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No ifs ands or buts… Semantic Prosody Eliminates In-School Suspensions in Middle School: A Case Study in Behavioral Conduct

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Abstract

This study describes a before school program (90 minutes) in the US. It focuses on two brothers who had challenges with social and emotional engagement that included episodes of fighting, running away, extreme profanity, resentment, egocentric selfishness, bullying, and aggressive competition. The program was led by 7 para-leads (mean age 24.1) who had no training in teacher education. The children disliked (did not trust) school and arrived daily armed with retroactive inhibitions aimed at adult caregivers, school equipment, and personnel. In the current study, we test the hypothesis that a cognitive neuroscience approach to engagement inspired by para-leads who share a nuanced mental model about how school functions and how children learn, would exert an appreciable change to the brothers' behavioral upsurges. The study was an opportunistic quasi-experimental design that served a population in daily need, with a solution that involved caring for children. This study was grounded in neuroscience teacher education literature involving mental models that illuminate classroom management techniques. Findings highlight that para-lead acquired mental models launched long-lasting change to the brothers' singular and shared behavioral patterns. Future studies are suggested to clarify affect and effect about semantic prosody and learning systems.

Keywords: Semantic Prosody, Co-Create, Mental Model, Para-Lead

1. Introduction

1.1. Theoretical Framework

Mind is a person's intellect—that something that enables humans to be aware of themselves and their world. It allows us to engage with experiences, especially to think, and to feel. Mind is thus, the faculty of consciousness and thought. The various functions of mind, like rationalizing and learning, are a set of processes carried out by the brain (O'Mahony, 2024). Mind capacities are referred to as cognitive ability. The word 'cognitive' conjures a rich envelope for concepts that include notions of reasoning, predicting, and thinking—arguably, an optimal outcome from schools.

The current study introduces the idea that cognition, brain, and mind are central to the office of learning and teaching. Neuronal circuits are shaped by experience (Min et al., 2024). Early learning and pre-school allow this to happen much more readily in young compared to adult brains. Neuroscientists have long understood that the unique learning capacity of young brains is regulated through postnatal critical periods, during which the ability of neuronal networks to re-wire is greatly enhanced (Hensch, 2005).

Traditionally, school systems that grew up in the Skinner world have focused on measuring children's academic and social outcomes as a consequence of behavior—favorable responses to stimuli (Buckley, 1989; Cherry, 2018). Many unseen issues are described as consequentially impactful for degraded learning environments that derive from the 'hidden' curriculum which informs that behaviorist teaching style (Alsubaie, 2015; Deci et al., 1999).

More recently, in the cognitive world, it is widely understood that behavior is the product of an endless stream of perceptions, feelings, and thoughts, at both conscious and subconscious levels (Mlodinow, 2012). Through this intellectual lens, initial student engagement and subsequent training (in-person and online) are delivered and received through the medium of constructs and ideas introduced and consumed using words (Mercer, 2000), because meaning for deep understanding is a semantic operation carried out by the mind through language skills and usage (Chomsky, 1956). Thus, semantic memories[1] are formed that include cognitive processes and utterances, which convey meaning via intra- and inter-personal shared interactions (Hart & Risley, 1995).

In this study, we step into a space that connects both worlds—traditional behavior-based and modern cognition-based. This involves optimizing a shift in vocabulary usage from predominantly behaviorist 'classroom management' language to intentional cognitive 'managing the brain' language using deliberate filtering tools and sequences for focus and effect. Words, and their associated meanings, are critical mechanisms of meaning-making (Hart & Risley, 1995; Lemke, 2005). Moreover, words 'of' and 'about' learning (or indeed in any serious endeavor that involves vocalized information exchange) are not always neutral (Ebru et al., 2021). In fact, every word is potentially 'encumbered' with both overt and covert inflection (Kohler et al., 2022), which has, because of joint-action/reaction and nearness of use (co-location) a capacity for 'intentional' and/or 'unintentional' consequences that can impact subsequent actions and behaviors (Mercer, 2000). This is a form of semantic prosody.[2]

