also completed a *SEARS* pre- and post-test for the students. The intervention was taught 2-3 times per week, in line with school “block” scheduling (Tidmore, 2018, pp. 8-10).

Tidmore’s initial research question was: “Does a blended social skills intervention for high school students identified as at-risk for EBD increase self-reported scores of social/emotional development as measured by the *SEARS*-A (pretest)?” Tidmore’s research included an additional six research questions that investigated which domains of social-emotional competence (according to the *SEARS* scales) were most impacted by the intervention, and then investigated whether there was any differentiation in the study’s results based on gender (pp. 10-13).

The study faced some significant limitations (which is not uncommon), including a smaller-than-expected sample size and a lack of fidelity in the instruction of the intervention. Finally, Tidmore acknowledged that the school setting for the intervention (secondary setting, mostly urban, situated in Maryland) is not a “comprehensive

representation of the nation's high school demographics" (p. 15). There was also a concerning low amount of investment among the students as they took their pre- and post-test for the course, with several finishing much faster than the amount of time provided. Tidmore acknowledged this variable, among several others, when analyzing the results of the intervention.

Outcomes. There was no statistically significant difference between the self-reported *SEARS* domain outcomes of students between the pre- and post-tests, nor was there any statistically significant difference between the teacher-reported outcomes (pp. 64-66, 72). There was an interesting correlation between gender and higher pre-test reports in the domain of empathy, but the researcher contended that this was mainly significant because of the gender discrepancy between participants in the study (2 females to 5 males). The significant takeaway from the test results within the context of assessing the efficacy of case study research interventions is that there was very little difference between pre- and post-test results for participant students who were taught using this social skills intervention course.

While assessing the self-reported decline in overall domain competencies among the participant students, Tidmore identified student motivation as an important variable to the overall outcomes, both expected and witnessed, in this study. Given the length of the intervention (only 9 weeks long) and the approach to content (some of it online, with no indicator for how proficient the students were with online content when the intervention began), the question of student motivation is a valid concern to the results of the study. Tidmore also identified the participant teacher's negative attitude toward the students

involved in the study (frequently referring to them as “immature” in email correspondence) as a likely factor in the overall outcomes to the first two research questions (pp. 76-78).

After reviewing the study limitations, which were listed in this paper previously, Tidmore offered several suggestions for continuing the line of research from this study. The need for a larger sample size than seven students was clearly identified, as was the need to include more qualified instructors (possible through incentives) to teach the intervention. Tidmore also suggested methods for increasing student engagement and motivation. While all of these things would certainly need to be addressed, there were some fundamental components to this study that were missing (and are missing from other studies conducted in this same vein) and ought to be addressed: student present levels, students outcomes post-intervention, and the practical application of the social domains measured through the *SEARS* assessment.

Based on Tidmore’s literature review and contextualization of students with EBD, the reader assumes that the students placed in this social skills intervention are struggling academically as well as behaviorally, though there is no mention of whether this is true or not. That these students are in need of social skills development, there can be no doubt; five of them had IEP goals pertaining to behavior. But to what extent did these students struggle in their classes before the onset of the intervention? And did the intervention have any meaningful impact on their performance in their classes after its conclusion? How did these *SEARS* social domains contextualize any one of these students’ academic performance within the context that actually matters: their schooling? Tidmore mentioned

in the introduction, and repeated the assertion in a few other areas of the report, that social skills interventions “may help reduce emotional outbursts and behavioral concerns in students identified as EBD” (p. 4). To what end are researchers seeking to reduce these outbursts and behavioral concerns?

I contend that if the research and the intervention is not directly tied to a holistic understanding of student outcome(s), then the research and the interventions are incomplete. Furthermore, the need for culturally competent teaching, strong relationships with teachers, and safe, enriching educational environments are crucial to student achievement (Cantor et al., 2018; Darling-Hamond et al., 2019; Osher et al., 2018); the need for modeled prosocial behavior and opportunities to practice these behaviors are essential for developing children (Osher et al., 2018); where is the assessment within these studies of how our classroom spaces may drive some of the outbursts and concerns that the research is attempting to correct and improve upon? I believe that there is a need in schools to mandate the development and application of Social and Emotional Learning curricula that inform content instruction *beginning* in general education classrooms, and then accentuated and through more explicit instruction in special education settings.

