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Movement in the Classroom: A Recovery of the Foundation of Classical Education

Introduction

Looks can be deceiving. People often tend to assume that what's seen on the outside tells the whole story. It rarely does. As it is written in 1 Samuel 16:7, "Man looks at the outward appearance, but the Lord looks at the heart" (*New King James Version, 1 Sam.16.7*). This reminds us that our assumptions can be incomplete, even misleading. In the same way, what appears to be distraction in a classroom, movement, fidgeting, or restlessness, may not be a lack of discipline at all, but something much deeper and necessary for learning. This truth extends even to the understanding of education itself. There is a rich body of historical writing and philosophical research showing that classical Greek education was deeply intertwined with physical movement and the outdoors, standing in contrast to the modern image of students sitting passively in a classroom. Recognizing this historical foundation helps us see that movement is not a distraction but a vital component of learning; intentionally incorporating movement and sensory support strategies within classical education improves students' emotional regulation, attention, and motivation, thereby supporting deeper learning.

Definitions of Key Terms

Before going further, it is important to define a few key terms. Classical education is a language-focused approach to learning that emphasizes the written and spoken word, often structured around the three stages of the trivium (Bauer). Embodied cognition is the idea that learning is not confined to the brain alone, but is shaped by the body's interaction with its environment (Shapiro; Cowart). Sensory regulation refers to the body's ability to manage and respond to sensory input in order to maintain an optimal level of alertness. Attention is the ability to focus on one thing while filtering out distractions.

While most classical educators agree that the ultimate goal of education is the pursuit of truth, goodness, and beauty, there is an ongoing debate about the role of the body in achieving this goal. Some argue that movement is essential, that it supports brain function and enables deeper thinking. Others maintain that movement is a distraction, believing that stillness is necessary for discipline and intellectual rigor.

It is valuable to examine how learning actually occurs. This includes looking at emotional regulation, the role of movement in attention and motivation, and how embodied strategies can support deeper learning without compromising the rigor of classical education. In addition to emotional regulation, sensory regulation plays an important role in helping students stay focused and ready to learn.

Emotional Regulation and Learning

Emotional regulation is necessary for attention and learning. If students cannot control their emotions, it becomes very difficult to focus on instruction. Students cannot fully engage

with a subject unless they are regulated and emotionally balanced. According to Psychology Today (n.d.), emotional regulation is “the ability to exert control over one’s own emotional state.”(Whitbourne) This means being able to manage reactions, calm oneself during challenging situations, and maintain focus despite distractions. When a person is in control of their emotions, it reduces distractions. For example, being regulated reduces anger and anxiety, which are emotions that can pull attention away from what is being taught. If a student is overwhelmed by stress or frustration, their focus shifts to those feelings instead of the lesson. (Neff) As a result, the lesson is hindered and is harder for the student to retain information. Overall, when students are emotionally regulated, they are better able to concentrate, participate, and successfully learn new material.

In addition to emotional regulation, sensory regulation helps maintain balance and stable levels of arousal, in other words energy. When a student has low energy or is highly stressed, it becomes much more difficult to stay attentive during a lesson. Sensory regulation is a crucial process in which the nervous system integrates and adjusts sensory input, allowing students’ to maintain balance and optimal levels of arousal (Neff.). In simple terms, sensory regulation is the ability to respond appropriately to the sights, sounds, movement, and other stimuli around the student. The students' own sensory input helps regulate the sensory system. When the sensory system is regulated, sensory information can be processed and organized in a way that helps students function smoothly. However, when it is not regulated, a student may feel overwhelmed, anxious, tired, or restless. These states make it harder to focus on instruction and fully engage in learning (Neff, n.d.).

According to Chiaro, the connection between movement and brain function is strong and well-supported by research. Physical activity stimulates the release of neurotransmitters like

dopamine and serotonin, which help enhance mood and improve focus. When these “feel-good” brain chemicals are released, students are better able to pay attention, stay motivated, and engage with learning. Movement also acts as a natural stress reliever by reducing stress hormones such as cortisol and adrenaline, while triggering the release of endorphins that promote calm and well-being (Chiaro). In simpler terms, movement can act as a sort of “meditation in motion,” helping students feel alert yet relaxed, improving their ability to concentrate and process information during lessons.

In addition, neuroscience supports the connection between the brain, body, and nervous system regulation. The nervous system is constantly forming and reorganizing neural connections as students learn, a process called neuroplasticity. Physical movement supports this process and helps regulate the nervous system. One way it does this is by increasing the release of brain-derived neurotrophic factor (BDNF), a protein that strengthens and develops neural pathways that are essential for learning and memory (“The Neuroscience of Motion”). When BDNF levels are higher, the brain is better able to form connections that support understanding and recall. Another example of this brain-body connection is the cerebellum, a part of the brain that makes up only about 1/10th of its size but contains nearly 50% of all its neurons. The cerebellum is critical for movement, balance, and coordination, showing how deeply physical movement and nervous system processing are intertwined (“Movement Learning”). Overall, movement doesn’t just support physical health, it directly influences how the brain regulates information, builds neural connections, and prepares students to learn. Ultimately, a regulated body is the foundation for a ready mind. When prioritizing sensory and emotional needs of the nervous system through movement, a physiological environment is created, where focus and learning can truly flourish.

