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Embracing The Quiet Ones: Strategies for Teaching Introverted Students in the Elementary Classroom

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Strategies for Teaching Introverted Students in the Elementary Classroom

By
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Abstract

Over the last two centuries, the urbanization of American society and subsequent alterations in patterns of daily life have caused a shift in preference toward qualities associated with extroversion. Referred to as *The Extrovert Ideal,* the promotion of extroversion has impacted the American K-12 school system as well, creating educational settings ill-suited for introverted students and the way in which they learn.

Although statistics surrounding the exact number of introverted individuals in the population remain inconclusive, many studies indicate that one-third, and up to one-half, of the population is introverted; inevitably, an educator will teach introverted students every year. This project seeks to explore ways in which introverted students in the elementary grades can be supported by their teachers. After contextualizing the conversation — providing the history of introversion as a psychological concept, an overview of modern Western perceptions of introversion, and a picture of the typical introverted student—a description and analysis of current educational trends in light of the needs of introverted students will follow, examining Cooperative Learning, Inquiry-Based Learning, Project-Based Learning, Gamification, and Social Emotional Learning. The project concludes with a series of recommendations for differentiating the strategies with introverted students in mind, along with several additional recommendations, and an open letter to educators and parents of introverted students about implementing the topics discussed.

Personal Interest

I am an introvert; nearly every personality inventory I have taken indicates that I am over ninety percent so. While these tests are not the ultimate indicator of personality, their results confirm what I have known for the majority of my life: my introversion runs deep.

At twenty-two years old, I have, for the most part, accepted this aspect of my personality. After discovering the work of Susan Cain, I was introduced to the strengths of my introversion, and I have grown to appreciate what it allows me to bring to a bustling world. However, I have not always embraced being an introvert; for much of my life, I considered it to be a deficiency, and so did others. I will never forget when, in a dance class at seven years old, a much older and stronger classmate grabbed me and pinned me into a corner when our instructor momentarily stepped out of the room. Citing my silence as the reason for her outburst, she held me against the wall and insisted that she would not let me go until I said something, because, for reasons unknown to me, my personality bothered her enough that she was driven to force me to speak.

For the record, even at seven, some small part of me took issue with people insisting that I talk simply for the sake of talking. I refused, and we stared at each other in a silent stalemate until our instructor returned.

While I was never again physically bullied for my personality, I was metaphorically pinned into corners throughout the rest of my childhood and beyond. Social situations were not the only times I felt pressured to behave like an extrovert; in fact, the K-12 school system made me feel most at odds with the world

on account of my introversion. Maybe this is because many American children spend more of their waking hours in a classroom than anywhere else (Craw, 2020). Regardless, the classroom was the place that seemed to proclaim the loudest, *You are not enough as you are, little introvert. You must change in order to be accepted.*

As early as kindergarten, my personality did not naturally blend well with certain expectations at school. The continual social interaction demanded by a typical day in the classroom left me exhausted by the afternoon and needing to spend significant time alone after returning home in order to restore my energy levels. This was such a common occurrence in my routine that, years later, I learned my parents would refer to this daily disappearance into my room as *going into my cave.* Because I could not experience a single day of class without feeling depleted, I began to assume that something was wrong with me. *Everyone goes to school,* I thought. *Shouldn't I be able to handle it better than this?*

For an introverted learner, the structure of a typical school day— including the frequency of engaging in highly social, collaborative learning activities— is an important problem with serious consequences. As early as elementary school, I struggled to meet the expectations for participation, and this challenge only increased as I advanced into the middle grades, where participation became defined as frequent, verbal engagement in either classwide or small group discussions, often with the provision of little to no time to think before a response was required. It was not enough for me to engage with classroom discussions through writing assignments or projects; participation meant talking, and a lot of it.

I was an orderly student. I dutifully completed my homework, paid close attention in class, and pondered discussion topics long after class concluded. Although my mind was loud and my writing was opinionated, my voice was quiet. Each year, my parents would return from school conferences with the same message from my teachers: while there were no concerns about my academic performance, my verbal participation needed to significantly increase. With every conference, my discouragement grew; although I tried so hard, it was clear that my introverted ways were not sufficient in the classroom, and I would need to change in order for my engagement to be acknowledged and accepted.

Unfortunately, impromptu verbal participation in a group setting is one of my least effective communication styles, and, even as a young student, I was keenly aware of this. No matter how diligently I strove to measure up to the expectations of my teachers, any attempt at expressing my ideas in this manner left me stumbling through my words and sitting down in resignation, cheeks burning. However, because I insisted on gaining the full approval of my teachers, I forced myself to continue suppressing the effects of my introversion in order to demonstrate the behaviors desired at school. This did not happen without serious effort, and, as a result, I internalized the message that I needed to alter my identity in order to be valuable to those around me.

The pressure to masquerade as an extrovert increased all the more as I advanced into middle and high school, when teachers began to attach participation grades to students' in-class engagement and academically penalize those who failed to comply. Regardless of the quality of my written work, my grades were lowered if I

did not speak regularly, and, in an attempt to maintain my grades, I complied as much as I could.

Eventually, I discovered strategies for acting extroverted in the classroom; I learned to more effectively share my ideas with a large group and engage verbally in both impromptu and collaborative settings, although neither led to my best work. Aside from the fact that doing so felt unnatural, as if putting on an extroverted act, and left me needing *time in my cave* to recover, the expectations of school reinforced the idea that I was seen as most capable and successful when behaving like an extrovert. Desiring acceptance, I maintained the performance.

However, as a young teenager, I began hearing about the Myers Briggs Type Indicator (MBTI), and curiosity eventually drove me to take the personality test to discover my "type." It was through this test that I was first introduced to the term *introvert.* My interest was piqued, and the more I learned about introversion, the more my shoulders relaxed as I realized that I was not broken; I was an introvert. I recognized my tendencies, preferences, and patterns of thought in the descriptions of my type, and I discovered that there was a logical explanation for the parts of my personality that seemed frustratingly at odds with school. More than that, I learned that, no matter how hard I tried to assimilate, I would never become extroverted. I was, and always would be, introverted: a personality type accompanied by its own set of strengths. Although I continued to feel pressured to display more extroverted behaviors at school, I had a newfound reassurance in who I was. As I continued to learn about my introversion, I began to acquire strategies for living as an introvert

in an extroverted world. Slowly but surely, I began to view my introversion as an asset instead of a deficit.

The current K-12 education system is not attuned to the needs of its introverted students, which, from primary school to undergraduate degree work, my school experience has revealed. As a current elementary education major, neither introversion nor the unique needs of introverted students are topics that have been covered in my teacher education courses, yet my personal experiences indicate that introverted students would benefit from additional support. I desire to provide all of my future students with the differentiation—whether pedagogical, behavioral, or environmental—that will allow them to succeed, yet, in order to avoid perpetuating the pressures I experienced as a student, I must be aware of their needs.

As an educator, I hope to hold the attitude of my sixth grade teacher, Mr. Middleton, who considered my introversion to be an asset instead of a deficit. The year I was his student, my parents returned from conferences with a message entirely different from the *you need to talk more* I was accustomed to hearing: *Mr. Middleton knows you have great ideas, and he would love to hear more of them; he wants you to share what you have to say with others.* This was a game-changer. For the first time, the message I heard from school was no longer *act like an extrovert and you will become better;* instead, a teacher told me, *you have unique strengths like the rest of your classmates, and you are a wanted member of the classroom community.*

As I stand between two worlds, my time as a student and my career as an educator, I reflect on what I experienced as an introverted student, and I hope to never perpetuate a similar educational experience for my future introverted students. While the target audience of this project is fellow educators, realistically, the target of this project is me. Instead of learning years later, in spite of my teaching, that their introversion is a gift, I hope that my future students—introverted or not—realize this truth about themselves in my classroom, and I want my instruction to support the development of their weaknesses *and* strengths. This project is my way of discovering strategies for doing just that.

Preview of Structure

To explore the ways in which introverted students in the elementary grades can be supported by their teachers, this project will adhere to the following structure. First, I will review existing literature on the topics of introversion and its impact on a student's school experience to gain an understanding of what has already been established within the conversation. After providing a description of introversion— including widely accepted definitions of *introversion* and *extroversion* and the history of introversion as a psychological concept— I will create a picture of an introverted student, focusing on the typical behaviors of introverts in the classroom and their responses to various school subjects, instructional approaches, and environmental factors.

The purpose of this will be to contextualize the project that will follow: identifying best practices for elementary educators of introverted students. Because

education is a complex topic, I will narrow the scope of the project to focus specifically on ideal formats for instruction, classroom management, and the physical space of the learning environment. In addressing each topic, I will first identify common practices or current educational trends, then analyze these trends in light of the previously established information about introversion to determine if they are well suited to introverted students or would require adaptation to be useful. For practices that cannot be modified, I will also provide alternative strategies that would work well for introverted students. The goal is that, by the end of this project, I will have added to the existing conversation about introversion and education and synthesized a collection of resources for elementary educators on the pedagogy, management strategies, and classroom environments best suited to teaching young introverts.

Literature Review

Background

Arguably Carl Jung's most important contribution to the field of psychology, *Psychological Types* (1921/2017) contains the first recorded mentions of the terms *introversion* and *extroversion,* presenting them as the two overarching categories, or *typological differences,* into which personalities can be sorted (3). Initially popularized by the publication, the concept of introversion remains a fixture in current discussions of personality.

Jung's definition of introversion posits the key difference between introversion and extroversion as a difference in orientation toward *objects,* or external motivators, and *subjects,* or one's own mind and self. More specifically, in *Psychological Types,* Jung defines extroversion as, "an outward movement of interest toward the object," and introversion as, "a movement of interest away from the object to the subject and his own psychological processes" (4). Taking care to acknowledge the difficulty of providing, "a clear and intelligible description of this two-way relationship without running the risk of paradoxical formula-tions [sic] which would create more confusion than clarity," Jung gives a "deductive presentation of empirically gained insights" that establishes his theory of introversion and extroversion as the foundation of an individual's personality (4).

After defining introversion and extroversion, Jung elaborates on these definitions by introducing a range of characteristics associated with each type, including an extrovert's natural orientation toward facts, ability to translate ideas into reality, and attunement with the physical world. In contrast, Jung identifies an

introvert as more likely to prioritize ideas over facts, struggle to actualize these ideas, and desire to protect themself from the "overpowering influences" of external factors (5).

In discussing Jung's work on the typology of introversion and extroversion, it should be noted that he is quick to identify several misconceptions that may arise in the process of typing individuals are introverted or extroverted. Jung cautions that the practice should not be approached as if it is straightforward or simple, because every individual possesses both introverted and extroverted qualities (3-4); one only becomes a *type* when their behaviors become dominated by introverted or extroverted behaviors, and careful observation is necessary for accurately identifying this. Similarly, Jung cautions that much variation of personality exists within the categories of *introvert* and *extrovert.* While humans can be categorized into overarching psychological profiles, each person possesses an individuality that cannot be overlooked in the typing process. To emphasize the extent to which Jung believed in accounting for uniqueness in typology, he insists that, "however simple and clear the fundamental principle of the two opposing attitudes may be, in actual reality they are complicated and hard to make out, because every individual is an exception to the rule" (471).

Despite emphasizing the importance of proceeding with caution and attending to the details of an individual's personality, Jung identifies neither a specific person nor group of professionals as authorized to implement the typing process. Similarly, he refrains from providing a systematic method for typing introverts and extroverts, which remains a criticism of *Psychological Types*. While

Jung identifies the "educated layman" as the target audience of his typological theory (xi), he provides no further information regarding which academic field or profession he intended to carry out the process. Another criticism of Jung's work is that it forces readers to infer the manner in which he intended his theory to be applied, as no specific method is provided in *Psychological Types.* As noted by prominent psychologist William Malamud (1924), Jung, "pointed to a solution, rather than providing one" (Geyer, 2012, 3).

As concluded by psychologists Collier and Emch (1924), "Jung did not intend his idea to be measured and [they] suggest that numerical scores do the very thing Jung was against, i.e. engage in pigeon-holing" (Geyer, 2012, 10). Rather than prescribing a formula through which his theory of typology could be conducted, Jung provided a framework through which the typology of introversion and extroversion can be viewed. Although his work has since been used to develop numerous personality tests that attempt to quantify introversion and extroversion, in its original form, Jung's theory was presented as a guide, not instructional manual, for psychological typing.

Although Jung did not provide a standardized method for typing, he did indicate that his theory was to be carried out through careful observation, just as he conducted the research for *Psychological Types* through extensive "impressions and experiences" during his time as a psychologist (Jung, 1921/2017, xi). Placing further emphasis on the importance on observation in the typing process, Jung writes, "as a rule, only careful observation and weighing of the evidence permit a sure classification," (470) because he believed that, "a differential diagnosis can be based

only on a careful study of the qualities of the observed material" (475). As observed by Floyd H. Allport and Gordon W. Allport (1921) in an evaluation of *Psychological Types,* "differences of personality are a qualitative rather than a quantitative sort", as Jung's "aim was personality study and description rather than personality testing" (Geyer, 2012, 10). Their analysis confirms that Jung does not provide a detailed plan for executing the typing process in *Psychological Types.*

However, nearly one hundred years later, Jung's theory has become the foundation of highly recognized and utilized frameworks for personality typing, including the Myers-Briggs Type Indicator (MBTI), the DiSC Personality Profile, the Big Five Personality Test, and the Eysenck Personality Inventory. Since its origins in the 1960s, MBTI alone has identified over 50 million individuals as, among other characteristics, introverted or extroverted (Goldberg, 2019). These tests are utilized in social and professional settings alike, even infiltrating the human resource offices of Fortune 100 companies to inform hiring decisions and team management strategies.

According to Eric Shapiro, a manager at University of Phoenix's admissions office, which utilizes personality tests in their hiring process, while an applicant's test results may not directly impact whether they are accepted for a position— as hiring managers are careful to provide all applicants with equal opportunity for employment— managers are keenly aware of the personalities most likely to succeed in their work environment, and the insights gained through personality tests inevitably distinguish certain applicants from the rest (Goldberg, 2019). For example, in Shapiro's office, which oversees the admissions officers who market the

university to prospective students, a charismatic applicant with strong leadership qualities is more naturally suited to the role than a peaceful individual who seeks deep connections on a one-on-one basis, and a personality inventory would reveal such characteristics in an applicant.