Social and Emotional Learning (SEL)

According to the Collaborative for Academic, Social, and Emotional Learning (CASEL) (2015), Social-Emotional Learning (SEL) is defined as:

The process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set

and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions. (p. 1)

Social-Emotional Learning is an essential component to the education of the whole child (CASEL, 2019; Darling-Hammond, 2019; Osher et al., 2018). In fact, Darling-Hammond et al. (2019) stated that social and emotional development represents an entire quarter of the student profile that schools are supposed to be educating; within that quarter, two-thirds of expected instructional subjects are the core components of Social-Emotional Learning curricula (Figure 1). They went on to say in that report: “Cognitive skills such as problem-solving, responsible decision making, and perspective taking interact with emotional skills such as emotion recognition, empathy, and emotion regulation, and with social skills including cooperation, helping, and communication” (p. 29). Or, as summarized in the report on SEL practices, *A Nation at Hope: Recommendations from the National Commission on Social, Emotional, and Academic Development*: “The promotion of social, emotional, and academic learning is not a shifting educational fad; it is the substance of education itself. It is not a distraction from the ‘real work’ of math and English instruction; it is how instruction can succeed” (A Nation at Hope, 2019).

What is SEL?

Within the CASEL (2015) definition of SEL, there are five main “competencies”: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (CASEL, 2019). These competencies are listed with examples below:

- **Self-awareness:** Recognizing emotions and thoughts and how they influence decisions and behavior.
- **Self-management:** Regulation of emotions, thoughts, and behaviors in a variety of contexts.
- **Social awareness:** Perspective taking, empathizing with diverse backgrounds, and recognizing social and behavioral norms and cues.
- **Relationship skills:** Establishing and maintaining healthy relationships with people from diverse backgrounds.
- **Responsible decision-making :** “The ability to make constructive and respectful choices about personal behavior and social interactions based on consideration of ethical standards, safety concerns, social norms, the realistic evaluation of consequences of various actions, and the well-being of self and others.” (CASEL,, 2019 “What is SEL?”)

Each of these areas of competency has been highlighted as a source of struggle for students diagnosed with EBD, as well as for students who have suffered from early exposure to toxic stress and trauma such that their neurological pathways have been altered to favor anti-social, emotional, and behavioral responses to stimulus, and who are thus at risk for diagnosis of EBD. Self- and social-awareness, as well as self-regulation, are all processed through the brain’s ability to conduct executive functioning. Eventually, one’s inability to self-regulate and take perspectives could lead to harmful isolation, as well as developing stigma in social/school settings. Both of these features (lack of

socialization and ongoing stigma; not feeling safe or welcome in school) can lead to drastic reductions in expected academic gains.

Without positive peer and family influence, an individual can develop questionable decision-making skills. Such a trajectory could be seen as the narrative that frames the lives of so many students whose academic and social outcomes are poor due to EBD. A focus on SEL is a focus on explicitly instructing students in the development of the skills in those deficit areas that plague students with, or who are at risk for developing, EBD, in an effort to help not just the scholar, but the whole student (Darling-Hammond et al., 2019). As Osher et al. (2018) wrote: “Although some social and emotional skills may be domain specific (e.g., skills learned through sports), social and emotional learning programs can intentionally support skill transfer” across contexts, even if those contexts are not congruent (p. 9). Simply put: the development of these skills can benefit the student across his or her lifetime, not just in the context of their academic experience.

SEL Pursuant of Educational Equity

Even though each of the competencies that form the basis of SEL can be taught in isolation, the best approach for teaching SEL is to make it a completely immersive program; that is, elements of SEL should be apparent in teaching strategies (including direct instruction of SEL skills and lessons), academic curricula, and administrative decisions / school systems (CASEL, 2015). The CASEL Guide to Effective Social and Emotional Learning Programs mentioned that “Many SEL programs incorporate schoolwide, i.e., systemic, practices that are designed to promote more positive and

supportive relationships among teachers, students, and families and/or practices that facilitate integration and support to extend the impact of social and emotional learning programs beyond the classroom” (CASEL, 2015, p. 8). SEL outcomes in schools that incorporate the practice in a systematic fashion “create positive learning environments that are safe, caring, engaging, and participatory” (CASEL, 2015, p. 9). This paper has already addressed how crucial relationships and safe spaces are to student learning in general, and especially to those students who struggle with emotional/behavioral regulation; this outcome should be of utmost consideration for implementing a system that is likely to improve the performance and outcomes of students with behavioral disabilities. Furthermore, incorporating SEL practices within the school and wider community results in a more comprehensive support, and allows students more diverse contexts in which to learn, practice, and apply these skills that help to grow and improve their executive functioning skills; the results of which are linked to “greater levels of self-direction needed as students enter secondary school and, later, college and careers” (Darling-Hammond et al, 2019, p. 31).