Thus, semantic prosody underscores how neutral words can, unwittingly, be perceived with positive or negative associations through frequency occurrences and co-locations. For instance, the word 'cause', which might normally be considered 'neutral' tends to have a perceived negative feeling because it is often co-located with negative occasions like "cause accidents" or "cause damage". In school, words can diffuse a subtle valence derived from co-occurrence in usage (Hauser & Schwartz, 2016) that exerts a strong influence on social evaluative judgment (Woody et al., 2018), a threat that causes damage to focus in learning spaces. For instance, in the home or school, as soon as the adult body language and

[1] Semantic Memories: the general knowledge that people have about the world, including the meaning of words, objects, and concepts.

[2] Semantic Prosody: the ability to convey emotion through speech.

tone shifts to express the "if" in the following exchange, every person reading this can sense impending danger: "If you don't stop annoying your brother, you will lose your iPhone privileges for a week."

This current study investigates the impact of semantic prosody on a pair of boys (brothers), in an extended (before-school) setting. We explore how they experienced and responded to strategic changes in Para-lead (adult coaching staff) vocabularies which involved abandonment of traditional two-dimensional focus on behavior (e.g., good/bad, right/wrong), in favor of a cognitive brain-based approach that included learning sciences in cognitive neuroscience (e.g., amygdala hijack, hippocampal neurogenesis, semantic prosody).

Through an in-depth analysis of speech and interactions, we aimed to provide valuable insights into child behavioral management via practical applications and mentalistic models in cognitive theories that shape students' social and emotional growth while improving academic outcomes. By exploring this real-world setting, the research team sought to contribute to the growing body of knowledge detailing the impact of neural enrichment interventions on student behavior. We highlight implications for educational practice aimed at fostering positive student affect (emotional wellbeing) and effect (academic outcomes), while we are aware that results of this research cast a broad contour over k-12, third level, and workplace learning also.

1.2. Neuroscience of Learning

Researchers have recently popularized (Vedantam, 2025), an apparent contradiction in how the human brain undertakes decision making. Neuroscientists understand that mammalian brain is a predictive processor. It seems that people expend a lot of energy (subconscious) looking for evidence to 'back up' what they seek to prove. As far back as the 1850s, deep thinking individuals already knew that the brain hid the world from critical thinking, making constant conscious and unconscious predictions of what it expects to find when it looks. Thoreau announced the frailty of common sense in an unseen world somewhere between objective and subjective reality describing how we are regularly blinded by our preconceptions… "we hear and apprehend only what we already half know" (Thoreau, 1850).

The cognitive philosopher, Andy Clark (2023) summed it up more recently… "What if rather than perceiving reality passively, your mind actively predicts it?" Consider the injured patient in hospital ER. When it comes to pain, words spoken by knowledgeable people in white coats can impact anticipatory outcomes that encroach on treatment. Research shows that words used before a painful medical procedure significantly affect anticipated pain and discomfort. This is in line with Hebb's theory of neural networks (Hebb, 1949), which illustrates how words and body language prime perception of painful stimuli. Researchers describe how different word 'energies' prime patients for mild or intense pain (Ritter et al., 2019). Researchers show that different areas of the brain light up, highlighting areas of the brain effected by presenting negative versus neutral words. While activation is expected in typical motor regions (somatosensory, primary, and premotor cortices), activation in unexpected regions (e.g., the precuneus[3]) offers an insight into more complex cognitive functions that are seated in the learning brain. These include areas of visual-spatial imagery, episodic memory retrieval, and first-person perspective taking. These regions are consequential in the learning space, since they focus on interconnectedness of thoughts, feelings, behavior, and environment (Szabo et al., 2023). For instance, many educators who embrace information that pertains tosynapse processing and neuromodulators experience better behavior in their schools (Cassidy, 2024). Nuance matters, however.