Introversion Today

Despite the popularity of the term *introversion,* contemporary researchers have yet to identify a singular definition of introversion or unitary categories for measuring its influence on an individual's behavior. While many sources use the aforementioned definitions of introversion and extroversion that are based upon an individual's orientation toward their internal or external world, it is not uncommon for *introversion* to be conflated with entirely different aspects of personality, such as *shy, quiet,* or *reserved,* which refer to levels of social anxiety, a psychological concept distinct from introversion or extroversion. Similarly, while nothing more than a quick internet search can reveal a wide range of tests designed to unofficially provide a designation of *introversion* or *extroversion,* no test exists in a singular, standardized form that reliably determines an individual as introverted or extroverted (10). Therefore, statistics surrounding the exact number of introverted individuals in the population remain inconclusive, although many studies indicate that one-third, and up to one-half, of the population is introverted. For example, a 1996 study conducted by the Center for Applications of Psychological Type Research Services, which surveyed the MBTI results of over 914,000 individuals,

published results indicating that 50.7 percent of participants were introverted and 49.3 were extroverted (Hammer & Mitchell, 1996).

While specifics remain disputed, there exists a general consensus regarding the typical behaviors of introverts and extroverts, and these mirror those initially presented by Jung in *Psychological Types*; for example, *Psychology Times* characterizes introverts as preferring solitude, calm environments, and one-on-one social interactions (Psychology Today); *WebMD* defines introversion as an affinity for time alone, comfort with one's own thought life, and preference for smaller social gatherings over large groups (WebMD); and *Healthline* (2018) identifies introverts as preferential toward solitude, fond of independent work assignments, mentally oriented inward, and often tired after extensive social interaction (Holland). Despite the absence of either a standardized definition of introversion or method for measuring its influence on an individual's personality, these observable patterns of behavior and personality lay the foundation for current discussions of introversion and extroversion.

In establishing the nature of introversion, it is also important to acknowledge what introversion is not and address common misconceptions surrounding this topic. Although the term *introvert* is frequently associated with characteristics like *introspective, restrained, solitary, collected, soft-spoken, modest,* and even *reclusive,* the definition of *introvert* relates strictly to one's orientation toward their external environment. While an introvert could certainly fit any of the aforementioned descriptors, and one could imagine connections between introversion and a quieter personality, such qualities would remain distinct from each other. Similarly,

someone could be introverted and display more outgoing qualities, as introversion and extroversion are strictly measures of motivation to achieve external rewards rather than measures of other personality traits.

Historical Perceptions of Introversion in Mainstream American Society

In order to fully understand the current perception of introversion, it is necessary to examine the attitudes with which it has been perceived historically by mainstream society. Over the last two centuries, the urbanization of American society and subsequent alterations in patterns of daily life have caused a shift in preference toward qualities associated with extroversion.

In her *New York Times* best-selling book, *Quiet* (2012), Susan Cain—one of the leading voices in modern discussions of introversion and creator of Quiet Revolution, a movement aimed at highlighting the importance of normalizing introversion in a largely extroverted world— discusses two concepts— *Culture of Character* and *Culture of Personality*— coined by historian Warren Susman, former professor of history at Rutgers University known for his analysis of cultural change in twentieth century America (21). These terms encompass the widespread societal shifts that catalyzed a change in American perceptions of introversion. Attributing nineteenth century industrialization with an increased preference for extroverted behaviors— the result of Americans' migration from small, sparsely-populated towns to sprawling cities in pursuit of new employment opportunities—Cain highlights the way in which urban environments demand high levels of charm and magnetism in a business world depending on cold calls and networking for success.

Regarding this time, historian Roland Marchand observed that, "in the increasingly anonymous business and social relationships of the age, one might suspect that anything—including a first impression—had made the crucial difference" (Marchand, 1985, 209). Further indicating this change, many popular contemporary magazines began marketing campaigns that similarly emphasized magnetism and first impressions. Article titles like *Let Your Face Reflect Confidence, Not Worry* (209); *Ever Tried Selling Yourself To You?* (209); and *Critical Eyes are Sizing You Up Right Now* (213) promoted the importance of impressing strangers with outward displays of charm.

Whereas, in smaller communities, individuals may have been more likely to build a customer base by possessing a trustworthy reputation among their fellow long-time community members, successful life and work in a metropolitan area was more likely to require charisma and charm to gain the approval of strangers, with the goal of successful networking, sales, and business partnerships. According to Cain, this is responsible for the end of *The Culture of Character* and the ushering in of *The Culture of Personality.* To support this, Cain references a comparative analysis of nineteenth and twentieth century literature conducted by Warren Susman in search of information that might shed light on the centuries' varying personality ideals. Cain describes his process in the following excerpt from *Quiet*:

> Susman counted the words that appeared most frequently in the personality-driven advice manuals of the early twentieth century and compared them to the character guides of the nineteenth century. The earliest guides emphasized attributes that anyone could work on

> improving… but the new guides celebrated qualities that were— no matter how easy Dale Carnegie made it sound— trickier to acquire. Either you embodied these qualities, or you didn't (23).

Referencing popular works of the twentieth century, including those of Dale Carnegie— author of the self-help manual *How to Win Friends and Influence People* (1936) which ranks nineteenth on *TIME Magazine's* List of *All-Time 100 Nonfiction Books*— Warren Susman's word study highlights a cultural shift in the twentieth century toward preferring personality traits associated with extroversion, including *magnetic, fascinating, dominant, forceful,* and *energetic,* replacing the previous century's appreciation for character qualities like *citizenship, duty, work, morals,* and *integrity* (23-24). As indicated by Susman's analysis, it was at this point in American history that the *Extrovert Ideal,* as coined by Susan Cain, began to take hold in a newly urban society (21).

While the above timeline focuses on American history, the Extrovert Ideal is not necessarily exclusive to the culture of the United States; however, several studies have revealed, through self-reported survey results based on the NEO Personality Inventory, that America is one of the world's most extroverted nations, alongside Canada and several Western European countries (Allik & McCrae, 2004; McCrae, Terracciano, Wang, & Hilario del Pilar, 2005). In comparison, participants from many Asian and African nations reported far lower scores on the assessment's extroversion scale.

How the Extrovert Ideal Influenced the American School System

The newfound preference for extroverted qualities over introverted qualities was evident in the childrearing trends of the twentieth century; for example, parents of children at the primary or secondary levels of schooling displaying signs of a "maladjusted personality" (27), or reserved tendencies, were cautioned by professionals to provide their children with frequent opportunities for socializing with other children lest their reserved child succumb to the dangerous behaviors many contemporary researchers associated with shyness, including alcoholism and suicide.

These perspectives of personality and child development were also observable in the American school system of the twentieth century, as teachers increasingly praised qualities associated with extroversion and discouraged those of introversion. A 1968 study of the relationship between students' personalities and teachers' perceptions of those students surveyed preschool teachers and asked them to rate a series of students on sixty personality variables, with the goal of determining the basis of masculinity and femininity in the preschool setting. After teachers categorized their students as *Most Masculine, Least Masculine, Most Feminine,* and *Least Feminine,* it was determined that the male students deemed *Most Masculine* displayed more extroverted behaviors, while female students considered *Most Feminine* were slightly more introverted. Extroversion had the greatest bearing on a teacher's identification of a student as *masculine,* whereas extroversion was only the third-most important factor in labeling students as *feminine* (Vroegh, Jenkin, Black, & Handrich., 1968).

The introversion of teachers also came under scrutiny at this time. In 1965, educational psychologist David Ausubel made the following observation about perceptions of personality in the American school system of the twentieth century:

> In education, as in many other vocational fields, we have succumbed to the cult of the warm, outgoing, amiable, and extraverted [sic] personality, and have tended to regard any deviation from this standard as axiomatically undesirable... many excellent teachers who happen to be shy and introverted are viewed with alarm by their psychologically oriented supervisors (1).

In 1969, the University of Texas and University of Oklahoma conducted a study of teacher candidates and the influence of their personalities on the effectiveness of their instruction. Contextualized by Freud's theory—widely accepted at the time—that introversion was psychologically unhealthy due to the connection between 'healthy' individuals and an active engagement in their environment, researchers determined that, "even if introversion is negatively associated with mental health—even if introverted teachers are psychologically maladjusted—it does not necessarily follow that they impair the mental health of their pupils" (Brown & Richek, 166). The fact alone that this had to be stated in educational materials indicates twentieth century attitudes toward introversion.

Unfortunately, the stigma surrounding introverted qualities extended beyond the K-12 education system and into postsecondary programs, as well. In the latter half of the 1940s, Harvard's provost urged that the school "should reject the 'sensitive, neurotic' [what we would consider introverted] type and the

'intellectually overstimulated' in favor of boys of the 'healthy extrovert kind" in the process of screening applicant"; similarly, Yale's president insisted that the school admit only the job market's ideal employee, acknowledging that, "they like a pretty gregarious, active type… so we find that the best man is the one who's had an 80 or 85 average in school and plenty of extracurricular activity. We see little use for the 'brilliant' introvert" (28). Yet this was not entirely the fault of the universities; in preparing students to successfully navigate their futures, the schools had little choice but to prepare students to enter a society that had embraced the Extrovert Ideal.

The American school system's championing of the Extrovert Ideal throughout the twentieth century remains evident in the school system today. A recent investigation of Harvard University's admissions office indicates that the school has maintained its preference for extroverted applicants. According to the *New York Times* article "Is an Extroverted Applicant Better Suited for Harvard Than an Introvert?" (2018), the university's affirmative action group, Students for Fair Admission, filed a lawsuit in 2018 alleging that Harvard's admissions officers upheld discriminatory practices that disadvantaged Asian American applicants by assigning these prospective students with lower personal ratings than those received by students of other races. While the lawsuit initially targeted inequitable admissions practices on the basis of race, court proceedings revealed an emphasis in Harvard's official admissions handbook on qualities like *effervescence,* not *flat,* and *a singular ability to lead or inspire those around them* [what we would consider extroverted] (Hartocollis, 2018). As uncovered by the trial, a prospective student with an

extroverted personality would, on the basis of personality, likely receive a higher personal rating than an introverted student, indicating that the Extrovert Ideal continues to influence the larger American education system and create unique challenges for introverted students.

Echoes of the sentiments of Harvard and Yale's former provosts can be heard in a recent *Princeton Review* article written to prospective college applicants, "How Extracurriculars Help Your College Application,":

> We know you want to impress colleges with your accomplishments in the classroom, but your academics aren't the full picture of who you really are. Yes, colleges want bright students. But even more, they want bright, well-rounded students. That's where your extracurricular activities come in (Princeton Review).

To demonstrate their potential to universities, the article encourages high schoolers to seize leadership opportunities, secure a part-time job, and become involved in a variety of organizations and volunteer positions. Compared to the expectations of universities in the mid-twentieth centuries, it is clear that a similar level of gregariousness and engagement is desired in college applicants today.

Extending beyond current post-secondary institutions, effects of the Extrovert Ideal can also be observed in the current K-12 school system. Exuberance is a trait frequently associated with extroversion, and it is one of the qualities measured by personality inventories, such as the Big Five Personality Inventory, to determine an individual's level of extroversion; the more exuberant, or gregarious, the individual is, the more extroverted they are.In 2010, a study conducted by Brock

and Carleton Universities examined the attitudes of elementary educators toward their students' verbal and social behaviors. Participants reviewed three hypothetical scenarios involving elementary-aged students of varying verbal and social exuberance, theorizing how they would likely respond to each event. The results indicated that teachers were far more likely to report the behaviors of quiet students to administration than they were to flag the behaviors of exuberant or average students; moreover, participants indicated a higher likelihood of reporting the behavior of quiet when compared to those of quiet female students (Coplan, Hughes, Bosacki, & Rose-Krasnor, 2011). Regarding their perception of students' academic abilities and overall intelligence, educators considered quiet students to possess the lowest levels of academic ability and intelligence when compared to their exuberant and average peers; the disparity was more pronounced in the answers of participants who self-reported higher levels of exuberance when compared to the answers of participants of lower levels of exuberance. The study reveals differences in elementary educators' perceptions of introverted students and impacts of those perceptions on their choice of behavior management strategy.

Teachers of introverted children are more likely to perceive these students as less intelligent or successful; they also view the tendencies of their quiet students as problems to be solved outside of the classroom rather than differences to be supported within it. This difference is even more pronounced for introverted male students than introverted female students at the elementary level, a discovery consistent with teachers' historical perceptions of introversion; in the previously referenced study of teacher' perceptions of student personality by Vroegh, Jenkin,

Black, and Handrich, (1968), boys deemed *Most Masculine* displayed the most extroverted qualities, while girls deemed *Most Feminine* were slightly more introverted, indicating a connection between gender and introversion in discussions of perceptions.

However, research also indicates a connection between a teacher's perception of quiet students and the teacher's own personality. For example, the aforementioned study by Coplan, Hughes, Bosacki, & Rose-Krasnor (2011), which measured the influence of students' personalities on teachers' classroom management strategies, also accounted for teachers' reported levels of shyness. Participating educators answered survey questions such as *I feel inhibited in social situations, I have doubts about my social competence,* and *when in a group of people, I have trouble thinking of things to talk about.* However, the results indicate that all teachers, regardless of shyness, were more likely to report the quiet behaviors of their male students to administration than they were to report those of their female students. To explain this, researchers pointed out that many primary grade educators are female, and people may feel more comfortable handling the behaviors of same-gender students if they see themselves reflected in the student. Aside from their perceptions of shy male students, shy educators were the least likely group of participants to underestimate the intelligence of shy students; teachers of both average and outgoing personalities reported viewing shy students as significantly less intelligent than their outgoing and average peers. Again, researchers attribute this to the likelihood that teachers have greater empathy for students with familiar personalities.

While this study measured the influence of a teacher's social personality on their perception of students, it should be noted that shyness is distinct from introversion, and therefore these study results cannot be interpreted as introverted teachers' perceptions of introverted students. Parallels can only be drawn between the social reservation, doubt, or tiredness that introverted students may also exhibit in the classroom and the ways in which this may influence their teacher's perception of their behavior.

Current Perceptions of Introversion

Similar to its school system, much of American society retains a preference of extroversion, allowing extroverts to thrive more naturally than their introverted counterparts. To capture this social phenomena in her article, "The rise of the new groupthink" (2012), Cain— presenter of "the power of introverts," a TED Talk that has been viewed over 25 million times since its debut— coined another term, *The New Groupthink,* or the idea that "creativity and achievement come from an oddly gregarious place" (para. 1). Prior to the onset of COVID-19 and the subsequent shift of many businesses to working remotely, up to 70 percent of Americans worked in offices with open-plan designs that allowed for a continual stream of communication between colleagues. This structural choice serves extroverted employees far better than their introverted counterparts, who, as characterized by Susan Cain in *Quiet* (2012), "listen more than they talk, think before they speak, and often feel as if they express themselves better in writing than in conversation" (11).