Osher et al. (2018) mentioned the importance of building a web of support that creates opportunities for positive and developmentally rich relationships not just between students, but also between students and their teachers. This web of support metaphor is a fitting way to describe the potential for a wrap-around (comprehensive) SEL practice that permeates the entire school building and culture in which students are learning (Osher et al., 2018, p. 12). All students benefit from safe learning environments, trusted relationships, and practice in self-regulation and self-care, but students who come from

low-income, traumatic, or other disenfranchised backgrounds especially benefit from this approach to learning, as the emphasis on these skills and the building of these support structures provide the kind of supports that students who come from more challenging backgrounds need to make up for that which *isn't* supporting them (Berger et al., 2018; A Nation at Hope, 2019). Ultimately, adopting SEL practices school-wide is equitable, and drives a number of positive metrics in domains that affect students diagnosed with EBD:

- 1) The general learning environment is positive, productive, and safe, helping to identify which students might need more intensive social-emotional interventions (Merrell & Walker, 2004);
- 2) The curriculum emphasizes general AND targeted social-emotional skill instruction, practices which experts argue are essential for the instruction of students with EBD.

Conclusion

In this chapter, I have cultivated the background knowledge essential to lending a critical eye towards current practices and research created to promote best practices and positive academic and social outcomes for students diagnosed, or at risk for being diagnosed, with EBD. The chapter began with a brief, yet fundamental, overview of the developmental tendencies and processes that occur within children and individuals. This developmental process was essential to cover because it then highlighted the ways that development can be altered due to the influence of toxic stress and trauma. This altered development produces consistent emotional and behavioral levels and responses that have a direct impact on the ways students learn (and consequently ought to be taught) in academic settings.

These tendencies are essential for understanding what Emotional or Behavioral Disorders are and how they are considered within the realm of special education, including what supports are considered best instructional practice for teaching students with EBD. An illustrative case study designed to improve the outcomes for students with EBD was assessed and analyzed to determine relevant gaps between the intention and outcomes of the research and practical improvements to student outcomes. The topic of Social-Emotional Learning (SEL) was highlighted to demonstrate that there are individualized and full-curricular practices that do align with best practices for instructing students with EBD. Furthermore, the literature about SEL practices makes an argument for the comprehensive, not individual, implementation of social-emotional skills instruction. This analysis of current research argues for a more holistic approach to educating students who are diagnosed, or at risk of being diagnosed with, EBD, answering the questions: *What are the limitations of intervention-focused case studies in the practical increase of positive outcomes for students at risk for or diagnosed with Emotional or Behavioral Disorders at the secondary level? What are best practices in the classroom for students with EBD that compensate for these study limitations?*

CHAPTER THREE

Project Description

Chapter Two provided a literature review that covered information relevant to working with students with behavioral challenges and understanding how students with Emotional or Behavioral Disorders (EBD) learn best. This information initially covered neurological development and how people generally learn, which is crucially important to all educational research. Also covered was the impact that toxic stress and trauma can have on the developing brain, and how these factors can play a role in the development and/or manifestation of Emotional or Behavioral Disorders. After grounding an understanding of these issues in science, the review then covered the controversial EBD criteria and diagnosis and investigated a typical case study featuring an interventions focus on supporting the development of prosocial behavioral responses for students diagnosed with EBD. The review concluded with an overview of Social-Emotional Learning (SEL), which is considered a crucial component of any child's education and especially important to students who struggle with emotional and behavioral regulation.

Chapter Three introduces and explains the website that was developed in response to the above research that was conducted in an effort to respond to the research questions: *What are the limitations of intervention-focused case studies in the practical increase of positive outcomes for students at risk for or diagnosed with Emotional or Behavioral Disorders at the secondary level? What are best practices in the classroom for students with EBD that compensate for these study limitations?*