1.3. Neuromodulators in Teaching Method

Dopamine and serotonin are chemical messengers that are central to almost everything we think, say, and do in our classrooms. As neuromodulators they are crucial for motivation, learning, and decision-making. Each chemical messenger works differently—an outcome that regulates behavior for 'adaptive' or 'maladaptive' outcomes. For instance, dopamine compels the learner to quickly seek rewards via the

[3] The precuneus is a region of the brain located in the medial parietal lobe, associated with self-awareness and consciousness,

pleasure center and helps us stay motivated and focused on tasks. On the other hand, dysregulation in dopamine levels can contribute to impulsive behavior, distraction, absent-mindedness, and ADHD. Impulsivity is a behavioral trait common in the classroom and, as teachers know, it is characterized by children acting without thinking, making rash decisions, and engaging in spontaneous actions with little or no consideration for potential consequences. What if the teacher was aware that the chemical messenger serotonin plays an important role in combatting these impulses. It urges the child to moderate impulsive behavior and promotes instead, a long-term view, which typically translates to thinking through the outcome of actions and perceived consequences (Sapolski, 2018).

As research discoveries illuminate complexities of how and why these neuromodulators are connected to intention, motivation and purpose, informed educators translate this information into process and practice. New findings inform educators by describing how serotonin and dopamine interplay with learning systems. Neuroscientists indicate that while these molecules are important for promoting memory encoding and deep understanding, scientists were able to discern that Dopamine alone or Serotonin alone were not sufficient to bolster learning. First, when dopamine and serotonin are blocked, learning capacity degrades. Surprisingly, restoring either dopamine or serotonin on its own is not enough to foster learning again (Cardozo Pinto et al., 2024). Only with both systems online can learning be successful. Wouldn't all educators need to know this information… and know how to manage neuromodulators in the learning space. The interplay between dopamine and serotonin shapes behavior by creating a balance between reward-seeking and impulse control. Both systems work in opposition and are essential for effective learning.

Teachers who are not even thinking about chemical messengers are essentially driving blind. They are forced to fall back on preconceived notions and received opinion about why a sensitive child is acting out or being obnoxious (Richey et al., 2015). There is ample evidence that teachers can gain solid traction with methods that include this kind of information about brain chemistry (Donati, 2024; Gallagher, 2024; Medvedich, 2024). To compound matters, serotonin and dopamine can be negatively impacted by harmful childhood experiences that dampen the effect of these neuromodulators (McEwen, 2009). Research indicates that childhood maltreatment alters receptor systems and limits the effectiveness of dopamine and serotonin. Infants who experience higher levels of rejection and/or maltreatment tend to develop into adolescence with weaker binding potential of serotonin receptors in prefrontal cortex, amygdala, striatum, and hippocampus, as well as weaker binding potential of dopamine receptors in the amygdala (Wakeford et al., 2024). The problem is heightened because the brain is plastic—spawning adaptive or unfortunately, maladaptive outcomes.

1.4. Maladaptive Neural Plasticity

Experts highlight results that identify an important regulatory mechanism linking emotional experiences to behavioral changes (Akiki et al., 2024). It has been well established that what we experience can cause changes in our brain, thereby altering how we behave. It begins with genes. In response to emotional experiences, trauma, neglect and other ACE[4]s, different genes can be turned on at different times. This variability allows our bodies to adapt to a changing environment. Studies that investigate responses to chronic stress highlight this clinically relevant response to particularly emotional experiences. This is especially critical for children, whose home lives are impacted by high ACEs (Felitti et al., 1998).

Emotional experiences evoke neural plasticity that supports adaptive changes in behavior. These include maladaptive plasticity associated with mood and dysfunction in relation to self and others. This spills over into home and school life where affected children are unable to engage fully in learning opportunities that schools provide (Balfanz et al., 2014). We observe that children thus affected by maladaptive plasticity often show up unable to engage, demonstrating a reduced enjoyment for hobbies, a heightened level of indifference for age-appropriate activities, apathy to fun things that other children enjoy, and a proclivity to numbness and emotional detachment (Darling-Hammond, 2019).