That is not to say that introversion inhibits an individual's vocational potential. According to cognitive psychologist Anders Ericsson, who extensively studied the process of achieving proficiency at any given task, expertise is ultimately developed through deliberate practice, feedback from expert mentor figures, and time devoted to the project (Ericsson, Prietula, & Cokely, 2007). Although research regarding the relationship between expertise and personality has discovered some correlation, an individual's performance is more closely tied to their grit, openness, and emotional regulation than to their introversion or extroversion (Hambrick & Mosing, 2015).

The extent of the connection between expertise and personality is that an individual's personality may influence the spheres in which they choose to work or study: depending on the environment selected, that individual's personality may influence the quality of their performance in some way. (Hambrick & Mosing, 2015). For example, an introvert asked to present a report to a large group of people with little to no preparation may not perform as well as an extrovert tasked with an identical challenge. However, in fields and environments suited to their nature, introverts are capable of achieving a high quality of work.

The emphasis on collaboration in the typical American work office is also evident in the nation's current public school system, which has embraced— among other educational philosophies— Lev Vygtosky's (1978) theory of social constructivism. A variation of John Piaget's theory of cognitive constructivism (1968), or the belief that knowledge is actively constructed by the learner as they build upon their preexisting schemas of knowledge, social constructivism view the

process of learning as a collaborative act in which the learner, through interacting with others, exchanges information and becomes a member of a knowledge community. According to Vygotsky and other social constructivists, knowledge is actively co-constructed, not passively retained; therefore, educators must facilitate social scenarios in which learners interact with both their peers and their environment to jointly discover knowledge and reach conclusions about the surrounding world. Social constructivism has been applied in the pedagogical setting through Play-Based Learning (PBL), the *Flipped Classroom,* and Learning Labs. An analysis of each will be provided in the following paragraphs.

Play-Based Learning, as it sounds, is facilitating learning through play that occurs either independently or with the guidance of a teacher. The term *PBL* is a broad umbrella under which many activities fall, including dressing up, playing outside, or center-based learning. Popularized in the early 2000s, PBL is a research-proven method for facilitating healthy development, and it continues to flourish in early childhood education environments today (Danniels & Pyle, 2018). However, simply being declared *effective* by research does not make a strategy categorically effective for all students. Some will benefit more than others, and PBL is an example of this.

Another recent application of constructivism is the *Flipped Classroom,* an instructional design that exchanges the activities that would be traditionally completed during class time for those that would typically be done at home in preparation for school. Students watch lecture videos at home, then collaboratively complete activities in the classroom. As described by *Flipped Classrooms &*

Kirkpatrick: Steps Toward INnovation in Education & Evaluation, this is a model "in which the group space moves toward individual space and consequently, the learning environment becomes active" (Sohrabi, Ramezani, Keshavarzi, Pourbairamian, & Ghanavati, 2019, 6). While extroverted students may thrive in a collaborative, high energy classroom, this strategy will likely have a less positive effect on their introverted peers.

Learning Labs are a third example of social constructivism's influence on current educational trends. Typically located in a school's library, learning labs are flexible spaces designed to provide students with opportunities to learn collaboratively. Some schools use them simply as designated spaces for students to receive additional learning opportunities with their classmates, similar to a tutoring center; others outfit their learning labs with technology that groups of students can explore together. Regardless, their intentions are inherently collaborative, and, interestingly, they are almost always built into libraries— traditionally quiet spaces that may suit introverted students' learning better than a learning lab could (Gonzales, 2018).

Despite the American education system's shift toward approaches based in constructivism, it should be noted that there is an increasing recognition of the unique needs of introverted students within the field of education. Even a Google search of *introverts in education* on Google reveals articles from *The Atlantic* ("When Schools Overlook Introverts"), *Forbes* ("Why We Need to Pay Attention to Young Introverts"), and *The National Education Association* ("Schools Need Introverted Teachers, But Avoiding Burnout is a Challenge") on the ways in which the current

educational system is not structured to benefit introverts— both students and staff alike.

Building a Portrait of an Introvert

While a universal definition of introversion does not exist, there are, as referenced above, a variety of behaviors widely associated with introversion, which allows for the creation of a clearer picture of the introverted identity. In *Psychological Foundation* (1921), Jung records the first commentary on the focus of an introvert's energy, observing that, "the introvert's attitude is an abstracting one; at bottom, he is always intent on withdrawing [the direction of his interest] from the object, as though he had to prevent the object from gaining power over him" (307). Whereas their extroverted counterparts draw energy from the stimuli and rewards embedded in their surroundings, and therefore pursue them actively, introverts are known to display a certain level of resistance toward the demands of their surroundings, as if resisting the effect these elements may have upon their mental processes and energy levels.

Further illustrating the inner life of introverts, Jung remarks that introverts have been observed to place a greater emphasis on their internal thought life when compared to that which they place on their external environment: "whereas the extravert continually appeals to what comes to him from the object, the introvert relies principally on what the sense impression constellates in the subject" (345). The introvert's interest is not in the object itself, but in the ideas that the object stirs

up in his mind. Jung continues to distinguish the mental processes of introverts from those of extroverts by pointing out the following:

> External facts are not the aim and origin of this thinking, though the introvert would like to make his thinking appear so. It begins with the subject and leads back to the subject, far though it may range into the realm of actual reality (351).

Introverts are far less focused on the information in their environment than they are on their personal thought life; even if an introvert's thoughts initially revolve around the external environment, they will ultimately circle back to the introvert himself and his more personal thoughts. The concrete world is less appealing to the introvert than the ideas it stirs up in his mind.

Jung goes on to write that, "with regard to the establishment of new facts [the concrete world] is only indirectly of value, since new views rather than knowledge of new facts are its main concern. It formulates questions and creates theories, it opens up new prospects and insights, but with regard to facts its attitude is one of reserve" (351). The way in which the introvert interacts with the world is primarily cognitive; the mind of an introvert is highly active in a variety of ways, and these ways are simply not as observable as the physical actions of an extrovert may be.

Illustrating the activity of introverts' minds, a 2013 study of students' use of learning strategies during the language acquisition process administered two inventories to participants—one testing personality based on Eyesenck's Personality Inventory and the other testing their use of language learning strategies, defining *learning strategy* as an intentional, specific approach, technique, or

action— either physical or mental— that is learner-directed, problem-oriented, and goal-oriented (Kayaoglu, 2013, 820). The possible learning strategies were memory, cognitive, compensational, metacognitive, affective, and social. Researchers discovered that introverted students used significantly more learning strategies than did extroverted participants. More specifically, introverts used far more cognitive strategies, self-monitored more frequently, and opted to interact with their instructor over collaborating with their peers. The one metacognitive strategy used more by extroverts was seeking practice opportunities, and there was no observed difference in use of affective strategies. The study illustrates the introverts' gravitation toward personal thoughts, compared to the extrovert's preference of social interaction.

In *Quiet* (2012), Susan Cain reinforces Jung's concept of introverts placing a weaker focus on the rewards of their environment, such as money and status. She also points out that, while introverts have the capability to socialize with others with the skill of extroverts, introverts are capable of socializing for shorter periods of time before feeling the need to spend time away from others, and they prefer a smaller social circle. These ideas complement Jung's assertion that introverts seem to resist being highly impacted by the objects of their environment, as if the introvert makes social choices with the knowledge that his environment will greatly impact his energy.

However, whereas Jung provides a glimpse into primarily the inner motivation and thought life of introverts, Cain unpacks several more observable behavior patterns of introverts: a slower, more deliberate pace of work and a

preference for tackling one task at a time; a tendency to consider their words longer before speaking; the sense that they communicate more effectively in writing than in speech; and a pull toward deeper discussions over small talk (11). This characterizes the introvert as operating at a different speed and shining in different mediums than their extroverted counterparts, such as intimate social gatherings and written modes of communication. If the extrovert can function well in fast-paced, complex environments, communicate verbally and quickly with ease, and interact in many, shorter exchanges with those around them, the introverted individual thrives in slower, more deliberate interactions that allow for more thought, time, and, in some cases, depth. That is not to say that either is better than the other, or that extroverts are incapable of depth; they simply exercise their strengths in varying ways, a fact both Jung and Cain are careful to point out in their respective works.

While these sources provide an overarching picture of the qualities and characteristics of introversion, other researchers have conducted specific studies on detailed characteristics associated with introversion that provide a more detailed profile of introverts. In 2011, Salk Institute's Laboratory for Cognitive Neuroscience conducted a study to examine the difference between introverts' and extroverts' neural responses to social stimuli and determine whether observed socialization patterns had a biological basis. While undergoing an electroencephalogram (EEG), participants were shown a series of images depicting either flowers or humans with neutral facial expressions in order to measure the allocation of participants' attention. To distinguish between the neural responses of introverted and

extroverted individuals, an NEO Personality Inventory was administered to participants prior to the EEG. The results indicate that individuals with high scores of extroversion on the NEO Personality Inventory exhibited consistently positive neural responses when shown pictures of human faces when compared to the responses of individuals with lower scores of extroversion, and the intensity of response was directly related to the participants' NEO score in extroversion. This suggests a brain-based difference in social motivation between introverts and extroverts that could explain the tendency of introverts to gravitate toward smaller social groups or forgo socialization altogether for independent activities (Fishman, Ng, & Bellugi, 2011). The study described this as "two distinct personality profiles characterized by social approach and social withdrawal" (71) and not only confirms that introverts and extroverts have differing approaches to socialization, but also that these observed social behaviors of introverts and extroverts have a neurological explanation.

Academic Performance and Attitudes of Introverted Students

Certain qualities of introverts affect their behavior as students in a classroom setting, which is observable from preschool to post-secondary environments. A 2011 study administered the Big Five Personality Test to upper-secondary school students and discovered an indirect relationship between a student's overall grades and their score in extroversion; the higher a student scored in extroversion, the lower their grades were likely to be (Rosander, Bäckström, & Stenberg, 2011). Unfortunately, the study did not provide any explanation for this connection and

acknowledged that much work must be done to connect personality and academic performance. However, the study also discovered a direct relationship between a student's score in extroversion and their grades in specific subjects, specifically social studies and physical education. The study attributed this to an extrovert's willingness to speak out in classroom discussions and desire to participate in teamwork and collaboration, two skills often required in physical education activities. The study indicates that a student's designation as introverted or extroverted will impact both their overall academic performance and results within specific subject areas, requiring differentiation according to personality type in order to accommodate all students in the classroom; according to the study, while introverts may not need overall support when it comes to academic success, they will likely need supports in specific subject areas, namely social studies, physical education, and others requiring high levels of teamwork and social interaction.

Confirming the idea that introversion and extroversion will not only impact a student's academic performance, but will also affect a student's preference for, and willingness to participate in, specific subject areas, a 2018 study conducted by Brock University's Department of Kinestheology administered the HEXACO Personality Inventory to high school participants and discovered that out of the six traits measured by the test— honesty, emotionality, extroversion, agreeableness, conscientiousness, and openness to experience— a low score in extroversion was the single greatest predictor of a student experiencing high anxiety and low self-efficacy in relation to their physical education classes. A student's intentions to exercise were also directly related to their score in extroversion (Lodewyk). Known

for requiring high rates of teamwork, collaboration, and physical exertion, physical education is an example of a subject which introverted students may not naturally enjoy as a result of their introversion.

Similarly, a study conducted in 2011 found that, in elementary grades, participants who received a high score of extroversion on the Big Five Personality Test were "more likely to have better attitudes toward science, higher self-efficacy in learning science, interest in science, more contribution toward team members, and more involvement" in projects, whereas participants with lower scores in extroversion did not display such attitudes and behaviors (Hong & Lin, 1024). Considering that science lessons, particularly in the earlier years of school, often involve a hands-on, group-oriented approach based in traditional practices of social constructivism, these studies suggest that students' perceptions of a school subject or activity may be determined by the presentation of content or the learning environment in which it is taught, as opposed to their individual opinions of the subject matter itself.

Introverted Students' Responses to Pedagogical Practices

Just as introverted students display differing responses to subject areas on account of their introversion, so too certain pedagogical practices will be more effective in teaching introverted students than others. Examining the factors, including personality, that may impact a student's participation in small group discussions, a 2014 study observed a series of third grade literature circles to study the effect that personality had on a student's participation. Literature circles, a

collaborative learning strategy used from early elementary grades onward, involves small groups of students discussing a text for a purpose determined by the teacher; for example, students might be asked to identify a text's story elements or analyze a character's motives with their peers. After administering The Big Five Personality Test to participants, the results indicated that a student's extroversion score significantly impacted their participation in a five minute conversation with their peers that followed a thirty minute period of independent reading. Students with higher scores were far more likely to participate voluntarily and frequently, while introverted students remained quiet throughout the discussion. In light of these results, the author recommended that teachers implementing literature circles consider that, "because personality factors are beyond the control of the teacher, literature circle design should strive to make the personality factors insignificant" (Young). Their suggestions included establishing group norms that encourage the participation of all students, teaching more exuberant students to direct questions to their quieter peers, or specifically asking quiet students to participate. However, the author also recommended that "alternative methods of assessment should be employed," due to the fact that, "highly introverted and conscientious students may not project their true understanding of a text during discussion" (Young). This suggests that, while educators should consider ways to adapt their instructional strategies for introverted students, teachers must also accept that certain pedagogical approaches will not allow for these students to best demonstrate their learning and consider implementing alternative methods. While the hands-on

activities of Constructivism may benefit all students, they do not necessarily create an inviting learning space for introverts.

To explore the effectiveness of token economy systems, a common behavior modification approach in elementary grades, a 2010 study implemented an experiment at the college level to identify any connections between personality and a student's participation in a token economy system. Administering a Big Five Personality Inventory and Goal Orientation Questionnaire to participants prior to the onset of the experiment, students in a psychology course were given the opportunity to earn one bonus point each day for quality participation in class discussions. Students could earn a maximum of 29 bonus points that would contribute to roughly 4% extra credit toward their course grade. It was discovered that a student's participation was directly related to their score in extroversion; those who scored higher in extroversion participated at greater rates in class discussions. However, the study acknowledged that more research must be done to accurately measure the way in which a student's extroversion impacts their individual success within a classroom token economy system (Nelson).

Introverted Students' Responses to Environmental Factors

Teaching is a complex act, and a teacher determines not only their pedagogical approach to teaching content and strategy for managing students' behavior, but also the classroom environment in which learning will occur. Within the field of elementary education, much emphasis is placed on intentionally creating a welcoming and effective classroom environment; however, the classrooms of

introverted students may require adjusted characteristics in order to support their academic and affective development throughout the year.