Overview

The research that I conducted in the literature review inevitably led to interesting and earnest discussions in the teacher's lounge with my colleagues, who knew I was pursuing a Master's degree and were curious about the work that I had been doing. My colleagues spoke with me at length about the challenging students that they served and the support they believed they needed in order to properly reach all of their students with content. They were intrigued by the concept of curricular adaptations to Social-Emotional Learning practices, but also pessimistic about the timeliness of such a change. My colleagues and I frequently discussed the support and ideas that they could put into practice, for this student or that one, for *tomorrow's lesson*. They felt that they couldn't afford to wait for their managers to sign off on the cost of additional training, or to wait for the training itself; in their day-to-day, they witnessed students struggling, and they needed ways to help their kids as soon as possible. I worked with many of my colleagues on special education interventions for various students, but even despite those efforts, the students that I served who were diagnosed with EBD were performing well below their same-aged peers. In my conversations with Andy Paulson, who is a school psychologist and also serves as my content expert, I became aware that there may even be a broader demand in the teaching community than I had originally assumed for the type of immediate support that I was discussing with my colleagues (A. Paulson, personal communication, April 4, 2020). This dilemma and demand, viewed through the context of research which unequivocally declared the overwhelmingly negative outcomes for students with EBD within the special education population (Davis & Cummings, 2019;

Jolivette et al., 2000; Merrell & Walker, 2004; Tidmore, 2018), spurred me to action. I resolved to use my research to create a resource for teachers within my school community, and for educators in the broader community of the discipline, dedicated to improving the outcomes for students who struggle with emotional and behavioral regulation.

Rationale

I chose to create a website for my capstone project because there was a clear and present need within my teacher community for practical and immediate strategies to support students with emotional and behavioral regulation challenges. I chose to create a website because of three distinct reasons:

- 1) I wanted to reach a broad audience as efficiently as possible.
- 2) I wanted to create a living resource that I could grow and adapt to the needs of my fellow educators.
- 3) I wanted to create a tool that could serve a variety of functions.

A website accomplishes the first reason because anyone with an internet connection and a device will be able to access the content that I include in my project. This format accomplishes the second reason as well because I will have control over the content and thus the power to adjust, update, and increase the amount of information that is included in my project. Finally a website is an exceptionally adaptive tool. Most websites have sign-up functions, blogs, forums, and live links to other pages or content that can be embedded in content. I chose to create a website because I want the product of

my research to be useful and accessible to as many people as possible, and to remain so as my own practice and understanding of this content continues to evolve.

Audience

My website was created and designed for teachers and for the broader community of research and dialogue in the field of education. I created this tool for teachers to access and use in their day-to-day preparations, which is why the site's most immediately applicable function is as a source of strategies and approaches to improve the academic and behavioral outcomes for students with emotional and behavioral regulation challenges. The website is also designed to serve as a hub of community for the broader population of educators and researchers who are dedicated to improving the outcomes of their students. To this end, the secondary application of the website is as an informational blog and place for teachers to dialogue with each other, as well as a source of my accumulated research on the topics of neuroscience, trauma, Emotional or Behavioral Disorders (EBD), Social-Emotional Learning (SEL), and any number of other topics that are relevant to the teaching of students with behavioral challenges.

Construction

I created my website based on many of the principles established in the book *Research-Based Web Design and Usability Guidelines*, by Barnum et al. (2006). I created a homepage for my website that is content specific without being content heavy, so that there is enough information for my users to understand the purpose of the site, gain a small amount of background knowledge about the content that they will have access to, and to help users to navigate to the pages that they need (Barnum et al., 2006, pp. 13, 19,

and 37-38). Each page of my website is designed to be efficient, useful, and easy to navigate so that users are not overwhelmed by information, imagery, or other forms of clutter (Barnum et al., 2006, p. 45). I limited the number of navigational tabs that users have access to on the homepage and couched links and subordinate information under larger organizational elements (Barnum et al., 2006, pp. 77, 86-94; *Lyfe Marketing*, 2019, para. 15).

Special attention was paid to the creation of useful and efficient content in the Resources page where I have listed “Immediate Impact” strategies and links to more specific SEL supports that are designed for teachers to read about and then implement as soon as possible. Barnum et al. (2006) wrote about effective web design, “Present information to users in the most useful and usable format possible. Do not require users to convert or summarize information in order for it to be immediately useful” (p. 15). The most useful and usable format for conveying the information on my website is in prose that are clear, succinct, and purposeful, and I have created clear topics, subtitles, and descriptions that indicate exactly what a user can expect from the content on any specific section or page of my website (Barnum et al., 2006, pp. 86-87, 167-168).