[4] ACEs stand for Adverse Childhood Experiences. Higher levels of ACEs correlate with life trajectories that are maladaptive.

2. Research Question

Will a brain-based cognitive mental model adaptation by para-lead carers tamp down and eliminate offensive, disruptive, and aggressive behavior of two middle school brothers who parade a reputation for aggression and bullying? The null hypothesis states that para-lead brain-based mental models that highlights cognitive brain-aware vocabulary will have no appreciable impact on the children's behavior.

3. Methodology

A mixed method was used to analyze data that were collected during a normal school year in the US. We describe a high-level schematic, shown in Figure 1: *Mixed Method Model - Ascend,* depicting two types of data represented in this study (Salmona et al., 2020). Quantitative data relating to attendance, gender, age, and self-report scores on child mental wellbeing are embedded within a qualitative corpus of interviews, video transcripts, participant-created artifacts, photographs, and field notes. While we focus on the pair of brothers, we also compare data from 25 other children who are peers in this early morning before-school program.

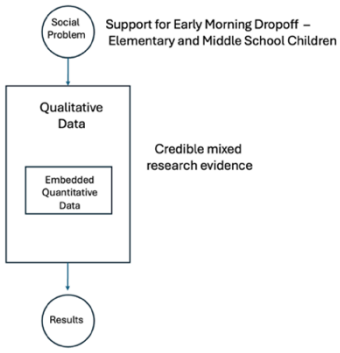

Figure 1: Mixed Method Model - Ascend

Source: Dedoose 2024, Ascend Early Morning Dropoff Program

Files were transcribed and validated with para-leads for accuracy, completeness, and rigor. Codes were assigned from the Brain-Based Solutions code book. An example entry in the Code Book is shown in *Figure 2: Code Book Example for Mixed Methods Study Ascend*.

Coders divided field notes and transcripts equally after training. All data were imported into a web-based mixed methods data analysis tool called Dedoose, (2024). Interrater Reliability was calculated using Cohen's Kappa = 0.84.

3.1. Grounded theory

Grounded theory was used to explain apparent changes over time and involved both inductive and deductive ideations. Theoretical explanations were grounded in empirical reality to reflect relatable and valid data (Corbin & Strauss, 2015). A team of researchers who were distance-observers in the Ascend early-morning project discussed a set of goals that aligned with making sense of outcomes. For instance, rather than being interested in how frequent a behavior was, they asked probing questions about the meaning of that behavior (Lareau & Shultz, 1996) and analyzed transcripts from the viewpoint of the two brothers and their engagement in activities and academics.

3.2. Subjects

(RAO16) is the older brother at age 12 in 7th grade, is a little taller than his brother (RAO17) a year younger in 6th grade. The boys attend the same school and appear to be inseparable in before-school and playground activities. They live with their uncle – there is never any mention of their biological mom or dad. To the intake question: *"Is there any specific behavioral or learning support your child*

requires?" the uncle's answer was NO. All other children's parents in their cohort were forthcoming about their child's IEPs, 504s, ADHD, Asthma, Autism, medication, even details like help at homework and need to wear glasses. That the knowledge regarding the two brothers dysregulated behavior and anti-social tendencies was withheld suggests that the guardian(s) were either unaware of their conduct or chose to hide it. Similarly, for the question: *"Does your child have any special interests, hobbies, or talents we should know about?"* the answer was also NO. Parents of peer children were very helpful with responses that outlined several fun sports (snowboarding, basketball, soccer etc.), many intellectual pastimes indoors (chess, art, music, dance, reading etc.) and outdoors (fishing, animals, being outdoors and so on). Another area that would have been helpful to know about the boy's school life was also missing. Instead of choosing 'Adventure Camps, after-school sporting programs, or other fun activities that were available for socializing and enjoyment, the box was left BLANK. Attendance records tell us that the two boys were dropped off early 75% mornings for the 'before-school' child support program Ascend. In fact, of all the children in the 30+ cohort these two brothers had more NO answers than anyone else. To the question about 'Who' the *'parent or guardian'* was there was just one word – Uncle.