`A 2011 study of the ability of introverts and extroverts to perform complex cognitive tasks while music plays in the background discovered that, at the secondary level, students who scored higher in extroversion on an Eysenck Personality Inventory performed better on a series of three reasoning tasks compared to their introverted peers while music played in the background (Dobbs, Furnham, & McClelland, 2011). Students' tests scores were related not only to their introversion or extroversion alone, but also to the degree of their introversion or extroversion: while extreme extroverts were "essentially unaffected'' by a loud background, an "increase in introversion was associated with a systematic decrease in test performance — with extreme introverts being markedly affected" (Dobbs, Furnham, & McClelland, 2011). While a statement cannot be made about the impact of loud backgrounds on introverted students during the range of activities that occur throughout the average school day, the study indicates that introverted students will perform better on cognitive tasks, such as assessments, in silence rather than noise.

To explore the effect of visual distractions on students of varying personality types, a 2018 study by Pepperdine University administered a listening comprehension task to students of varying extroversion scores at the postsecondary level and discovered little connection between a student's extroversion score and their test performance under both highly and only somewhat distracting visual circumstances (Virzi, Rouse, & Miller-Perrin, 2018). While this does not indicate that

the aesthetics of an introvert's learning environment are unimportant, the above studies suggest that auditory distractions have a much greater impact on the academic performance of introverted students than visual distractions.

To discover the practical implications of this information, design experts like Emily Spillar of Seattle's NAC Architecture have created models of ideal elementary classrooms for introverted students, exploring options for classroom layout, seating options, and access to technology that would best facilitate learning and participation for introverted students. Ultimately, her work advocates for flexible classroom settings that accommodate a variety of participation styles and work preferences.

Current Educational Trends in the Elementary Classroom

As in all fields, educational trends ebb and flow through the K-12 school system; yet time tests them all. While certain trends prove to be successful and become "best practice" for educators, others are gradually revealed as flawed— or, worse, inequitable. Unfortunately, although such practices fade into the history books of education, the students who were schooled under their popularity suffer the reality of their shortcomings.

In this section, I have highlighted five trends currently influencing the K-12 American educational system, focusing specifically on those common in the elementary grades (K-6). I have selected approaches currently influencing pedagogy and behavior management, with the goal of creating a picture of the average educational experience of the current elementary-aged student.

However, it should be noted that, while I have attempted to select the most prominent trends affecting the educational system, this is by no means an attempt to capture the experience of every student currently in their elementary years. A variety of factors influence a child's educational experience, including the priorities of the district or region in which their school is located and any additional support services received by the student, such as special education services or English Language Development. What will follow is simply a snapshot of popular trends influencing many elementary schools across the United States.

Following this summary will be an analysis of each trend in light of the needs of introverted elementary-aged children, with the goal of determining how current educational approaches could be modified or supplemented to best support

introverted students in elementary school environments.

Cooperative Learning

In K-12 educational settings, a current trend in both pedagogy and behavior management is *cooperative learning,* in which small groups of three to four students are assigned to work together toward a common goal. The goal may be academic or social in nature— while cooperative learning could be used to engage students in a conversation about a book, it could also be used to facilitate a community-building activity at the beginning of the school year— and it cannot be achieved without the positive participation of all group members. Cooperative learning is initiated by educators with the goal of deepening the learning of every student through the mutual support of their peers.

According to the founders of the Cooperative Learning Institute, David W. Johnson— professor of Educational Psychology at the University of Minnesota— and Roger T. Johnson— professor of Curriculum and Instruction at the University of Minnesota— not every form of group work constitutes cooperative learning. Johnson and Johnson are careful to distinguish cooperative learning from merely grouping students together and giving them a task to complete, as the goal of cooperative learning is to positively benefit student achievement of a learning goal, and not every group task accomplishes this goal. In their book *Cooperation and competition: Theory and research* (1989), Johnson & Johnson outline five characteristics of a cooperative learning activity: positive interdependence,

individual and group accountability, promotive interaction, appropriate use of social skills, and group processing.

To facilitate positive interdependence, the cooperative learning activity must be structured in such a way that the success of a student depends on the success of their group members. Therefore, in attempting to secure their own success, students also pursue the success of their teammates, increasing the likelihood that all students will succeed. This condition of cooperative learning is further encouraged by structures of individual and group accountability, which ensure that the activity does not allow certain group members to depend on the hard work of others without positively contributing to the group themselves. For example, if each student in the group is assigned a unique role, while students' grades may largely hinge on the success of the group as a whole, each students' individual contributions would also be factored into their score. Next, facilitating promotive interaction through the cooperative learning activity ensures that students are engaging in the type of interaction necessary for successfully completing the activity, while simultaneously building their appropriate use of healthy social skills. Cooperative learning activities also conclude with group processing, or reflection, to ensure that students consider the effects of their actions, both individually and collectively, to identify what worked well and what could be improved upon next time they engage in a similar activity.

According to Johnson and Johnson, prior to the 1960s, cooperative learning strategies were largely absent from educational settings, as instructors relied primarily on more individualistic teaching strategies. However, the approach has

been so heartily embraced by the educational community that, according to Johnson and Johnson,

> Cooperative learning is now an accepted and often the preferred instructional procedure at all levels of education. Cooperative learning is presently used in schools and universities in every part of the world, in every subject area, and with every age of student. It is difficult to find a text on instructional methods, a teacher's journal, or instructional materials that do not discuss cooperative learning (Johnson & Johnson, "An Overview of Cooperative Learning," para. 3).

According to Slavin, professor of Education at Johns Hopkins University, in *Cooperative learning in elementary schools* (2014), there are several theoretical perspectives and educational theories that could be used to argue in favor of cooperative learning, including the motivationalist, social-cohesion, and developmental perspectives.

According to the motivationalist school of thought, which believes student motivation to be the key contributor to student learning, cooperative learning is successful because interdependence and group accountability incentivize students to pursue the learning and achievement of their peers in order to achieve their own success. If students are motivated to learn, the motivationalists assert, they will learn far better than if the incentive to achieve success is largely lacking from the activity. However, in cooperative learning activities, students' motivation is further enhanced when prizes are rewarded to successful groups, with the most common

prizes including, in the elementary grades, certificates, class parties, extra recess, or small rewards from a "prize box."

Yet other schools of thought highlight the merits of collaborative learning, such as the social-cohesion perspective, which argues that maintaining social identity is a motivating factor for most individuals. In cooperative learning activities, in which a student's success depends on the efforts of their peers, a student reluctant to participate, or one who displays other undesirable behaviors that would be off-putting to their peers, would not only threaten the group's success, but, in so doing, would garner the social judgement of their peers. Therefore, not only would students participate in collaborative learning activities due to extrinsic motivation, but they would also strive for excellence to maintain their social identity within the group—or the way in which their self-perception is connected to the unique position they hold among their peers—to pursue the acceptance of the peers they esteem.

Cooperative learning strategies are also supported by the works of educational psychologists Vygotsky (1978) and Piaget (1926). According to Vytogksy's theory of social constructivism, learning occurs through social interaction that falls within the learner's Zone of Proximal Development (ZPD), or the range of activities they are able to complete with the support of a skilled individual. Therefore, interaction with grade-level peers with similar ability levels will facilitate interactions ideal for student learning. According to Piaget, interaction with peers is essential for a child to accurately assimilate newly learned material into their current understanding of the world instead of layering new content onto

false perceptions. Interactions with others is the way by which students learn more about the world and challenge their current notions about what they observe, which Piaget refers to as *assimilation,* or when a student assumes that his observations follow the pattern of what he already knows, and *accommodation,* or when a student's understanding is challenged and he adjusts his mental scheme to fit the newly learned information. This occurrence is common in elementary settings. An example would be a student who believes that, since every type of bird he knows flys, a penguin cannot be a bird due to its lack of flight; however, his understanding is challenged and corrected when a peer who recently read a book about penguins informs him of their status as birds.

As outlined by Johnson and Johnson, cooperative learning takes three general forms: *formal cooperative learning, informal cooperative learning,* and *cooperative based groups.* In formal cooperative learning, which can occur over the duration of a single lesson or for several weeks, the teacher pre-determines the learning objectives of the assignment from both a content and behavioral perspective. She establishes the expectations for the group, including the procedure that will be followed to complete the assignment, and clearly communicates these plans to the students. It is not uncommon for each group member to be assigned a role—such as discussion leader, note taker, or artist. The groups then work together to achieve the learning goal, while the teacher monitors students' progress and redirects as needed, then assesses the groups' performances at both a collective and individual level to determine whether they met the assignment's objectives.

In comparison, informal cooperative learning occurs for either periods of several minutes throughout a lesson or up to the duration of an entire lesson. Generally, its purpose is to sustain students' engagement with the content, and it typically takes the form of discussion. Many of the commonly used discussion strategies of the elementary classroom are forms of informal cooperative learning.

Think-pair-share: A question or problem is posed to the class, and students are given several seconds to independently generate an answer before discussing it with a partner. After students have had sufficient time to discuss, several pairs of students will be called on to share their answer with the class.

Numbered heads together: Groups of four students are formed, and each student is assigned a number from one to four. Groups are given time to discuss a question or solve a problem, then all students are reconvened and the teacher selects a number from one to four; every student assigned the number selected is then instructed to stand up and share what their group discussed.

Jigsaw: Groups of students are formed, and each group is given a topic to discuss and develop "expertise" in. Then new groups of students are formed that contain one student from each original group. These "experts" share what their group discussed to teach their peers about the topic.

Round Table: This strategy works best for brainstorming-type activities. Each group of students is given a paper on which to write their

ideas or answer to a question, and the piece of paper is passed from student to student until each group member has contributed.

Cooperative Graffiti: This strategy is very similar to *round table,* except it is typically done class-wide. A large piece of paper is placed in the center of the room, and students take turns contributing to the paper until each student has written their answer.

Inside-Outside Circle: Students form two concentric circles, so that pairs of students are facing each other. A question or problem is posed to the class, and pairs of students discuss with each other. When the teacher signals, one circle rotates while the other remains stationary, creating new partnerships. A new question or problem is posed to the class, and the strategy continues until all questions have been asked.

In contrast to informal cooperative learning strategies, in which pairs of students are quickly formed and reformed, Cooperative Base Groups are groups of three or four students that are assigned to support each other for the duration of a school year. The groupings are heterogenous, and, at each meeting, they engage in activities designed by the teacher to support each other academically or socially.

In light of the aforementioned requirements of the cooperative learning approach, there are several academic and social benefits for students. Because cooperative learning requires students to interact with each other, behavior expectations must be clearly explained and modeled. Particularly for elementary grades, these strategies provide students with excellent opportunities to build healthy social skills, including teamwork, communication, agreement, and

disagreement. If implemented well, cooperative strategies would contribute to a positive, well-connected classroom environment.

Interestingly, while one might assume that the global shift to In-Person Hybrid (IPH) and Comprehensive Distance Learning (CDL) models in response to the COVID-19 pandemic would affect the amount of cooperative learning occurring in a classroom, an article by Harvard Business Publishing's Education Branch indicates that the trend remains. Despite the drastic changes the education system experienced during the 2019-2020 and 2020-2021 academic years, educators have worked to translate their practices into online methods to provide quality educational experiences to students in the midst of an unprecedented context. In the process of maintaining the status quo, gaps in educational practices have been discovered. In the article "What your pre-COVID course was missing," Peshkam outlines eight strategies for incorporating cooperative learning into the IPH or CDL classroom:

> *Poll-Group-Repoll:* This strategy applies specifically to synchronous instruction on Zoom. The instructor utilizes Zoom's polling feature to launch a poll to the class. Students select their answers and submit their poll before being placed into breakout rooms with small groups of their peers. In the breakout rooms, students discuss their answers. After the discussion, relaunch the poll to determine whether students' answers were impacted by the ideas of their peers.

Learning Roles: Students are broken into small groups to complete a task, and each student is assigned a role (such as leader, notetaker, timekeeper, etc.). Each group works together to complete the task or project.

Peer Grading: Assign students to evaluate the work of their peers with a rubric or checklist.

However, the high level of verbal interaction and social interdependence required by cooperative learning strategies may not benefit all students equally. Teachers should also consider whether other student groups, such as English Language Learners, would require modifications or support in order to equally benefit from cooperative learning strategies. Yet, while ELLs are a student population who often receive modified instruction and assessment, unfortunately, introverted students rarely do. This is a problem, as they are a group of students whom this continuous level of communication may negatively impact.

Inquiry-Based Learning

A second pedagogical trend in the education field is an observable shift away from direct instruction and toward student-led learning, referred to as *inquiry-based learning.* Particularly popular in STEAM (science, technology, engineering, art, and math) education, inquiry-based learning has been posed as the solution to transforming students into young men and women equipped with the skills increasingly required by the global economy of the 21st century, including critical thinking, communication, and problem-solving.

In 1995, the National Research Council released the *National Science Education Standards,* which outlined the three skills that must be taught in order for a student to receive a holistic science education: knowledge of scientific concepts and principles, reasoning and procedural skills, and an ability to understand and apply the nature of science to new situations, which traditional, lecture-based instruction cannot impart; this created a need for inquiry-based practices to enter the American science classroom.

However, in 2013, there arose an even greater demand for inquiry-based learning: the release of the Next Generation Science Standards (NGSS), a rigorous set of K-12 science content standards developed by the national Research Council, National Science Teachers Association, and the American Association for the Advancement of Science designed to "shift the focus from merely memorizing scientific facts to actually doing science— so students spend more time posing questions and discovering the answers for themselves" (NSTA, 2014).

The Next Generation Science Standards are divided into three domains: *practices, core ideas, and crosscutting concepts.* While c*rosscutting concepts* builds students' understanding of a variety of scientific fields, including physical science, life sciences, and engineering, *science and engineering practices* teach students the inquiry skills employed by scientists and engineers as they explore the various scientific domains and *disciplinary core ideas* that characterize the nature of science (Next Generation Science). Therefore, in order to fully teach the national standards for science content, an educator must adopt inquiry-based practices.

To implement inquiry-based learning in a science classroom, the *5E Instructional Learning Cycle* is encouraged. According to Duran & Duran (2004), this is a five-step process designed to facilitate curiosity and student-centered discovery in K-12 science lessons:

1. *Engagement:* The initial step of the lesson functions as a pre-assessment, in which the teacher connects the lesson to students' prior knowledge about the topic and identifies any misconceptions they may hold. At this stage, students are also introduced to the topic of the lesson. Possible activities include completing a *KWL Chart* in which the class identifies what they already know about the topic and what they want to learn; the final column is completed at the end of the lesson to record what they learned.
2. *Exploration:* Students are engaged in a hands-on learning activity. They are encouraged to apply scientific skills, such as observation, hypothesizing, testing, and investigation. While the teacher remains available to guide students, the process is primarily student-led.
3. *Explanation:* Once the activity has been completed, students are reconvened, and the teacher provides a short lesson about what students witnessed during the *exploration* stage.
4. *Elaboration:* Students apply what they learned during the *exploration* stage, and the goal is to both reinforce and further their scientific understanding of the topic. At this stage, students are encouraged to

collaborate with their peers to share information and develop new methods of experimentation.