Movement's impacts on Attention & Motivation

When it is understood how deeply movement influences the brain and body, the powerful effect on students' attention and motivation can no longer be ignored. Thinking is not an isolated event that happens only in the brain, it is a full body process. When students are physically engaged, they aren't just moving, they are using their sensorimotor experiences to understand the environment (Cowart). This interaction creates a strengthened attention making it harder for the mind to drift off into "space" because the body is actively attentive to the task at hand.

Movement acts as a reset for the brain. Research from Chiaro indicates that movement breaks increase a student's capacity to retain information by clearing mental fatigue. As stated previously, movement helps calm the students' sensory state which boosts their desire to learn (Neff). They will be less bored and more attentive and on task which improves positive classroom behavior. More importantly, physical activity triggers the release of BDNF, which strengthens the neural pathways necessary for long-term memory and recall ("The Neuroscience of Motion"). By incorporating movement and gestures, energy isn't just being burned it also is physically building a brain that is better equipped to store information and engage with a lesson.

Yet, movement is more than a reset; it is important to student motivation as well. When students are still for too long, the brain's reward system becomes sluggish. Physical activity stimulates the release of neurotransmitters like dopamine and serotonin, which enhance mood and drive (Chiaro). This chemical shift transforms learning from a passive chore into an active, achievable mission. By reducing stress hormones like cortisol, movement fosters a state of alert relaxation, where a student is calm enough to listen but energized enough to care about the material.

Stillness is often mistaken for focus, but for many students, forced stillness actually drains the energy needed for concentration. Sensory regulation is the process of integrating sights, sounds, and movement to maintain an optimal level of arousal (Neff). When the sensory system is balanced, the brain can filter out distractions. Providing sensory and movement-based support allows the nervous system to navigate the world smoothly, ensuring that a student's focus remains on the instruction rather than on the discomfort of their own restlessness.

Embodied Learning

Embodied learning is based on the theory of embodied cognition, which challenges the idea that thinking happens only in the brain and instead emphasizes the role of the body in shaping understanding. The theory of Embodied Cognition suggests that our cognitive processes are deeply shaped by the body's interactions with the environment (Shapiro). According to Shapiro, cognitive processes are deeply shaped by the body's interactions with the physical and social environment. This means that learning is strengthened when students physically engage with information because the body's movements and experiences directly influence how the brain retains and organizes knowledge. Similarly, Cowart explains that thought develops through an organism's ability to act in its environment and that movement supports higher cognition, arguing that these low-level actions are necessary for more advanced cognitive capacities to develop. Together, these perspectives reinforce the idea that hands-on learning is not extra or distracting, but foundational to rigorous and meaningful understanding.

The Trivium consists of three stages aligned with cognitive development: the Grammar stage, which focuses on foundational facts and structure; the Logic stage, which emphasizes analyzing and questioning information; and the Rhetoric stage, which centers on synthesizing

knowledge to communicate ideas persuasively. As Bauer explains, each stage emphasizes language, critical thinking, and interconnected knowledge, enabling students to understand ideas deeply and communicate them effectively. Embodied practices naturally support this progression. In the Grammar stage, hand motions and gestures reinforce memorization by pairing physical movement with foundational knowledge. During the Logic stage, physically constructing models in subjects such as science allows students to visualize and analyze relationships between concepts. In the Rhetoric stage, students may incorporate movement while practicing speeches, recognizing that the body itself becomes an instrument of persuasion (Bauer). In this way, movement does not replace intellectual rigor but strengthens each developmental stage by deepening comprehension and expression.

Building on this understanding of embodied cognition, research further supports that embodied strategies are fully compatible with classical instruction and enhance its central goals of memory, analysis, and persuasive expression. Studies demonstrate that structured movement breaks and kinesthetic learning activities improve attentiveness, retention, and cognitive readiness (“Movement Learning”; Chiaro). In addition, sensory and emotional regulation significantly impact academic performance: sensory integration supports nervous system balance (Neff), emotional regulation allows students to manage internal states in order to focus on learning tasks (Whitbourne), and physical activity enhances mood and attention through neurological stimulation (Chiaro). Collectively, this research demonstrates that embodied practices do not weaken classical rigor but instead create the neurological and emotional conditions necessary for sustained attention, reasoning, and meaningful learning.

Refutation

Critics argue that movement is a distraction in the classroom. Critics claim that physical movement interferes with discipline and attentiveness since traditional classrooms often value stillness and visible self-control. Behaviors such as tapping, shifting, or fidgeting are frequently interpreted as signs that students are disengaged from the lesson. From this perspective, movement appears to divide attention rather than support it.