4. Para-Lead Method

The impetus for a case study within the Ascend early morning program emerged from a need to understand how shift in para-lead mental models was able to affect behavioral change for the children in their care. The need for intervention with the early 'before-school' program was instigated by the fact that children were being dropped off early before formal school began each day in a place that was not physically or emotionally safe. We applied an opportunistic cohort to intervene with a neural impact methodology to impact behavioral changes that included a shift in vocabulary away from rewards and punishments towards a mentalistic approach informed by neuroscience.

Behavioral changes would have to endure throughout the formal school day that followed each morning's breakfast. All training focused on increased awareness and amplified adaptation of utterances that exemplified mental models that represented a brain-based approach to behavior and motivation. Data captured from para-lead carers were validated by cross-reference and triangulation with teaching preofessionals (SPEDs, Psychs, asst principal, paras, and leads) in the formal school where the children spent the remainder of each day.

4.1. Unit of Analysis

Interactions and conversations furnish an apprehensible window into overt mindsets of para-lead facilitators as they interact with their young learners each morning. While the human mind is uniquely instrumental in performing thoughts, plans, and activities, internal machinations are not necessarily visible to outside observers. Thus, it became sensible to warrant focus on external actions and physical engagements, as opposed to guessing at unobservable mentalistic processes.

The unit of analysis that was most valuable for 'making visible' intended tasks and programs was their use of words—utterances—for setting-up systems, delivering instructions, and providing support for daily activities. We define utterances as 'questions and statements that help advance the collaborative meaning-making process'. Utterances are valuable to the design team in their efforts to 'make sense' of para-lead attempts at managing the children's emergent behavior. These can include items like mental and physical techniques that use body language, reprimands, cajoling, chastisements, threats, consequences, and other descriptors that inform the research team. Even covert intentionality becomes visible in discussions that alert researchers about what is perceived to be taking place in routine interactions between the children themselves and between para-leads and children. Utterances, therefore, became the focus of study—utterances of para-lead adults as well as utterances of children whose behavior was interpreted through words and actions.

Utterances were further clarified and interpreted as epistemic or aleatory. Examples of epistemic occurrences were utterances that added to understanding (i.e., evidence). For instance, utterances were 'epistemic' when they referred to topics for discussion, asked for clarification, offered a statement or a fact, revoiced an idea, provided evidence for a claim, disputed someone else's claim, made a prediction, or shared an observation or inference. Examples of aleatory occurrences were less definitive, pointing

to evidence of chance, representing inherent randomness in a system. In other words, occurrences that could occur because of the roll of a dice.

4.2. Settings

To grasp what was changing day-to-day and over time, it was important to connect actions and conversations with structural and methodological epistemologies that govern everyday human interactions. Room 134 was a busy place each morning, with at least five times more children than adults. Approximately 80% of the children were chosen on the understanding that they could better be prepared for school by partaking in early-morning adult monitoring. From the parent/guardian viewpoint, children's daily disruptive/disturbing behaviors could be curtailed, even curbed, by attendance in an early morning enrichment program.

5. Results - Quantitative

First, we describe findings that include all children of the Ascend program who were in the brother's cohort. In this way, the brothers were not outsiders nor in receipt of any special treatment by design. We highlight that they were contributing members who engaged, played, and brought their unique challenges from home and school to room 134. Quantitative findings for the entire cohort indicate that the brothers compared without exception with their peers in academics, mathematics, and reading skills. Tests were performed at the beginning and the end of the academic year in Mathematics for 32 students who shared the same grades (6 – 8) as the brothers. Due to some students missing the tests, we show results for 26 students with scores for both tests in mathematics and 24 students in Advanced Reading. For each subject, a paired t-test was performed to compare test scores before and after implementation of the Ascend program.