5. *Evaluation:* Students' learning is assessed through both formal and informal means. Self-assessment and peer-assessment are common forms of assessment, as well.

However, the Next Generation Science Standards are not the only set of national education standards that require educators to embrace inquiry-based practices in order for the standards to be taught with full fidelity. Similar to NGSS, the Common Core State Standards, published in 2009 to standardize mathematics and language arts education across America, are necessitating a shift in mathematics education toward a rigorous blend of conceptual understanding, procedural skills, and fluency (Common Core). Just as in science education, it is no longer sufficient for students to merely possess rote knowledge of mathematical facts and procedures; students must now understand *why* those facts are true, and they must also have the ability to apply their mathematical knowledge to novel, real-world scenarios. If the standards only directed the development of students' procedural fluency, or their ability to perform mathematical computations, lessons could be characterized by direct-instruction alone. However, conceptual understanding is now expected by the Common Core State Standards for mathematics education, which requires students to understand the *why* behind their computations and possess the ability to apply those skills to new problems. Therefore, it is no longer enough for students to listen to direct instruction and memorize their times tables, and inquiry-based learning is one solution to the need for novel instructional approaches. Frequently, lessons

designed to impart conceptual understanding contain student-led, discovery-based activities in which students are encouraged to apply a variety of mathematical strategies to a problem, typically with a partner or small group of peers, before the class reconvenes to discuss students' thinking.

Project-Based Learning

A form of inquiry-based learning, Project-Based Learning (PBL) is a student-centered approach that seeks to develop the higher-order thinking skills that students will need to be successful contributors to a 21st century world. According to the Buck Institute for Education's *PBL Works,* PBL is defined as, "a teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging, and complex question, problem, or challenge" (Buck Institute for Education). The projects range in duration from a week to an entire semester, during which students are exploring solutions for a real-world problem. The experience culminates with public presentations of their learning. PBL is designed to foster not only content knowledge, but also critical thinking, collaboration, creativity, and communication.

Despite the depth of PBL, it is a strategy implemented in K-5 environments with great success. According to Larmer of Buck Institute of Education in the article, "Debunking 5 myths about project-based learning" (2015), a common misconception surrounding PBL is that it can only be done with students at the middle or high school level. However, Larmer argues the opposite: although the unit may require a slightly different structure due to the age of children in elementary

school, all students are enriched by the meaningful activities of PBL. For example, PBL Works highlights a third grade class in San Jose, California, that engaged in a project to design "tiny homes" (Video: the tiny house project). Their teacher, Cheryl Bautista, invited architects to the classroom to share with students about creating "tiny home" blueprints, before members of the community visited to act as "clients" for which groups of students designed tiny homes. The unit was deeply integrated with technology, reading, math, and social studies, resulting in a collection of quality tiny home designs created by students themselves.

Similar to the way in which Johnson & Johnson (1989) are careful to distinguish collaborative learning strategies from mere group work, PBL Works identifies PBL as distinct from general school projects, clarifying key differences between the two. One difference is that, while most school projects are the culmination of a teacher-directed unit of learning, PBL is the unit of learning itself. Instead of students learning content from an instructor and applying their learning to a summative assessment, in the case of PBL, students learn, and apply their learning, through PBL simultaneously.

In comparison to inquiry-based learning, which most frequently aligns with STEAM education, PBL can be applied to nearly any subject that interests a whole class or individual student, including literature, history, physical education, world languages, and social studies. This ability to highly personalize student learning is one of the primary benefits of the PBL approach; PBL Works defines some of its other benefits as increased engagement, deeper learning, interaction with older individuals, exposure to careers, a sense of purpose, skills for success, strengthened

relationships between educators and their students, an outlet for creativity, and an opportunity to integrate technology.

PBL closely connects to two additional educational trends taking hold in educational spaces across the country: Genius Hour and Maker Spaces.

Teachers who implement "Genius Hour" devote an hour of class time to allow students to learn about the topic of their choice. According to A.J. Juliani, creator of the Genius Hour Master Course, "Genius Hour" is not synonymous with "Do Anything Hour." In order to achieve the outcomes desired by other inquiry-based approaches to learning, it is essential that teachers structure this time in a way that facilitates meaningful, student-led learning. In an interview with Jennifer Gonzalez, Cult of Pedagogy founder, Juliani provides the following example of how an educator could structure Genius Hour in the classroom:

> *Planning:* Set aside a consistent block of time to be devoted to Genius Hour. To realistically weave Genius Hour into already-full schedules, this time can be integrated with current units of study. For example, independent reading blocks could be used for research time, while writing assignments could be connected to students' projects as well.
>
> *Topic Selection:* Guide students in selecting a topic that piques their interest. The process and end result will depend on the age of students. In response to the question of whether this strategy will work with K-2 students, Juliani argues the following:
>
> > In K-2, it works really well. Now, the researching might look different. Maybe they're not reading to research. Maybe they're

> watching some presentations, they're watching videos, they're looking around the world, right? Their purposes may differ too. They may not want to build a video game or clone carnivorous plants…. The end products are going to look different. The presentations are going to look different. But their learning is going to be just as powerful in kindergarten, first, and second grade (Gonzales).

The Pitch: Lead students in creating a short explanation of their project, including their selected topic, reason for selecting it, and their plan for learning and creation. The rigor and independence of this step will depend on the age of students. Juliani recommends that pitches last no more than one minute.

Research, Learning, and Documentation: Students learn more about their topic and record what they learn. Juliani suggests that this stage be highly communicative, and that students share their learning with their peers though formats like YouTube or podcasting.

Making: After researching, students implement their learning to achieve their desired result and design their project.

Presentation: Students present their learning and final project to their peers. This presentation can take a variety of forms, including presentations, gallery walks, or wax museums.

Reflection: Students reflect on the entire experience, including what they learned and how they would approach the project differently next time.

Gamification

According to Gamify, a company that has partnered with large-scale companies like Dell, Wendys, and Nissan, to incorporate gaming elements into their marketing and media campaigns, *gamification,* or the "application of game-design elements and game principles in non-game contexts," is a trend shaping current campaigns in health, marketing, education, and social media alike (Walter, 2020). The most common elements of gamification include the following: establishing participant profiles, creating points-based activities, and ranking participants' scores on leaderboards.

To explain the motivation behind gamification, Gamify justifies their practices by pointing to eight core drives universal to humanity that are fulfilled through games: ownership; empowerment; accomplishment, meaning, unpredictability, scarcity, social influence, and avoidance of pain (Shannon, 2020). By creating and directing a character through a series of obstacles in order to minimize losses and achieve a goal, a player develops ownership over their decisions, an empowering position, which often leads to accomplishment and greater meaning. However, this is not without the unexpected twists and other challenges common to games, which drive the player to avoid the pain of loss and pursue victory, which is sometimes accompanied by social influence. In fulfilling these desires, games therefore become more than mere entertainment; they transform into motivational tools by which leaders, or teachers, can motivate those under them to engage, and succeed, in a variety of tasks that may not otherwise hold the same motivational power.

While technological advances in gaming may add a new depth of characteristics to the concept of gaming, Gamify suggests that the concept of gamification can be observed throughout history; for example, the game of chess was once a tool for teaching soldiers various strategies of war. Gamification has simply adopted new formats as the nature of popular games has shifted.

According to the International Society for Technology in Education (ISTE), there are several ways in which a classroom teacher can leverage gamification to increase motivation and collaboration in her classroom. In the article *5 ways to gamify your classroom,* ISTE's Haiken suggests strategies that lean particularly on the current popularity of video games with children in early elementary grades and beyond:

> *Play Traditional Games:* Although video games and other forms of social media are trending, traditional games can be just as motivating for children. Haiken suggests scavenger hunts, word games, dice games, and BINGO as possible mediums for learning content. Students are given tasks or challenges to complete, and these activities are centered around a specific subject area. For example, students might play a dice game to practice their addition skills or search for various forms of nature outside of the school building following a science lesson on habitats. It should also be noted that the article encourages partner and small-group formats for many of these games, in keeping with the collaborative learning trend.
>
> *Play Digital Games:* With similar justification as the previous suggestion, bringing digital games into instruction carries the additional

benefit of connecting to what many students currently enjoy: video games and other forms of social media. Platforms like *Quizlet* and the ever-popular *Kahoot!* provide opportunities for students to review their learning in a competition format by answering true or false, short answer, or multiple choice questions under a strict time limit. Whether individual students or groups of students compete, digital games are frequently a type of formative assessment and review in the classroom.

Design Quests for Students to Complete: As Haiken explains, "a question is a mission with an objective." In the classroom, this can take several forms, yet all have a few traits in common. First, like any quest, there must be an end goal that students are motivated to achieve. Also, there must be a series of challenges that students must complete in order to achieve the goal. For example, a teacher might establish a quest to encourage students to complete weekly independent reading logs in which every submitted log earns onepoint, and all students who accumulate ten points earn extra recess.

Earn Badges: Similar to quests, creating a badge system in the classroom rewards students for completing pre-determined challenges; however, the badge system has the potential to be more complex and last for up to an entire school year. Students complete a "profile" at the beginning of the badge activity, and they are informed of the various badges they have the opportunity to achieve; typically, Haiken points out, badges are only earned upon mastery of a skill or an activity, whereas the completion of a quest may not require a similar caliber of completion. As students earn badges, they

> create and add to a collection, whether physical — such as a folder that contains paper badges — or an online platform that tracks students' badges. It should be noted that both quests and badges could be established for either content or behavior-related goals; for example, while a student could earn rewards for demonstrating a certain writing skill, they could also earn rewards for consistently displaying kindness or other desired behaviors.

Social Emotional Learning

Social Emotional Learning (SEL) is an educational approach currently influencing the instruction and behavior management strategies of K-12 environments in several ways. According to CASEL, the Collaborative for Academic, Social, and Emotional Learning, which introduced the term *Social Emotional Learning* twenty-six years ago, the most recent definition of SEL, as of December 2020, is as follows; CASEL has added the importance of leveraging SEL to promote equity to its definition of the practice. :

> Social and emotional learning (SEL) is an integral part of education and human development. SEL is the process through which all young people and adults acquire and apply the knowledge, skills and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions. SEL advances educational equity and excellence through authentic school-family-community partnerships to establish learning environments and experiences

> that feature trusting and collaborative relationships, rigorous and meaningful curriculum and instruction, and ongoing evaluation. SEL can help address various forms of inequity and empower young people and adults to co-create thriving schools and contribute to safe, healthy, and just communities (Niemi, 2020).

According to CASEL, while SEL can take many forms, depending on the setting in which it is being implemented and the developmental stage(s) of the children receiving the education, SEL focuses on developing five core-competencies in students: self-awareness, self-management, social awareness, relationship skills, and responsible decision making (Sel is...).

A significant amount of research supports the implementation of SEL in K-5 educational environments. Durlak and Mahoney of Loyola University Chicago and University of Wisconsin-Superior, respectively, present the effects of SEL in their CASEL brief, “The practical benefits of an SEL Program” (2019). After conducting a large-scale review of 295 studies that assessed the impact of SEL programs on students either at, or after, the conclusion of the program, the results conclude that adopting an SEL program would have the following impact on students: 27% would improve academically, 57% would gain in their skills levels, 24% would display increased social behaviors and less distress, 23% would experience an increase in attitude, and 22% would engage in fewer problematic behaviors. Similarly, a 2015 review from Columbia University found that, after examining six evidence-based SEL programs, the average return on investment for such programs is 11 to 1

(Belfield, Bowden, Klapp, Levin, Shand, & Zander, 2015). Yet the benefits of SEL programs are not limited to academic or economic; according to a 2015 study published by the *American Journal of Public Health,* "Early social-emotional functioning and public health: The relationship between kindergarten social competence and future wellness," kindergartners who participated in SEL programs were less likely to live in public housing, receive public assistance, or spend any time in a detention center or jail (Jones, Greenberg, & Crowley, 2015). There are clear reasons to implement SEL in a K-5 classroom setting.

Because SEL is an umbrella term for all forms of education which promote the above competencies, it is difficult to comprehensively address the ways in which SEL occurs in the typical elementary classroom setting. In the article "25 simple ways to integrate Social-Emotional Learning throughout the day" (2021), Mulvahill of *We Are Teachers,* a popular online resource for educators, suggests the following, which encompass many of the SEL trends apparent in current K-5 classrooms:

> *Morning Meetings and Closing Circles:* This is a practice in which the teacher designates the initial and final moments of the school day — from five to fifteen minutes — to check-in with her students on a variety of topics. The format is flexible, and, while it will vary depending on the teacher and her style of instruction, morning meetings and closing circles for an individual classroom may also vary from day to day depending on the unique needs of the students at that moment. Common activities include answering prompts about what is going on in students' lives outside of school (e.g.

"What was your *high* and *low* of this week?"), or purely fun questions designed to build classroom community and begin or conclude the day on a positive note (e.g. "What is your favorite flavor of ice cream?").

Selecting Quality Children's Literature Designed to Teach Specific Social-Emotional Skills: Books are frequently considered an excellent way to spark quality discussion in a classroom about topics that may otherwise be more challenging to address otherwise. After reading the text aloud, teachers can ask students' thoughtful questions and use these times as meaningful teaching moments. Topics can range from the importance of diversity and inclusion (titles such as *All Are Welcome,* by Alexandra Penfold) to first-day of school nerves (addressed by *The Day You Begin,* by Jaqueline Woodson) to minor classroom behaviors like "blurting" without raising one's hand (tackled by *My Mouth is a Volcano* by Julia Cook).

Clearly Teaching, Modeling, and Practicing Social Skills: Particularly at the beginning of the year, teachers set aside time to directly teach the desired behaviors of their classroom. The skills can range from individual actions— such as how to listen well when the teacher is talking or the expectations surrounding partner work— to the desired behavior of daily classroom procedures— including how to line up at the door for recess or how to sit at the carpet. While these can be taught in a variety of ways, many educators initially model the desired behavior and then present scenarios that require students to apply the newly taught skill through role play with peers. Often, teachers create anchor charts, or large posters that summarize a topic and

visualize it with illustrations, and display them on the classroom walls throughout the year.