One of the goals of my website is to reach as broad of an audience as possible. In effort to achieve this goal, I made my website responsive to mobile viewing. A variety of web design best practices bloggers, as well as the *Web Design and Usability Guidelines* (2006), indicated that responsive content that is viewable on a variety of devices (including cell phones and tablets) leads to more widely distributed content (Barnum et al., 2006, p. 75; Crestodina, 2015, para. 10; *Lyfe Marketing*, 2019, para. 11). The website

also features a blog component in order to reach more users and to supplement the information that is provided in the majority of the featured content. According to blogger and former teacher Steve Wheeler (2011), blogging can open up a new level of audience engagement in the communities that I want to reach. Wheeler writes that maintaining a blog can help a researcher find an audience of other people who are interested in the work that they are engaged with, and in so doing they will find users visiting the blog regularly “to see if they can learn something new from you” (para. 4). Another blogger, Eva Lantsoght (2015), maintains that blogging, even as a researcher, allows one to reach a broader audience because the blog medium allows for a more informal distribution of research information, including in a variety of media other than prose (paras. 8-12). The blog component of my website was also designed to elicit responses from viewers and users, and in so doing to help me assess the popularity and usefulness of my content for a community of teachers.

Timeline

My website was developed over the course of three months, from early September 2020 through November 2020. During this time I continued to research best practices for implementing SEL strategies and curricula in the general education classroom and created easily-accessible content for teachers to read and apply to their classrooms. Additionally, I wrote blog posts on the various topics of my research (drawing sources and understanding from my literature review) so as to have a catalogue of publishable material for the launch of the website. My website was officially published and made public in December 2020, though I did not begin marketing my site until January 2021. I

will update my website with new blog posts every month, and will respond to member comments weekly. I will update the content of my website as I become aware of new research and plan on conducting quarterly audits to make sure that the content I am providing is both timely and accurate.

Project Platform

After reviewing potential hosting sites for my project, I decided that Wix.com offered the most flexibility for my project moving into the future. Wix provides templates for beginning web designers, such as myself, but also offers designers the opportunity to code aspects of the website if they so desire. I chose Wix because the learning curve was not too steep to get started, and so that I can eventually create my own customizations as I continue to grow into my role as a website designer. Furthermore, Wix offered a few options for creating outreach and community within the website, such as the embedded blog, which is fundamentally important to how I assessed the usefulness and popularity of my project.

Assessment

I created several points of access for assessing the success and usefulness of my project. The first and most important component for this assessment is the website blog. Wix.com provided the opportunity for creating both a blog and a forum for users to interact with me and each other. I was not sure which of these components to use, or if I should employ both right from the start, so I conducted some informal research across other blogs. In a post on the *Austin Williams Blog* by contributor Nathan King (2010), I learned that a forum is the component of a website where a variety of discussions can

happen that are moderated by a supervisor, but are intended to have member participation drive the discussion (para. 2). A blog, on the other hand, is a form of communication that can open up the opportunity for extensive discussion, but is heavily dependent on an initial post created by an authorized person (para 4). I elected to use the blog component in the initial phases of starting my project because I did not see an immediate and large growth in membership upon the publication of my website, and I wanted to use the blog to distribute as much information as I possibly could in order to grow my website membership. Without a large and robust membership base, I determined that the forum function would be ineffective for driving user-generated discussion.

A secondary form of assessment for the effectiveness of my project that I planned was membership discussions and user comments, which I anticipate will be more prevalent as my website grows.

Summary

In this chapter I described the project that I created in response to my research questions: *What are the limitations of intervention-focused case studies in the practical increase of positive outcomes for students at risk for or diagnosed with Emotional or Behavioral Disorders at the secondary level? What are best practices in the classroom for students with EBD that compensate for these study limitations?* I explained the audience that my project is intended for, and my rationale for the approach that I took to creating this project. I explained the construction of my project based on peer-reviewed and informal sources to design an effective and useful website that creates a positive user experience. I identified the platform for my project and the timeline for my work, as well

as the ways that I will assess the success of my project. In the next and final chapter, I will explain what I learned through my research and through the creation of this project, and how these enduring understandings will continue to inform my practice as a teacher and a researcher.