5.1. Mathematics

Ascend children's mathematics scores were analyzed with data from the formal school system. We found a moderate to large effect (Cohen's d = 0.59), at a significance level of 0.05, and a power of 0.82. Power being above the typically accepted 0.80, suggests that even a sample size of 26 students is sufficient to make some generalizations around the success of the program. In addition, a t-statistic of 3.0063 and a p-value of 0.0059 is evidence that the Ascend program had a statistically significant improvement in student mathematics scores.

5.2. Discipline

Monthly detention counts were tracked for Ascend students in grades 6-8, compared to non-participating peers in the formal school system. Using a large effect (Cohen's d = 1.5), a significance level of 0.05, and a power of 0.92, we conducted an independent t-test to compare the monthly detention counts for both groups. With a t-statistic of -4.6325 and a p-value of 0.00021, the Ascend students had statistically significant fewer detentions. From this, we conclude that student participation in the before-school Ascend Program had a meaningful impact on behavioral improvement beyond the early-morning intervention site that spilled over into formal school each day and lasted throughout the year.

6. Results – Qualitative

Here we underline results that show how morning mindset persists throughout the school day. In the following excerpt (Ascend_Gaga_Ball_12_05_23.docx), we highlight a sequence of thinking and mental model explication that specifically connotes the moment of realization—

shift in mental model because of 'seeding' mental shifts through new vocabulary. For instance, the interlocutor (Para-Lead A) makes a point in acknowledging that this day -- December 5th, 2023, was meaningful to her and her team. In fact, it was so much so, that a decision was taken (line 01 – 03) to 'record' their weekly staff meeting on this occasion. The excitement in the interlocutor's voice is palatable when some of the phrases are missing – rapid speech and shared understanding of common ideas. (I sent 'em in the drive' refers to the doc file data and, in this case, the recording is also mentioned.)

01 Para-Lead A: (28:57) Yeah, so today was really awesome, and I actually had our staff…,
02 I sent 'em in the drive, so they're both there. The last Friday's recap recording, and
03 then we did one, we always do recap, but today I recorded it with the staff.
04 Monday was rough. They came in just discombobulated. We had 'em go right into a game
05 Then… they were just… Their plans were different than our plans, and it just was not working.
06 But today was a crazy awesome day. We had a cool breakthrough with RA016 and RA017
07 because Monday they were doing their typical stuff. They were competitive and then
08 antagonizing… all the things. And so, as a staff we're like, okay, what can we do to
09 specifically help include them and give them agency… and give them all these things? all
10 And so, we kind of put our heads together. Maybe in the morning when we see 'em start to
11 act up, let's be really focused and intentional on giving them an important task to help the
12 teacher with… if it happens.

Transcript: *Ascend_Gaga_Ball_12_05_23.docx*

In line 04, the Para-Lead explains that Monday was 'rough'. Utterances between September and December 2023, tended to be of the epistemic variety—highlighting asymmetry of turn-taking, awkward verbal exchanges that supported some preconceptions about 'what was going on with the children', as well as predictive opportunities for setting up activities. Descriptive report-out sessions assumed a common understanding of typical events, outcomes, and struggles. Other words that describe typical challenges beside 'rough', included 'discombobulated', 'deregulated', 'escalated', and often described disruptive behavior. Common descriptives included the following: 'being mean', 'rolling her eyes', 'big blow-up', 'rowdy', 'screaming & yelling', 'opting out', 'not participating', 'hanging out in the bathroom', 'the brothers were just at it - yelling', 'it felt loud and anxious', 'not focused', 'scattered', 'just out of control', 'as they walk in you can tell the energy is off'. The realization was tangible (at line 05) 'their plans were different than our plans, and it just was not working' and spoke volumes to the research team. This raw statement exhibited to the research team that the seeds sown over the previous two months were in fact taking root. The construct of 'Making Visible' was a significant stabilizing pillar of a co-created environment that was 'shaped' to include each child's plan. Para-leads were reminded daily that every child arrives to room 134 with a plan, sometimes overt and sometimes covert. When the para-lead tries to discover and 'Make Visible' the child's plan there is a much better chance that the child will opt to engage and contribute.