Teach Students The Zones of Regulation: According to Kuypers, creator of The Zones of Regulation, "the Zones of Regulation creates a systematic approach to teach regulation by categorizing all the different ways we feel and states of alertness we experience into four concrete colored zones." This approach segments the wide range of emotions an individual could experience into four zones: *The Red Zone,* which encompasses uncontrollable anger or fear; *The Yellow Zones,* which summarizes heightened, yet still controllable, emotions, such as frustration or nervousness; *The Green Zone,* which encapsulates the ideal emotions for learning, including contentment and focus; and *The Blue Zone,* or feelings such as boredom or exhaustion that impede learning. Designed as a metacognitive tool to empower students to identify, and eventually regulate, their emotional state, the Zones of Regulation are often compared to a traffic light, in which green means *go,* yellow means *be careful,* and red means *stop.* The Zones of Regulation can be used to support SEL instruction in a variety of ways; a common method is creating a color-coded visual of the Zones of Regulation upon which students can place and adjust a print-out of their name to indicate their emotional state and whether they would require the support of a teacher to regulate.

Create a Calm-Down Corner in the Classroom: Frequently partnered with the concept of the Zones of Regulation, "calm down corners" are a physical space in the classroom dedicated to support students in their effort

to self-regulate. While the contents of a calm down corner will depend on the teacher's access to resources or the grade level of her students, common components of a calm down corner include noise-cancelling headphones or similar access to music; books; sensory items, such as sand, fidget spinners, or playdough; and hourglass timers students can set to monitor their time spent in the space. Often, a calm down corner will include a poster of the Zones of Regulation which a student can—either independently or at the direction of their teacher—identify their current emotional state.

Analysis of Current Educational Trends

As discussed in the previous section, research reveals the merit of the five highlighted approaches to pedagogy and behavior management. However, what benefits the majority of students is not guaranteed to meet the educational needs of every student; currently, introverted students in traditional K-5 classroom settings is one population that will not be equally served by many of the present trends. In the following paragraphs, each of the six approaches will be analyzed in light of the characteristics of introverted students established in previous sections. Recommendations for modifying these approaches, along with additional strategies that would support the needs of introverted students, will follow.

Cooperative Learning

In both their cognitive and social behaviors, an introvert may appear hesitant to connect with a group, which Jung describes as a desire to protect themself from the "overpowering influences" of external factors (5). This resistance of fully engaging with the world around them is an essential part of of an introvert's identity, as Jung's very definition of *introversion* revolves around this pattern: in *Psychological Types,* Jung defines introversion as "a movement of interest away from the object to the subject and his own psychological processes"' (4). Contrasting their extroverted peers, who are more attuned to the physical environment, introverts are naturally oriented toward their inner world. As a result, they may struggle to quickly, and consistently, actualize their ideas with the ease of their more extroverted peers.

Comparable to their inward mental orientation, introverts tend to exhibit withdrawn behaviors in their interactions with others in social and work settings alike. They typically prefer one-on-one interactions in social settings and regularly seek solitude, because introverted people typically experience fatigue after extended periods of socialization without interruption. Similarly, in work environments, as explained by Cain (2012), introverts prioritize independent assignments and prefer a slower, more deliberate pace of work, which may also be tied to their slower rate of transforming their ideas into reality. In discussions, introverts are known to consider their words longer before speaking and communicate more effectively in writing than speech, particularly when impromptu speaking is required.

The withdrawn nature of an introvert's mind and personality present several challenges to the current types of cooperative learning activities. Cooperative learning is defined as a group task that requires the meaningful contribution of all members in order for the group to achieve its goal. While it may take many forms in the classroom, Johnson and Johnson, in *Cooperation and competition: Theory and research* (1989), explain that any cooperative learning activity must facilitate positive interdependence, individual and group accountability, promotive interaction, appropriate use of social skills, and group processing.

Cooperative learning does not inherently require high levels of socialization, as collective striving toward a common goal could be achieved in a variety of ways; as will be discussed in the following section, teamwork does not necessitate constant, face-to-face interaction, and meaningful work and communication can

occur over a longer period of time and in a variety of formats. However, many of the currently popular forms of collaborative learning are highly social in nature, which is to say that, while an introvert will not categorically struggle to participate in all forms of cooperative learning, today's approach to cooperative learning is not well-suited to the nature of an introvert. As evidence of this, four of the six cooperative learning strategies highlighted in the previous section require students to immediately, and verbally, collaborate with a group of peers in a discussion-based format. While that is by no means an exhaustive review of cooperative learning in current K-5 classrooms, it provides a snapshot of current trends and reveals a heavy emphasis on a pattern of socialization that is not naturally suited to children who require time to actualize their ideas and prefer to work either one-on-one or independently. For example, in both *Numbered Heads Together* and *Jigsaw,* students are expected to immediately discuss a prompt or reading with their classmates upon its introduction, and the activity concludes with either verbal sharing in front of the whole class or verbal sharing with a completely new group of peers. If a student does not engage with their peers through verbal participation, they cannot satisfactorily complete the activity; there is no other option for engagement or participation. In the provided sample of collaborative learning activities, only two formats allowed students to engage in writing rather than speech.

In reviewing the requirements of a cooperative learning activity as defined by Johnson & Johnson, each of these requirements—positive interdependence, individual and group accountability, promotive interaction, appropriate use of social skills, and group processing—could be met in a way that allows introverts to

participate in the format and speed that best suits their learning style. The issue is not cooperative learning itself; rather, problems in cooperative learning activities will ultimately arise or disappear for introverted students in accordance with their teacher's definition of *participation.*

When *participation* is defined as immediate verbal discussion in group formats, students are asked to engage with activities like *Numbered Heads Together* where they are presented with a false dichotomy of participation: talk immediately with your peers after receiving a prompt and then speak your thoughts to the entire class or remain silent and add nothing to the conversation. Vis-à-vis this definition of participation, which is all too common in K-12 classrooms, the typical behavior of an introvert would be considered distant and disengaged. Yet unfortunately for introverts and other students for whom participation may fall outside of this narrow definition, they are often presented with no choice but to engage with activities in such an unnatural manner. As explained by Klein and Riordan of Cain's *Quiet Revolution* in the article "Participation penalizes quiet learners," it is not uncommon for a up to 25% of a student's final grade to consist of their teacher's analysis of their participation in class, meaning that any student who wishes to earn a high score in a class must mold their behavior to match the *Extrovert Ideal.*

However, if a teacher allows for a greater variety of participation modes, as will be discussed in the following section of recommendations, collaborative learning activities could limit an introverted student's ability to express their thoughts and interact with their peers in a way that reflects their full potential. Unfortunately, as students advance through the grades, participation grades become

a tool for measuring a student's level of participation in the classroom; unfortunately for introverts, a teacher with a limited definition of *participation* could quickly penalize introverted students' report cards for their lack of verbal engagement, even if their mind readily engages with the content.

Inquiry-Based Learning and Project-Based Learning

Introverts thrive in academic settings that allow them to work independently. When tasked with an independent problem-solving task, research has proven introverted students in elementary grades to consistently employ cognitive learning strategies—or intentional, specific approach, technique, or action, either physical or mental, that are learner-directed, problem-oriented, and goal-oriented (Kayaoglu, 2013). Similarly, in these self-guided learning environments, introverted students are more likely to opt for interacting with their instructor over collaborating with their peers (Kayaoglu). This matches Cain's (2012) assertion that introverts seek solitude and typically prefer one-on-one, or small group, interactions. While capable of working and socializing in larger groups, many introverts function best, and self-manage successfully, when given the opportunity to operate independently.

Inquiry-based learning, or student-led learning, is most common in STEAM education and regarded as a method for transforming students into young individuals equipped with the skills increasingly required by the global economy of the 21st century. It typically follows a series of pre-established steps that walk students from the exploration of a topic to the presentation of their ideas, placing a

heavy focus on the application of previously new information to new, real-world environments. PBL is a type of inquiry-based learning, which is why the two will be discussed jointly in this section.

At face value, the independent nature of inquiry-based learning is incredibly well-suited to the introverted student. However, in its efforts to prepare students for the 21st century workforce, it must be remembered that, unfortunately for introverts, Western society increasingly embraces the *extrovert ideal,* which is one of the reasons that, unless carefully designed, inquiry-based learning assignments may not naturally suit introverted students. This likelihood is further increased by the way in which many inquiry-based assignments embrace a dichotomous definition of *participation* similar to the one commonly found in collaborative learning activities; in application, it is heavily influenced by the collaboration style of cooperative learning, which demands high levels of socialization and teamwork in order for students to complete the activity successfully. In light of this, it makes sense that research has revealed introverts in elementary grades to display less positive attitudes and lower self-efficacy, interest and engagement toward science (Hong & Lin, 2011); while there is no reason to believe that the issue itself is the content area of science, the current structuring of science classes, particularly the heavy emphasis on partner work, is the issue.

Inquiry-based learning is closely tied to Lev Vygtosky's (1978) theory of social constructivism. A variation of John Piaget's theory of cognitive constructivism (1968), or the belief that knowledge is actively constructed by the learner as they build upon their preexisting schemas of knowledge, social constructivism views the

process of learning as a collaborative act in which the learner, through interacting with others, exchanges information and becomes a member of a knowledge community. According to William K. Lawrence, Ed.D., in *Learning and personality: The experience of introverted reflective learners in a world of extroverts* (2015), social constructivism has "dominated the sphere of teacher education prep programs and publications for decades" (6), replacing direct instruction with inquiry-based, hands-on approaches that are implemented through extensive amounts of group work. While Lawrence acknowledges that constructivism remains a respected educational theory with multiple strengths—including the fostering of collaboration and other key social skills—he argues that the degree to which the current education system relies upon its methods is problematic. Lawrence claims that, "within the movement of Constructivism, the argument for active learning has developed into a false dichotomy of active learning or no learning" (7). Pedersen and Liu (85) also reference this dichotomous thinking in their article *Teachers' beliefs about issues in the implementation of a student-centered learning environment:* student-centered learning is often considered the opposite of teacher-centered approaches (as cited in Michael, 2006, 160).

The issue is not emphasizing active learning, as research has repeatedly indicated the benefits of active learning strategies in the classroom: interactions between instructors and their students provide increased opportunities to help students create mental models for connecting newly learned information to previous schemas, uncover and correct students' misconceptions about a topic, and allow students to practice new skills and receive feedback on their performance

(Michael, 2006, 160-161). However, insisting that active learning is the only way for learning to occur in the classroom—and, more specifically, that active learning consists almost exclusively of real-time social interaction between students—poses a dilemma for children who do not learn best in this format, and introverts are one of the student populations placed at a disadvantage by this school of thought.

Yet unfortunately for these students, many current educational trends are deeply rooted in social constructivist theories. According to the Public School Review's article *What are the Top 5 Trends in Elementary School Education?* collaborative learning has been embraced by many schools (Barrington, 2019), and several of the top strategies and program designs championed by the education field are evidence of this.

In his critique of social constructivism, *Why I am Not a Constructivist* (2004), Dr. Clifton Chadwick, who has devoted much of his career to studying metacognition and other cognitive strategies, acknowledges that, while constructivism is a broad idea under which many variations may fall, social constructivism is based upon the idea that people cannot independently understand reality and must therefore discover, negotiate, and settle upon truths with other individuals in a social context. Therefore, the theory rejects the acquisition of knowledge through direct instruction in favor of learner-centered, hands-on approaches. One argument in favor of social constructivism went so far as to say that, "objective knowledge leads necessarily to to a didactic or 'banking method' (i.e., passive) of teaching in which students are mental pastry shells waiting for an epistemic filling" (as cited in Chadwick, 2004, 48).

Inquiry-based learning could be incredibly well-suited to introverts and their more inward-orientation toward their thought life; PBL in particularly could provide introverted students with enough consistent portion of independent work time built into the typical school day that not only could their need for social solitude, in order to "restore" their energy levels, be met, but their rich inner thought life and skills for working independently could be brought to life, as well. Unfortunately, current approaches to inquiry-based learning push for a level of socialization that strips inquiry-based learning of the potential benefits it holds for introverts.

Gamification

Building and maintaining student engagement is a frequent discussion in the educational community. Yet what motivates one student may repel another, depending on a student's unique identity as a learner. Many factors will contribute to what motivates a student to work diligently in the classroom, one of which is introversion.

Introversion impacts the wants and needs of an individual, giving introverts a unique set of intrinsic and extrinsic motivations. Research shows that introverts are less socially motivated (Fishman, Ng, & Bellugi, 2011), which explains their preference for either small group or independent socialization. Similarly, Jung (1921) himself defined *introversion* in terms of motivation, asserting that introverts are far less oriented toward the external world, whereas their extroverted counterparts draw energy from the stimuli and rewards embedded in their

surroundings, and therefore pursue them actively. Cain (2012) reinforces that extroverts place a far higher value on environmental rewards, like status and money, than do introverts.

Game-Based Learning is one tool currently used in the elementary classroom with the goal of increasing student engagement. To connect to what entertains students outside of the classroom, GBL teaches content through a game format, influencing both the process and the product of learning. Teachers who incorporate GBL into their instruction as a motivational tool not only structure their lessons in a way that mirrors a gaming format—for example, the creation of "challenges" and "badges"—but they also incentivize students to complete these challenges and badges by rewarding students who successfully complete them.

Like cooperative learning and inquiry-based learning, GBL is, upon face value, a strategy that could effectively motivate introverted students to work effectively in the classroom. However, what works in theory is not automatically successful in practice, and GBL's ability to incentivize introverted students in the elementary classroom will depend upon the extent to which an educator requires students to work in highly interactive groups or rewards successful students with social rewards. Insisting that students complete challenges in activities similar to those discussed in the section on cooperative learning that leave introverts with little option besides immediate verbal participation in a group setting will do little to motivate an introvert; this is supported by a 2018 study that indicates that, in elementary classrooms, while students' performance in GBL activities is not impacted by their introversion, their motivation to participate in the activities was

lower than that of their extroverted peers (Traditional games in elementary school: Relationships of students' personality traits, motivation, and experience with learning outcomes, 2018). Similarly, some of the rewards commonly given to students in elementary classrooms would do little good to motivate an introvert to achieve, including a class dance party, loud group games, or playing fun music in the classroom while students work.

Social Emotional Learning

While certain trends present several problems when considered in light of teaching introverts, other popular approaches carry great benefit for this student population. SEL, a broad umbrella under which many topics fall, is a form of education that is implemented to develop students' self-awareness, self-management, social awareness, relationship skills, and responsible decision making, preparing students to be socially and emotionally healthy children, teenagers, and, someday, adults who can face the challenges of life with intelligence and resilience. In light of this, there is not a single student who would not benefit from SEL education; the effectiveness of SEL merely depends on its applicability to a student's unique identity and areas for growth.