However, research on regulation and embodied cognition challenges this assumption. As explained earlier, emotional regulation is necessary for sustained attention; without it, emotions such as stress, frustration, or anxiety can easily distract students from learning. Sensory regulation also plays an important role because it helps maintain optimal levels of arousal, or energy, needed for focus. Movement supports this process by stimulating neurotransmitters that improve mood and concentration. In addition, studies show that short movement breaks can increase students' ability to retain information, suggesting that movement functions as a cognitive support rather than a distraction.

Therefore, movement does not inherently distract from learning. For many students, it actually helps regulate the nervous system and maintain attention. What may appear to a teacher as distraction may instead be a form of self-regulation. Some students draw, tap, pace, or fidget in order to maintain focus. When these forms of regulation are suppressed, internal distraction may increase rather than decrease. Purposeful and structured movement can therefore sustain attention and support learning instead of dividing it.

Another common argument is that movement may benefit young children, but becomes unnecessary as students grow older and their nervous systems mature. This takes on the assumption that the nervous system development eliminates the need for regulation and suggests that maturity replaces physiological processes. According to this view, increased age and maturity should allow students to maintain attention and self-control without physical movement. This assumption suggests that nervous system development eliminates the need for regulation and that maturity can replace the physiological processes that support attention and focus.

However, there is no "magic age" at which embodiment disappears. The brain and body remain interconnected throughout the entire lifespan. Adults still rely on movement to support thinking and regulation. For example, people often pace while thinking, gesture while speaking, or exercise to manage stress (Whitbourne). These behaviors demonstrate that physical engagement continues to support cognitive processes beyond childhood. Emotional regulation also remains necessary for attention at every age, since individuals must still manage stress, frustration, and mental fatigue in order to focus. In addition, research on neuroplasticity shows that the brain continues to adapt and reorganize throughout adulthood, and movement can support this ongoing development ("The Neuroscience of Motion"). This suggests that embodied learning is not something students "grow out of," but rather a lifelong process that continues to support attention, regulation, and cognitive growth.

Therefore, movement does not suddenly stop supporting cognition after childhood. Regulation remains foundational to focus at every stage of life. Even mature students rely on physiological balance in order to sustain attention and engage in intellectual work. While the ways individuals regulate themselves may evolve with age, the underlying need for regulation does not disappear.

An additional concern is whether embodied strategies remain appropriate at the college level. Critics argue that higher education requires prolonged stillness and strict self-discipline. College students are expected to sit through lengthy lectures, take detailed notes, and complete demanding academic work that requires sustained concentration. From this perspective, classical rigor appears incompatible with embodied practices.

However, embodied regulation remains present even in higher education. College students regularly rely on movement as part of their academic routines. They walk across campus between classes, study while pacing or using standing desks ("Movement Learning"), and often exercise to manage academic stress and maintain focus. In addition, many college classrooms incorporate discussion, presentations, and other forms of interactive engagement rather than relying solely on passive listening. These practices demonstrate that movement and physical engagement continue to support attention and intellectual work, even within rigorous academic environments.

Therefore, the concept of embodied cognition does not undermine collegiate rigor. Instead, movement becomes more self-directed rather than teacher-directed. College students often choose their own ways of regulating attention, whether by walking between classes, pacing while studying, or exercising to manage stress. These forms of movement help sustain focus, reasoning, and motivation during demanding academic work. Higher education assumes that students will practice self-regulation, and this regulation remains physiological as well as mental. Even in rigorous collegiate environments, the body continues to support the mind in maintaining attention and engaging deeply with intellectual tasks.

Conclusion

In conclusion, when movement and sensory support are incorporated into classical education, students are better able to regulate their emotions, sustain attention, and remain motivated, all of which contribute to deeper learning. Emotional and sensory regulation provide the foundation for attention (Whitbourne; Neff), while movement supports focus, motivation, and deeper cognitive engagement (Chiaro). Embodied strategies align with each stage of the Trivium, demonstrating that the body is not separate from learning but an essential tool in the development of understanding, reasoning, and expression (Bauer). If classical education seeks true learning, it must recognize that stillness alone does not produce attentiveness; rather, it is rooted in a well-regulated nervous system (Schueler). Indeed, this is not a new idea: the historical roots of classical education in ancient Greece were deeply intertwined with movement and the outdoors, and returning to that tradition today is not a departure from rigor but a recovery of it.

A campus committed to intellectual excellence must educate the whole person, acknowledging that the mind does not function apart from the body (Shapiro). When classical education uses purposeful movement and supports regulation, it helps students grow in self-control, perseverance, and meaningful engagement with ideas. (“The Neuroscience of Motion”). Ultimately, true rigor is not defined by enforced stillness, but by sustained attention and active participation. In this way, supporting the needs of diverse learners not only strengthens academic success but also advances the mission to know God and make Him known.

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