The dangling misplaced modifier denoted in the word 'just' captures a world of disillusion, disappointment, frustration, and thwarting. Daily episodes of student disruption, aggressive and oppositional behavior resulted when children refused to engage in planned activities that they objected to—with vocal outbursts of 'that's dumb', 'that's stupid', 'I hate you', 'you're mean', and sometimes the 'F bomb' and/or the 'N word' were hurled at people and plans. Such encounters were easily enflamed since contagion is instantaneous in runaway 'us' versus 'them' situations.

Halfway through the interlocutor's unfinished thought [line 06: But today was a crazy awesome day…] we encounter a sudden and surprising shift—an unexpected mental change that heralded a new and more amenable direction for the entire program. It was for this reason that the excitement about recording became clear, with an opportunity to share that (i) they too recognized a momentous breakthrough moment, and (ii) they wished to share it with the design team. The lightbulb had gone off

for the para-lead team; they were happy to 'make visible'[5] one of the constructs that the design team had 'seeded' in the vocabulary of the Ascend team. The shared construct this: 'Every child has a plan, even if they are not able to articulate it easily'. The breakthrough mental model was anchored in the realization contained in the utterance: '…their plans were different than our plans'. The more we 'Make Visible' the child's plan, the better we can adjust the environment to support a 'sense of belonging', a 'co-creation' of their sense of 'psychological safety', and their ability to attain a place of 'Intrinsic Motivation'.

The following excerpt (Transcript: *Ascend_11_11_17_pt_1.docx)* drills down to explore how para-lead members were beginning to think differently about their efforts to corral and manage the children's behavior. It was becoming clear that the definition of *Intrinsic Motivation* that was supposed to be implemented from the beginning of the school year was far more urgent than just saying the words "Autonomy', Master', and 'Purpose'. It was one thing to utter: "We give the children autonomy" when, in fact, as she admitted in line 05: "I feel like some days we try to force an activity." The idea of forcing the children to comply with classroom designated plans fail to align with a cognitive plan to co-create the morning environment in room 134 by including the child's 'plan' and inviting some autonomy for deciding daily activities. The truth is hiding (lines 13-14) in plain sight—"Whenever I give them paper… like the one time we did 'paperwork' type of stuff, they have a … they kinda balk at it." Could it be that just like language is embodied, that retroactive inhibitions associated with the formal school setting are also embodied? The children, instead of embracing fun projects that have been carefully prepared for them they have a physical, psycho-social and visceral reaction to anything that even 'feels' like school.

01 That's one of those times where it's like you walk in in the morning and you can tell
02 the energy is off, and it's almost like I'd want to have -this is for future-but even though
03 it's spur of the moment… like a backup plan of like… okay, this clearly isn't working.
04 We need to pivot to match their energy level or something.
05 And I feel like some days we try to force… we try to force activities.
06 Like, okay, some days that works and some days like Wednesday just would not work.
07 I almost wonder if like, you know… allowing 'em options like,
08 hey, when they're crazy, those days we have an option of,
09 "Hey, gym people go," which we've done before.
10 "People want to stay in the classroom… stay."
11 And that way they can all decompress where they want to go or something.
12 Because big classroom activities just wasn't it. And part of me wonders too,
13 whenever I give them paper… like the one time we did 'paper' work type of stuff,
14 they have a …. they kinda balk at it. And I wonder if it just…
15 they don't want to come in here and feel like a class, a classroom setting.
16 I don't know. Just speculating.
17 And I'm finding a lot of whipped cream behind my ear.