Considering the unique characteristics of introversion, there are several topics in which introverted students could benefit from receiving SEL support. While introversion is not a social "issue" to be fixed, it remains true that introverts must learn to thrive in a world currently tied to the *Extrovert Ideal.* Despite the research shows that introverts have a lower neural response when shown pictures

of human faces (Fishman, Ng, & Bellugi, 2011) and prefer socializing in small groups or one-on-one settings , introverts, like all individuals, must still function in settings—in the classroom and outside of it—that go against their natural tendencies. Introverted children would likely benefit from additional socialization support in several ways, which will be discussed more in the following section.

Recommendations

Many of the instructional approaches currently embraced by the educational community are not suited to the needs of introverted students; however, that is not to say that these trends must be discarded and replaced by entirely new strategies. The key to embracing quiet voices lies in a skillset the educational community already possesses: its championing of *differentiation.* Differentiation is the art of adapting instruction in such a way that every student in the class is provided with a meaningful, challenging education. It is implemented not by overhauling a lesson or creating a different lesson for each student in the class; rather, differentiation happens when an educator considers the unique set of strengths, needs, and experiences of every child and either adapts or supplements instruction with this information in mind. Depending on a student's needs, differentiation may be needed in the *process* of a lesson-- the activities in which students are asked to engage throughout the lesson-- or the ultimate product of the lesson-- what students are expected to create as a result of their learning.

With this in mind, the following section provides examples of ways in which cooperative learning, inquiry-based learning, project-based learning, game-based learning, and social emotional learning could be differentiated to best support introverted students, followed by a set of additional considerations. This is by no means an exhaustive list of strategies for teaching introverts in the elementary grades; rather, it is a set of recommendations designed to model the process of differentiation with the needs of introverted students in mind.

Cooperative Learning

A cooperative learning activity will either encourage or silence the voices of introverted students in accordance with its definition of participation. Below, I discuss strategies for differentiating cooperative learning activities to accommodate the natural participation style of introverts.

Positive Interdependence & Individual and Group Accountability

The goal of promoting positive interdependence, individual accountability, and group accountability is to motivate students to pursue the success of their peers, as a student's individual success relies on the meaningful contributions of their peers. While this intense interconnectedness with a group of peers could pose a challenge to introverted students, an educator can minimize this by asking the following questions when creating a cooperative learning activity:

- *What is the ultimate learning goal of this activity? What do I want students to know and be able to do?*
- *What are the various steps that will need to be taken in order for this activity to be accomplished? Are there roles that could be assigned to group members to ensure that all steps are taken?*
- *What are the steps or roles that would allow introverted students to use their unique giftings to demonstrate their learning and participate in meaningful ways?*

Once the learning goal has been identified, acceptable modes of participation can be established. Unless the learning goal involves facilitating face-to-face social interactions, teaching verbal discussion strategies, providing public speaking

practice, or creating a similar activity that would require students to verbally interact with their peers, an educator should be able to identify several ways in which students could engage with the activity while still meeting the learning target. For example, if students are expected to identify the plot of a read aloud, consider allowing them to also demonstrate their understanding of the story components by writing their answers onto an activity sheet or individual whiteboard, or by drawing labeled pictures of the plot, instead of only allowing them to share their thoughts through group or whole-class discussion.

As a student teacher, I discovered that one of the quickest ways to increase student participation and facilitate students sharing their thoughts was to expand the ways in which they could contribute. When I began to look beyond raised hands as an indication that students had ideas to share, I was amazed by the wealth of knowledge in students waiting to be revealed. In addition to amplifying the voices of quiet students in class discussions, I found that students who were quick to share openly with the class were able to develop their ideas significantly more when encouraged to pause and write or draw instead of immediately talk to the class. There are a variety of ways that students can meaningfully share their thoughts, and an educator can consider implementing the following strategies for creating discussion environments conducive to the thought processes of introverts:

- *Provide sufficient wait time:* This applies to group work, too. Silence does not always indicate an unwillingness to participate; an introvert's reluctance to share may simply be due to the fact that they have not had enough time to formulate their thoughts. Instead of expecting students to immediately turn

and talk to their group, provide them with time to think. Even ten seconds could help introverted students process their thoughts and prepare to actualize their ideas with their peers, which, in turn, may facilitate their participation in class discussions.

- *Implement "think-pair-share": Think-Pair-Share* is a discussion strategy frequently utilized in elementary classrooms to maintain whole class engagement and avoid losing students' attention; however, it may also provide a more comfortable discussion environment for students who would otherwise feel uncomfortable sharing their thoughts with the whole class. *Think-Pair-Share* is a quick, three-step process: after posing a question to the class, provide silent wait time for students to generate their answer; then, instruct students to form groups of two or three students and share their answers with their peers. The discussion strategy ends with the whole class convening and a few students sharing their thoughts with the group.
- *Provide discussion supports:* Particularly for younger grades, consider providing a prompt or sentence frame that students could respond to on their paper or whiteboard.. Like wait time, this may increase introverts' engagement, simply because it provides them with a starting point for discussion. As a student teacher, I found this to be another strategy for significantly improving the participation of many student populations in the classroom. For example, not only does it encourage the sharing of quieter students, but it also supports English Language Learners, or students who

may struggle in the content area, as they share their thoughts with their peers.

- *Welcome a variety of communication formats:* As discussed previously, encourage students to demonstrate their thoughts in mediums beyond verbal sharing alone. This does not have to be a time-consuming activity; if students have a piece of paper or a whiteboard at their desk, provide them with even twenty seconds to work their thoughts out in pictures, writing, or a combination of both before sharing with a group.
- *Experiment with non-verbal discussions:* Consider allowing students to communicate their thoughts in a variety of ways at multiple points of the cooperative learning activity. While this could be done before the group begins meeting, it could also occur during the meeting or after the meeting. For example, consider facilitating partial or entire group interactions that do not involve any verbal discussion. An excellent example of this would be the *Round Table* or *Cooperative Graffiti* activities mentioned previously, which require students to communicate and collaborate on shared pieces of paper.
    - To continue this nonverbal sharing of ideas after the groups conclude their meeting, a gallery walk would be an excellent way to allow individuals or groups to share their ideas in nonverbal ways. In a gallery walk, student work is displayed at students' workspaces or on the walls of the classroom, and students are instructed to walk around the room and look at the ideas of their peers. This can be done as a

whole class, with the teacher guiding students from station to station, or groups of students can walk around the room together.

- *Integrate Technology:* The shift to online and hybrid models of learning in light of the COVID-19 pandemic has led to the development of synchronous and asynchronous learning tools that allow students to communicate despite distance, and many of these platforms would create opportunities for groups of students to collaborate in ways beyond the traditional face-to-face verbal discussion. Provided that all students have access to a technological device, such as a laptop or an iPad, the following platforms could be excellent tools for facilitating group interaction in formats that would suit the needs of introverted students:
    - *Jamboard:* Jamboard is part of the Google Suite collection that is free for any Google account holder. Similar to Google Slides or PowerPoint, a teacher can create a series of slides that each have a prompt or question for students to answer. Students answer by creating a virtual "sticky note" on which they type their answers before leaving the sticky note on the slide. Students' contributions can either be attributed to them or remain anonymous as either small groups or the whole class contributes to the discussion.
    - *Flipgrid:* Flipgrid is a free app that facilitates class discussion through either video or text. A teacher can create a "room" for a whole class discussion or several rooms for small groups. Each participant receives a unique code to join the room, at which point they will see

their teacher's prompt in either video or text, depending on the teacher's choice. Students then have the option to leave their own video or text response, which the whole room can view. Students then have the option to respond to their peers' ideas with video or text, allowing an entire discussion to take place while still allowing the "think time" that an introvert may need in order to contribute their ideas.

    - *Padlet:* Padlet is very similar to Jamboard, yet instead of responding on individual slides, there is one large "board" onto which students type their responses; they may also upload pictures, which would allow for students to demonstrate their ideas in a variety of ways. Padlet also provides students with the option to respond to their peers in writing or through uploaded pictures, which could easily facilitate class discussion.

- *Assign group roles:* In many K-12 classrooms, it is common for teachers to assign roles to each student for a given activity that clearly outline the activity's expectations as a classroom management tool, even if the lesson is not officially a cooperative learning activity. Once the learning goals have been identified, consider the variety of jobs that could be assigned to students in order for the task to be completed successfully. Common roles include the following:
    - *Discussion Leader,* whose job is to facilitate the discussion by asking a series of teacher-provide prompts

- *Time Keeper,* who ensures that the group remains on task
- *Note Taker,* who scribes the group's ideas onto paper or another activity sheet
- *Artist,* who creates a drawing or other piece of art to represent the group's ideas
- *Reporter,* who shares the group's ideas with the whole class.
    - In addition to assigning roles to introverts that would allow their strengths to contribute to the group's success, consider adding additional roles that would particularly allow introverts to shine. For example, if students are discussing new topics in a science lesson, a *researcher* could look through provided resources to find additional information on the topic; similarly, in a literacy activity, a *quote finder* could look through a book for specific lines that would connect to what was being discussed; and a *connector* could draw meaningful connections between the prompt and what the class was learning about in others areas.

- **Inquiry-Based Learning and Project-Based Learning**
    - Many of the recommendations for differentiating cooperative learning are applicable to inquiry-based learning opportunities, as well. As discussed in the previous section, the concept of inquiry-based learning is ideal for introverted students for several reasons; it is only the influences of the *Extroverted Ideal* that may require modification

in order to better suit introverts. Primarily, teachers may want to consider their expectations for collaboration during inquiry-based activities by asking themselves the same questions that can guide the process of differentiation cooperative learning:

- *What is the ultimate learning goal of this activity? What do I want students to know and be able to do?*
- *What are the various steps that will need to be taken in order for this activity to be accomplished? Are there roles that could be assigned to group members to ensure that all steps are taken?*
- *What are the steps or roles that would allow introverted students to use their unique giftings to demonstrate their learning and participate in meaningful ways?*
    - Upon consideration of these questions, teachers can consider the following strategies for adapting inquiry-based learning activities with their introverted students in mind:
- *Combine group work and independent work:* Unless the learning goal requires constant collaboration between students, consider providing students with a combination of group and independent work times. It is important to consider that, just as introverted students cannot expect to always work alone, extroverted students would also benefit from regularly developing their abilities to work independently, as well.

    - When expecting group collaboration, implement the strategies mentioned above to better suit these activities to introverted students.

- *Make group work optional:* Again, unless the learning target necessitates collaboration, consider providing students with the option to work together or independently. This provides both introverted and extroverted students with the work environment that suits both of their natural habits.
- *Broaden presentation options:* Inquiry-based learning, specifically project-based learning, emphasizes the importance of students presenting their knowledge. Before requiring every student to deliver a traditional presentation in front of the whole class, consider alternative presentation methods that still allow them to fully convey the scope of their projects and the final product they created. Despite the argument that introverts must be prepared to enter a workforce dominated by the *Extrovert Ideal*-- which is true-- the nature of presenting ideas in the 21st century must also be considered. Taking into account the shift toward digital communication formats, including YouTube videos, podcasts, and social media posts, provide students with a range of presentation options from which to choose. Below are a few examples of platforms that could provide alternative presentations:
    - *Screencastify:* This free screen-recording website allows students to narrate a PowerPoint, following a more traditional style of presentation in which the presenter speaks while showing a set of slides, giving students the opportunity to record their speech and play

it to the class, or post it on a classroom blog or other safe website accessible to the instructor and students. This option may minimize the nerves typically associated with public speaking while still providing students with the opportunity to practice more traditional forms of public speaking. *Screencastify* also provides the option to record the speaker via a webcam and display the video in a corner of the recording, which would allow students to still practice the body language of recording.

- *Pecha Kucha: Pecha Kuch*a is similar to *Screencastify*, as both are free websites with which students can create narrated PowerPoints. However, *Pecha Kucha* is unique in that it restricts users to showing 20 slides and remaining on each slide for 20 seconds each, giving students a unique challenge to remain clear and succinct in their public speaking. This would provide an introvert-friendly public speaking challenge to older, more experienced public speakers.
- *YouTube:* With all of the creativity evident in today's media, students could create and publish *YouTube* videos, either publicly to the internet or privately to the class alone, in which they present and explain their findings. The benefit of this option is the ability to integrate content with technology and build students' 21st century communication skills.
- *Blogging:* Although less cutting-edge, blogging is a strategy that allows students to fully communicate their thoughts in a combination of

writing or images, which, as discussed earlier, is ideal for introverted students. Blogging could be used in a variety of ways. In younger grades, a teacher could create a single, private classroom blog to which students post. In older grades, students could create their own blogs which they either post to throughout the year as directed by their instructor or utilize to document their findings throughout the course of one project. Similar to *YouTube,* blogging cultivates students' online communication skills. Also, if students have access to each other's posts, even young students can provide feedback to each other, creating opportunities for classroom dialogue outside of the traditional verbal discussion.

Gamification

Increasing student engagement is a common goal among educators of all grade levels. Although current gamification trends are structured to better incentivize extroverted students than their introverted peers, the concept of motivating students by considering what might drive students and creating game-like processes with this in mind is an excellent concept; one must simply consider if all students would be equally driven by the same activities and rewards, because, as previously established, introverts and extroverts are not identically motivated.

An educator must first consider the types of activities a gamified lesson contains and whether these aspects-- whether badges, challenges, or another game component--- are as suited to introverted students as they would be to the rest of

the class, paying particular attention to the use of grouping strategies and student collaboration. However, as recommendations have already been provided for facilitating group work with introverts in mind, in this section I will discuss the rewards that are more likely to motivate introverted students to participate in gamification in the elementary grades.

A primary difference between introversion and extroversion is orientation toward the environment; while introverts are typically more oriented inward, extroverts demonstrate a greater orientation toward the physical environment and subsequently a greater interest in the things of the environment, particularly its social rewards. Whereas social interaction is an excellent motivator for extroverted students, who would typically be incentivized to work toward an exciting class party or group game, introverts will tend to be motivated by rewards that recognize their inward orientation.

This does not mean that all social rewards must be discarded, because it is incredibly important that extroverted students are also rewarded for achieving their goals. For this reason, rewards that provide student choice are an excellent solution for honoring the preferences of both introverted and extroverted students. Below are a series of ideas that could help educators achieve this balance:

- *Free choice time:* Instead of creating rewards that force all students to complete the same activity, consider providing students with a set amount of free time during which they may choose from a variety of activities that they would find enjoyable. To maintain classroom management, a teacher-approved list of activities from which to choose could be provided. While

introverted students could read a book, draw, or talk one-on-one with a friend, more extroverted students could play a group game or any other activity they would enjoy.