CHAPTER FOUR

Conclusion

Introduction

The central questions of this capstone are: *What are the limitations of intervention-focused case studies in the practical increase of positive outcomes for students at risk for or diagnosed with Emotional or Behavioral Disorders at the secondary level? What are best practices in the classroom for students with EBD that compensate for these study limitations?* In Chapter One, I described my journey to discovering the relevance of this question to my life and practice and described how I would investigate this line of research. In Chapter Two, I explored the connections between neurology, learning, and trauma and troubled that connection through the lens of Emotional or Behavioral Disorders (EBD) and a typical case study that characterized research and educator approaches to supporting students with this diagnosis. I also explored the overviews of a potential support to students with EBD, specifically Social-Emotional Learning practices. In Chapter Three, I detailed the project that I had created in response to my research question and to what I had learned from my literature review, including an explanation of my rationale for the form and function of my project.

In this final chapter, I summarize my reflections and the enduring understandings that I take away from this extensive process of subject research and project construction. Included in this self-examination is an assessment of what this project means to the teaching profession. I will investigate the implications of my research, including how this project and report could impact the argument for comprehensive Social-Emotional

Learning support for all students and perhaps alter the way that special educators pursue Emotional or Behavioral Disorder diagnostic criteria. I also investigate the limitations of this project, including the paths that I abandoned in the course of my research and the importance of providing educators with timely and relevant content as a result of this research.

Reflection and Learnings

I first became interested in researching Emotional or Behavioral Disorders when I noticed how much difficulty students with this disability diagnosis had in engaging successfully with the rigid school structure in which I was teaching. I noticed that almost the entirety of this subpopulation of students struggled within our school context. That seemed to me to be the height of inequity, and I determined that I would investigate not only the reasons for their struggles (from a special education, disability-descriptive perspective) but also potential solutions that could benefit both those students and the educators who were trying to teach them. In this section, I will present my reflection on my research journey and the subsequent creation of my project in response to my research.

Literature Review

When I began my research, I only had a practical definition of Emotional or Behavioral Disorders (EBD) that was cultivated through in-person teaching and educational/behavioral intervention experiences. I lacked both the theoretical and diagnostic descriptions of EBD, and furthermore, had very limited understanding of the neuroscience of learning and development. I had a similar academic background for the

concept of trauma: I could see how it played out in a classroom and recognized a practical identification of the issue, but had no idea how this concept actually impacted the students I worked with.

The companion articles written by Cantor et al. (2018) and Osher et al. (2018) were foundational to the early parts of my research because these were written with the intention to “synthesize foundational knowledge from multiple scientific disciplines regarding how humans develop in context” (Cantor et al., 2018) and “synthesize the role of relationships and key macro- and micro-contexts...in supporting...development of children” (Osher et al., 2018). These comprehensive studies helped me to develop a thorough understanding of the neuroscience of learning and development, and provided a wealth of other articles to explore that helped to further my understanding and context for learning.

Though I knew that outcomes were poor for students diagnosed with EBD in my school context, I did not realize that these outcomes were pervasive for the entire population of students diagnosed with EBD until I read an assortment of articles on the attempts researchers have made to support this population of students (Davis & Cummings, 2019; Gresham, 2015; Jolivette et al., 2000; Merrell & Walker, 2004; Mattison, 2015; Tidmore, 2018). The article by Merrell and Walker (2004) was particularly persuasive to my thinking as it indicated that our schools, as they are currently constructed (or, were, though there has not been significant change to school structuring in the past fifteen years), are likely not prepared to support the relevant

social-emotional needs that could improve outcomes for students diagnosed with EBD (pp. 905-906).

The ultimate takeaway that I had from this literature review was that, while students with EBD are particularly underserved by our currently structured school systems, all students are underserved by the lack of Social-Emotional Learning (SEL) instruction within those systems. As multiple sources indicated (Giovanni et al., 2016; Osher et al, 2018), there has been an increase in trauma within the student populations served by schools, and thus, an increased need for SEL instruction. Furthermore, the true positive impact of this instruction cannot be felt piecemeal. While independent interventions can be helpful for improving relationships between individual students and their teachers and/or classmates, the power of SEL instruction is found in comprehensive, school- or system-wide implementation of these norms. Students with EBD particularly benefit from this holistic level of implementation because it allows them to generalize the prosocial concepts they practice in interventions classes to the broader school community, increasing the likelihood that they are also able to implement these prosocial practices to their lives beyond school (Anderson & Chiasson, 2012; CASEL, 2015; Darling-Hammond et al., 2019).

Website Design

My research questions have changed and evolved over the course of this process; my focuses for my research have also been constantly readjusted. As I approached the end of my literature review and began considering the outcomes for my project, I knew that I needed to create something practical, relevant to the teaching my colleagues were

doing, and, most importantly, adjustable. I elected to create a website because of the versatility of the medium and because of how easily I could broadcast content and potential teaching strategies to my colleagues, far and wide. I also chose this type of project because it would allow me to develop a community of educators dedicated to improving the outcomes of students with EBD, and to continuous improvement.