Transcript: *Ascend_11_11_17_pt_1.docx*

This short excerpt is taken from the transcript that was judged to contain the inspiring evidence of mental shift that directly impacted behavior and outcomes for the brothers. At first, it appeared to be a chance outcome because of a particular event, but upon deeper analysis turns out to fulfil the anticipatory elements of a clearly defined and carefully thought-out plan of action. In this excerpt, we learn how a chance challenge to the brothers, a chance misunderstanding between two para-leads over access to activities, and a risk taken to trust the two boys became the anchor for all future thinking in relation to implementation of an early morning activities program. We begin with para-lead A's description of what happened. Her earlier questioning of the efficacy of their initial approach found a significant adjustment because of what happened in this episode.

[5] *Making Visible* was another construct that was seeded in the weekly discussions for the Ascend Para-Lead team

01 …this morning, I came prepared with a Christmas watercolor activity…
02 for the class to do… and I walk in with the staff, and they see me start setting it all out,
03 and I get… "Oh, what are we doing today?" And I said...
04 Well, we're doing this activity, it's art. And of course, I get,
05 "Oh, that's stupid," and… ripped it from the boys. And they go,
06 "We want to play Gaga ball, and this is just dumb." and "Can we play gaga ball?"
07 And I said, "Well, it takes a lot of work to plan an activity and prep all this stuff.
08 So, you know what? If you can write me a…" uh (laugh) I said it kind of as a joke
09 -but funny- "But if… if you can write me a 500-word proposal on
10 why Gaga Ball is a better activity for a class than this one, we'll look it over
11 and we'll see… we'll go from there.

Transcript: *Ascend_12_05_23.docx*

7. Discussion

The propitious words of Louis Pasteur, *"Chance favors the prepared mind"* seems to be the anchor upon which this craft of semantic prosody is secured. We note the overriding embodiment of body language and words about sense of belonging, engagement, and social and emotional wellbeing across school environments. We also note the ease with which non-professionals (para-leads) acquire and implement programs that endow widespread meaningful improvements in the education world. As a unit of analysis, utterances equip clear insights in relation to systemic change, status quo, aspirational outcomes, emerging mental models, and evidence of shift in thinking that may provide causal relationships between variables that seem unsurmountable.

The recognition and acceptance of changed mental models is rarely precise or consciously obvious for (i) the person experiencing the change (Richey et al., 2015), and (ii) for people nearby who are also involved in the results of the changing ritual, since subliminality operates below the threshold of conscious awareness (Mlodinow, 2012). The apparent 'chance' shift for para-lead A with regard to 'making visible' and including the brothers' plan for Gaga Ball was more epistemic than aleatory, since week-over-week for the previous 12 weeks, she was explicitly imprinted with the idea that: 'Every child arrives in classroom 134 each day with a plan; a plan, which needed to be 'made visible' so that every individual could experience a sense of belonging.' Making something as intangible as an unspoken longing or a dreadful fear can only be sustained if the adult in the room is (i) aware of the potential for a plan, and (ii) aware of methods for engagement so that the plan is accommodated.

The unadorned findings of this behavioral solution portend an exciting far transfer to educators in formal school settings as well as to facilitators, instructional designers, talent development managers, and human resource specialists in populations older than middle school. After all, brain is brain; the more we engage with their mentalistic models, understand how they are not our owners nor are we their victims, the better learning and workspaces evolve.

8. Limitations

It should be noted, that although these results showed significant improvement in outcomes for all subjects in the early morning Ascend program, we acknowledge limited external validity. The small size of the sample limits the ability to generalize to a wider population and increases the chance of outlier influence. This study, while focused on two children, brothers who were singled out as high risk, offers some insights into method and practice that can affect outcomes for other children who are equally difficult to manage because of aggressive behavior towards faculty, staff, and peers. Conclusion

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***O'Mahony_Kinkade_Agarwal_Levy_Veeranna_Lobo_Kamas_Vaishnavi_Ellenson_Kozlowska_Lankston_Hayes**_NO IFS ANDS or BUTS… SEMANTIC PROSODY ELIMINATES IN-SCHOOL SUSPENSIONS IN MIDDLE SCHOOL: A Case Study in Behavioral Conduct*

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