- *Extra recess:* If allowed at the school, extending recess by several minutes allows all students to continue engaging in the activities they enjoy during free-time. Whether organizing tag or quietly coloring with chalk, unless there are students in the class who struggle to enjoy recess, this is an activity that provides students with a similar level of choice, increasing the likelihood that the reward would be rewarding for introverts and extroverts.
- *A combination of group and individual rewards:* Considering an introvert's typical preference for individual or one-on-one socialization, an educator may find introverted students to be less motivated to achieve whole-class rewards if they find less identity in the entire class than they do individually or with small groups of peers. If group rewards are more choice-based, this may lessen. However, a teacher may want to consider balancing whole-class rewards with individual incentivization strategies, as an introvert may be more motivated to work toward individual goals that do not result in group rewards at all.
- **Social Emotional Learning (SEL)**
    - All students benefit from a social emotional education, and introverts are no different. The goal of SEL is to help students "develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive

relationships, and make responsible and caring decisions" (Niemi, 2020). When considering the unique needs of introverts in elementary grades, particularly as they begin to navigate a world that currently embraces the *Extrovert Ideal,* there are several ways in which SEL could be particularly beneficial for introverted students:

- *Teach group work and socialization strategies:* SEL is a broad umbrella under which many forms of education fall, including the direct teaching of social skills. Because introverts naturally gravitate to independent work, while they are equally capable as their extroverted peers of positively participating in group settings, they may require greater support in learning how to collaborate. When one considers that elementary-aged introverts will someday enter a work force-- and world-- where they are expected to meet the *Extrovert Ideal*-- preparing them with the ability to contribute to group settings is crucial.
    - There are several ways this instruction could take place, and none of it must be targeted at introverts alone. Particularly in early elementary grades, most students will need support and practice in learning how to collaborate with others-- including the sharing of ideas, agreeing, and disagreeing-- in healthy ways. For this reason, it is not uncommon for teachers to create very clear expectations for group work at the beginning of the year; teachers of introverts may simply want to pay

particular attention to their introverted students and assess whether they require additional support.

- While introverts may not need guidance in learning to listen to the ideas of the group or disagree respectfully, they will likely need support and practice in learning to speak up and voice their thoughts to the group. One primary way that elementary educators teach social skills to students is through the use of sentence frames and role playing:

- *Sentence frames* provide students with a "formula" or structure into which they can place their unique thoughts. They are an excellent strategy for initially supporting students in practicing a skill, and eventually they may be removed when students are able to exercise the skill independently. Examples of sentence frames that could be used to teach introverts how to share their thoughts with a group include:
  - *"I think _____."*
  - *"I think _____, because _____."*
  - *"I agree with _____, because I think _____."*
  - *"I disagree with _____, because I think _____."*
    - To teach the use of sentence frames, create a clear visual display, whether written on a whiteboard or onto a classroom poster. Introduce them to students and explain their purpose, then read them out loud with

students before beginning an activity in which students are expected to practice the use of the sentence frames. Keep the visual displayed throughout the activity, and consider keeping it displayed on the classroom walls throughout the year to be referenced as needed.

- However, in addition to teaching introverted students about voicing their thoughts with a group, also consider talking to more participatory students about their unique ability to encourage the voices of their quieter peers, which can also be done through the use of sentence frames. For example, talk with students about the importance of hearing the thoughts of everyone in a group and teach them phrases for kindly asking those who have not participated if they would like to add anything to the discussion:
  - *"What do you think, _____?"*
  - *"_____, I would love to hear your ideas!"*

- *Role playing:* Before expecting students to practice a social skill independently, many teachers model and practice the skill with students through the use of role playing. After initially teaching students about respectfully sharing their thoughts in a group, the teacher begins by modeling correct and incorrect responses in a made-up scenario, often with the participation of other students. For

example, a teacher may ask a group of students to come to the front of the room, and the teacher would show how to correctly use the sentence frames in a group setting. They may also choose to incorrectly use the sentence frames, although incorrect modeling is a disputed strategy, as some argue that it reinforces unwanted behaviors and may be confusing for students who are initially learning a new skill. After initially modeling the sentence frames and dialogue skills with the class, the teacher would create small groups of students and ask them to practice the sentence frames with each other, while the teacher walks around the room to monitor students and provide guidance as needed.

- *Provide strategies for managing social energy:* Another primary aspect of SEL education in the classroom is teaching emotional regulation and self-management. Just as some students may need to be taught how to identify and respond to their anger, anxiety, or sadness, an introvert may greatly benefit from being taught about their tendency to prefer independent or one-on-one settings and their need to spend time alone after significant periods of socialization. Introducing SEL topics through children's literature is a popular strategy among elementary educators, and there are several books that could be used to introduce the topic of introverts to students. Although most are not explicitly about introversion, they introduce topics that could be used to begin a conversation:

- *Say Something!* by Peter H. Reynolds: This book encourages children to recognize the power of their voice and its ability to enact change in the world around them. This title would be particularly appropriate if introduced in conjunction with the above sentence frames for dialogue.
- *Shh! We Have a Plan,* by Chris Haughton: In this story, a group of children enter the forest and find a bird, which they proceed to attempt to catch. After devising a series of plans, it is ultimately the plan of the quiet, observant child that catches the bird, enforcing the importance of every student in the room. This book would similarly match a discussion on the need to listen to every voice, even those that take longer to hear.
- *The World Needs Who You Were Made to Be,* by Joanna Gaines: As indicated by the title, this book reinforces the message that *every* child possesses unique gifts that are needed by those around them. Highlighting a variety of ways in which children may be different, including styles of working & participation, personality, and ability, this book would facilitate great conversations about the importance of differences. It is also important to note that the illustrations of Gaines' book represent a variety of races, ethnicities, genders, and abilities.
- *Quiet Power: The Secret Strengths of Introverted Kids,* by Susan Cain: Although not a picture book that could be read in one sitting, excerpts of this chapter book designed to be read by students in middle grades

would be an excellent resource for teachers wanting to talk to their students about introversion and the unique giftings and needs of introverted students. This could also be recommended to students in third grade and above who wish to learn more about introversion.

- *Provide quiet corners in the classroom:* Another aspect of SEL education is providing students with the tools needed to implement their learning about self-management and emotional regulation, and a common example would be the *cool down corners* found in many elementary classrooms embracing the SEL model. Initially designed for dysregulated students and others learning to manage anger or other upsetting emotions, these spaces could be easily adapted to accommodate introverts and provide them with a space to which to momentarily when they find they are needing a moment of alone time. *Cool down corners* are typically small spaces in the room that contain tools for returning to an emotionally-regulated state:
    - Carpet squares, pillows, chairs, or other items that provide students with a comfortable place to sit
    - Books
    - *Sensory bins,* which include craft sand, rice, or other tactile materials that a dysregulated student may play with while calming down
    - Headphones for listening to quiet music
    - A timer for monitoring how long the student has spent away from the class

Clearly, creating a *cool down corner* in a classroom requires the establishment of clear expectations for use and careful monitoring by the teacher to ensure that the space is not misused. However, when implemented correctly, *cool down corners* could be an excellent strategy for providing introverts with a brief reprieve during the socialization of a school day, particularly if paired with discussions about introversion and the way in which some students may need a momentary break after interacting with others for long periods of time. By providing introverts with these spaces, not only could they achieve self-awareness regarding their introversion at an early age, but they could also learn strategies for managing their introversion that could be implemented for years to come.

Additional Considerations: *Flexible Seating*

Flexible seating, like SEL, carries significant benefits for introverted students in elementary grades. With the goal of accommodating a variety of learning styles in the classroom, flexible seating advocates look beyond the traditional seating option provided to students-- sitting in a chair behind a desk-- to a range of options that allow students to sit, stand, or move during various activities throughout the day. Flexible seating is popular with students due to the novelty and nontraditional feel it adds to a typical classroom environment. However, in addition to students' excitement, research supports the use of flexible seating in K-5 environments. In 2017, Iowa State University conducted a qualitative study in which a traditionally-designed classroom-- with rows of desks facing the front of the room-- was

transformed into a series of movable tables and chairs. Data was collected in a focus-group style from four instructors and nine students from a variety of disciplines, and interviews focused on the perceived effectiveness of flexible seating. The results concluded the following about flexible seating: it promoted a community of learners, it "helped students work at their optimal level of challenge" (28), and it promoted holistic learning.

Several common flexible seating options include standing desks; yoga balls; yoga mats; carpet squares, pillows or cushions placed on the floor; or "wobble seats" that allow for a range of movement while seated at a table. However, according to the California Department of Education, the term *flexible seating* applies equally to the design of a school building; for example, open-air spaces, like atriums, multi-age rooms designated for the mixing of grade levels, and "outdoor learning," or learning that occurs outside of the traditional classroom in community spaces such as libraries (p. 1). The term *flexible seating* can be applied such a range of characteristics-- from the furniture of an individual classroom to the structuring of an entire school building, because *flexible seating* is an umbrella term for an approach to the set-up of an educational environment that seeks to accommodate the diverse needs of its students in a manner that maximizes student engagement, interaction, and learning.

For a student population who experiences fatigue after extended periods of socialization, the option to momentarily retreat from a social hub in the classroom could be an opportunity to restore a student's energy levels and create a more sustainable educational experience-- especially considering the way in which, as

described by Cain (2012), the *Extrovert Ideal* has influenced even the physical layout of elementary classrooms. *Flexible seating* means more than merely a series of seating options for students in a classroom; rather, it encompasses a broader form of differentiation that allows students to work in the environment that best suits their learning needs. With this in mind, flexible seating approaches could be an excellent strategy for mitigating the exhaustion an introvert may experience in the classroom on a daily basis; providing students with the option to momentarily choose a space in the classroom away from the bustle of a group of desks could be the reprieve they need to sustain their social energy throughout a day.

Noise Level

As established in the literature review, research has proven introverted students to be particularly susceptible to the effects of background noise when completing tasks. For this reason, a teacher may want to consider the noise level of the classroom when students are reading or working on other assignments. In comparison, research has not found the visual environment to have a significant impact on the academic performance of introverted students.

An Open Letter to Teachers

Dear Teacher,

Differentiation is a challenging art. The ability to meet the needs of every student in your classroom is a daunting task, especially when current educational approaches are structured in such a way that entire groups of students will not benefit from what is championed in teacher training programs and professional development sessions alike. The *Extrovert Ideal* has greatly influenced today's school system, and, as a result, what is trending in the world of education was not designed with introverted students in mind; instead, many popular strategies force introverted students to masquerade as extroverts in order to be deemed *acceptable.*

As a recent student teacher, and a previous introverted student, I can attest not only to the challenges of learning as an introvert, but also to the difficulty of teaching to introverts. Both defy what is presented as *best* in the world of education, and you have likely been taught, in accordance with constructivism, that a talking classroom is a learning classroom. However, as you can see through this project, that is not always the case, particularly for introverted students.

Yet teachers are amazing, and differentiation does not mean overhauling a lesson for the sake of one student. It is, as you know, adapting and supplementing with students' needs in mind. Once you are aware of the nature of introversion and the unique ways in which an introverted student will require your support, you can begin creating a classroom environment in which they are both embraced and challenged to grow. This project concludes with ideas for getting started.

Your introverted students will need your love more than they will need a variety of discussion supports and alternative classroom management strategies.. They are learning to navigate a world that insists they are insufficient, and those voices will be loud; unfortunately, there may be times where introverts hear them the loudest inside of a classroom. As you begin implementing strategies with your introverted students in mind, and find what works best for your unique group of students, in my experience as an introverted student, it will be your attitude toward your introverted students that will have the greatest impact upon their perception of themselves. Because just as you will practice encouraging their voice, so too they will need to practice exercising it in your classroom. This may take time; depending on the student, you may never see them fully blossom during the year that you teach them. Regardless, your consistent affirmation of their place in your classroom community and the way in which the world needs to hear their voice will stay with them long after the academic year ends, and, eventually, your encouragement will contribute to their decision to finally begin sharing their thoughts with the world.

An Open Letter to Parents

Dear Parents of Introverted Children,

Being an introverted child is challenging. Yes, there are challenges associated with all childhoods, but there are particular struggles associated with growing up under the shadow of the *Extrovert Ideal.* Many of the frustrations your child will encounter will be at school-- not on the playground, as one might expect, but in the classroom. Just as Western society at large has embraced the idea that the loudest voice in the room must be the one with the most important message to share, so too your child's teachers, through no fault of their own, have learned the art of education under a system designed to prepare children for this charismatic world. Your child will enter a classroom centered around near-constant peer collaboration and communication, most of which is implemented in ways that sharply contrast the natural socialization and work patterns of introverts. Do not be alarmed if your little introvert arrives at your doorstep every day exhausted, retreating for a time to the security of a stack of books, a closed bedroom door, or the quiet outdoors until emerging refreshed and ready to take on the world once more; this is their strategy for surviving in a space that continually asks them to become something they are not, and (silently) they will thank you endlessly for creating a home that allows them to simply exist as they are.

Which brings me to my point: yes, your child is facing a world that expects them to change to be successful, and, yes, this is hard. Yet for every teacher, coach, or peer they encounter who views their introversion as a problem to be solved, if your introvert has a school experience anything like mine, there will be many others

who will recognize the unique strengths your child possesses and champion their introversion, sharing words of encouragement that will echo through their head long into adulthood.

Yet even if your introvert encounters none, you have the power to counter the lie of the *Extrovert Ideal* that insists your child must alter their personality to be acceptable. As I wrote at the beginning of this project, my parents were the first to model for me what it looks like to love a quiet child. They accepted my introversion for what it was, waving at me after school as I walked to-- as they would say-- *my cave,* and welcoming me back and asking about my day after I had spent sufficient time alone. They fiercely defended me from the words of others, and eventually myself, who maintained that I would never be sufficient unless I learned to act like an extrovert. It is thanks to them and the way they refused to let me believe the *Extrovert Ideal* that I am about to enter the extroverted classroom as an introverted teacher determined to implement the strategies I discussed in this project.

So try some of the strategies explained in this project at home; give your child the space to think before asking them to collaborate, and watch for them to express their ideas in writing or in pictures. Support them in learning how to manage social exhaustion, and create spaces in your home where they can do so. Look for books that communicate to your child the beauty of their personality, and read them often. Yet while your child will benefit greatly from strategies designed and differentiated with their introversion in mind, most of all, they need adults in their life who see them as they are-- introversion and all-- and embrace their quiet voice, reiterating the way in which their introversion is an asset, not a deficit. Your

introvert will hear a contrary message many times throughout their childhood and beyond, but, in my experience, the consistent affirmation of a parent carries a special ability to counter the pressure your child will receive to change. Eventually, your young introvert will grow into an introverted adult, and, if their voice was embraced as a child, they may someday dare to find their own voice in a world that has told them they do not have one, and, when they are ready, in their own quiet way, they will share their thoughts with the world.

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