I chose Wix.com as the web design platform after consulting with a colleague who had explored a variety of platforms during her courses learning to code. I considered creating a Google Site because of how intuitive Google programs are, but ultimately determined that Wix combined the appropriate level of complexity with beginner support (I had never created a website before) to help get me started but also that would push me to grow my skills as a website designer. I also chose to host a blog on my website to foster a small group of educators that would, eventually and hopefully, develop into the broad community of educators that I described previously.

My colleague, when she was describing the various platforms to me, neglected to mention that building a website is hard work. I should have assumed this, but I suppose I was either distracted or naive or both; regardless, the production of content on my website took a considerable amount of time. I realized that, to begin my project, I was trying to take several easy-to-access SEL resources and collect them in place that packaged the content more efficiently for stressed out teachers. This meant that the content I was developing was not as robust nor as innovative as I would have liked. To supplement this content, I created blog posts based on my literature review research, with the hope that this material would entice educators to stick with my website as I

diversified the SEL strategies and approaches more effectively, and that those posts would encourage colleagues and members of the site to engage in community discussions about the theory of neuroscience, learning, trauma, development, EBD, and SEL, among other topics.

Theory to Practice

Synthesizing theory into practical applications is a hallmark of higher-order thinking. The amount of synthesis required for creating a project from the enormous amount of new-to-me research that I conducted was staggering to me and caused more than a few headaches. There were more than a few times that I felt overwhelmed by my topic, my pursuits, and my plans for building my project. As I embark on future research projects, I take with me the understanding that I need to focus my lines of inquiry considerably more. I am heartened by the fact that my research, and my project, only grew so large because of how interesting and applicable the knowledge that I gained has been to my teaching and researching practice. Restraint in the future, however, will make my researching efforts more sustainable in the long-term.

Benefits to Profession

I believe that the outcomes I have pursued through my research and the creation of my project are beneficial to teachers in the fields of both general education and special education. In this section, I discuss the implications of my research, including the arguments that have been made in this capstone project and the potential for future research. I then analyze the limitations of this capstone project, including those paths that I chose not to pursue in line with my research.

Implications

Holistic Social-Emotional Learning Support. The research indicates that schools must adopt Social-Emotional Learning as a foundational, or systemic, element in order for those schools to experience broad success in their SEL programming (CASEL, 2015; Osher et al., 2018). Individual support is possible, and even necessary, for students who struggle with emotional or behavioral regulation, but the greatest impact of SEL programming can only be felt as a holistic support structure for all students (Darling-Hammond, 2019). The implementation of holistic SEL supports would especially support students with EBD to develop and generalize prosocial skills taught during interventions to their lives beyond school (Anderson & Chiasson, 2012; Merrell & Walker, 2004). The introduction of holistic and school-wide SEL interventions would likely improve the practical outcomes of students diagnosed with, or at risk of being diagnosed with, EBD.

EBD Diagnostic Criteria. The history and development of Emotional or Behavioral Disorders diagnoses has been fraught with controversy. The diagnostic criteria are vague and muddled. All too frequently, the collection of data for the diagnosis of EBD is pre-deterministic (A. Paulson, personal communication, November 11, 2020). The research of this study helps to illustrate potential considerations for a more equitable approach to diagnosing students with EBD, highlighting the necessity of considering neurobiology and trauma as possible negative impacts on a child's executive functioning. Just because a child has experienced trauma does not mean that that child has EBD. This research establishes that children from low socioeconomic backgrounds are more likely

to experience traumatic events in their lives (Giovanni et al., 2016). Is there a deterministic relationship between a child's socioeconomic status, trauma, and the likelihood of an EBD diagnosis if the child displays emotional or behavioral regulation challenges? Is that diagnosis then invalid, or at the very least inappropriate? Are these domains that change to general education structures, such as the implementation of a systemic SEL curriculum, could potentially alleviate? In what ways would these companion attempts alter generally accepted approaches to special education interventions, instruction, and funding? These questions are posed because of the research in this study and could be used to consider potential adjustments to the data collection protocols and diagnostic criteria for Emotional or Behavioral Disorders and beyond.

How Do We Measure Success? The research is conclusive, dating back at least 20 years, about the negative long-term outcomes for students diagnosed with EBD (Anderson & Chiasson, 2012; Davis & Cummings, 2019; Gresham, 2015; Jolivette et al., 2000; Merrell & Walker, 2004; Mattison, 2015; Tidmore, 2018). And yet there has also been 20 years of scholarship that documents the use of interventions to track and improve outcomes for students with EBD. One example included in this study is Tidmore's (2018) published thesis dissertation regarding the implementation of an interventions program for secondary students with EBD. Tidmore's science was sound, as was the science of any peer-reviewed and accepted piece of scholarship with a similar focus and theme for the past 20 years. And yet, there has been little practical progress for this population of students. Researchers and educators need to readjust their measurements for success in

the domain of helping to support positive outcomes for students with EBD. I believe this question ought to be posed to any researcher who continues to investigate a strictly interventionist focus to future research in this field: To what end are you conducting your research? And in what way will that end practically impact students with EBD? As a research community, we must all do better for these students.

Further Research. There are numerous routes that one could take from the research collected within this study to improve the scholarship around the practical application of SEL strategies and the development of novel EBD diagnostic criteria. This study theorizes that students with EBD would particularly benefit from Social-Emotional Learning strategies and systems based on compatible research, but lacks quantifiable data that indicates whether this is actually true. A study that compares a set of students with EBD who receive independent SEL interventions with a group with a similar diagnosis who receive SEL instruction as part of their whole-school curriculum would be beneficial to the overall efficacy of this research. Furthermore, I was particularly intrigued by the studies on Cognitive Load Theory (CLT) conducted by Paas, Renkl and Sweller (2003; 2004) and how this theory could be used to describe trauma-informed practice within the general education classroom.

Limitations

Abandoned Paths. I had originally intended to conduct an analysis of multiple interventions-focused case studies, similar in nature to those conducted by Tidmore (2018) and Anderson and Chiasson (2012), to determine what gaps there are in this research and how those gaps could be filled by SEL strategies in the classroom. That

project would have lent considerably more weight to my contention that the research focus on interventions studies is flawed because it does not favor practical outcomes for students diagnosed with EBD. As it stands, this study only used two case studies (and only critically analyzed one) to illustrate the tendency of these types of case studies to not have a generally positive impact on the outcomes for students with EBD. This is a clear limitation of the argument put forth in this paper, and a potential route for future research for some enterprising scholar.

Project Focus. While the majority of my research was spent laying a foundational background of neuroscience, childhood development, trauma, and EBD, almost the entire focus of the content of my project has been on Social-Emotional Learning strategies and implementation. What is currently missing from my project is how teachers perceive the success or failure of their SEL implementation with their students. During a conversation with my content expert, I became aware that there is the potential for catastrophe in how teachers and administrators assess the success of their SEL strategies. If teachers and administrators are using data other than student input to determine whether their strategies are working, then there is the potential that the focus of those strategies will inevitably move toward adult-focused criteria as opposed to student-focused criteria (A. Paulson, personal communication, November 11, 2020). At this point, my project does not include an assessment for the *ongoing implementation* of SEL practices within a classroom and a school, just one that serves as a pre-test of sorts. What is missing from my project is a researched and equitable method for assessing the success (or failure) of the implementation of SEL strategies and curricula in an *ongoing*

way. Such a missing piece demonstrates a significant limitation on the possible efficacy of my project.

Content Timeliness. The strategies and ideas that I provide to the community of educators who visit my website *must* be as current and relevant as possible. This means that a possible limitation of my project is that it will become irrelevant without continued research and updating.

Conclusion

The central questions of this capstone were: *What are the limitations of intervention-focused case studies in the practical increase of positive outcomes for students at risk for or diagnosed with Emotional or Behavioral Disorders at the secondary level? What are best practices in the classroom for students with EBD that compensate for these study limitations?* In response to these questions, I created an exhaustive literature review of the components necessary to understand issues addressed in the questions. From the knowledge gained from that literature review, I created a website designed for teachers to support students who are either diagnosed with, or at risk of diagnosis for, Emotional or Behavioral Disorders using Social-Emotional Learning best practices and effective strategies.

In Chapter Four, I revisited the literature review and the process through which I created my website. I discussed the implications of this capstone on my professional field, as well as the limitations of the research and project that I created. It is my hope that this capstone helps to create more equitable outcomes for students diagnosed with EBD and helps teachers feel supported and successful in the pursuit of their noble calling.

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