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In this book, neuroscience, the psychology of expert performance, and coaching in athletics converge to inform a new instructional paradigm for the secondary English classroom.

These fields, which the secondary language arts world has not extensively considered, have valuable insights to offer teachers. Listening to them allows us to design instruction that both energizes our classrooms and enhances student learning, providing all students a pathway to higher achievement.

What do neuroscientists, psychologists, and athletic coaches have to tell English teachers about their instruction?

They invite us to consider a classroom shaped by *movement*, in both a literal and figurative sense.

First, considerable expanding research on the brain convincingly demonstrates that literal, physical movement should play a part in our instruction, designing class activities where students must physically get out of their seats, change seats, gallery walk past whiteboards, position themselves physically in various marked locations of the room. These choices don't merely keep students awake: movement also assists the brain in learning complex tasks, strengthening memory, building more resilient neurons, and enhancing the brain's overall health.

Second, the psychology of expert performance and the methodologies of coaching in athletics shape our thinking about movement in a more figurative sense.

Psychologists have examined the most successful athletes, artists, and scientists, and have uncovered that expertise in *any* field is achieved through a specific mode of training. They have broken down the thought processes and training protocols of these top performers, identifying the movements involved in acquiring expertise: these individuals intentionally acquire specific skills, internalize them through repetition, and ultimately achieve an ability to strategically execute them with a level of excellence that surpasses most of their competition.

Coaches have methodically developed training programs that bring out the best in their athletes, by visualizing the winning performance and considering all of the adaptations (technical, tactical, psychological, physical) that their players must make to be able to achieve it. They have then designed practice to focus solely on these aspects of performance, which form the playbook that their athletes must internalize, then execute successfully, in order to win.

Psychologists and coaches of athletes help us to envision how expert performance in English may be trained:

- First, by breaking down performance in reading and writing into specific, smaller “movements,” visualizing the thought processes involved in these complex intellectual behaviors;
- Second, by designing a playbook of these movements for our students;
- Third, by creating lesson plans that actively engage students in practicing and internalizing the playbook, while we adopt the role of the coach.

Note that when we speak figuratively of reading and writing “movements” or “plays” we are no longer referring to physical actions (standing up, going to the board, switching desks, passing a marker to a partner), but intellectual ones, movements of the mind. Throughout this book, we will be using the words “movement” and “play” interchangeably. Both words are synonymous with the word *skill*.

Just as football players know by heart several plays that direct their physical movement about the field, high-performing English students have mastered a different set of movements or plays. The playbook in English class includes but is not limited to

- Creating parallel structure within a sentence
- Identifying important diction, detail, or imagery within a literary passage
- Making interpretive associations for a piece of textual evidence
- Organizing evidence within a paragraph

We find this physical, athletic analogy to be helpful for us and our students.

For one thing, the word “skill” is abstract; it does not create a picture in our students’ minds. “Movement” and “play” are far more visual words. They evoke images of action. They have parts. They can be broken down into smaller steps.

Using these words communicates to students that reading and writing are not magical or genetically bestowed gifts, but activities that involve a process, abilities that can be acquired through training. It also tells students that they are entering a space that will engage them in practice. Finally, it orients our thinking about instruction, focusing us on engaging students in learning *how* to read, write, and think, rather than lecturing to them about *what* to notice, what to write, or what to think.

But to teach them, *coach* them in this way, we need a playbook.

A playbook that breaks apart the thought processes of the ideal reader or writer is something that the English classroom has lacked, yet it has never been more needed.

Those who lack proficiency in writing cannot see the thought process of the ideal student who drafts a distinctive thesis statement. Many students do not know how the top performers even make sense of a Shakespearean soliloquy, let alone explain its meaning with insightful commentary. To students like these, the movements of reading and writing are obscure.

Our students are changing: many of them have a lower reading level, weaker vocabulary, and shorter attention span than their predecessors of even a decade ago. More and more, they experience the English language primarily through a digital world that does not give them a working knowledge of grammar, syntax, and style, but rather tends to distort or dull their understanding of these, even do the work for them.

Now more than ever, our students need teachers who can elucidate the process of reading and writing, and show them the plays that lead to success.

- How does the ideal reader enter a difficult literary text and understand the associative ideas that the author conveys?
- How does the ideal writer develop an essay that states a precise interpretive claim about the literary text?

If we do not visualize and articulate these movements for our students, not only will they be confused about them, but we will also have no strategies to give them effective feedback. The teacher without a playbook has only imprecise comments to offer:

The Athletic Paradigm

Great coaching programs produce great playbooks—a carefully constructed set of movements for players to execute during game time. Each play is triggered by a simple language cue that directs a player toward a precise behavior. The entire coaching staff works from this plan; players learn and memorize the movements, and field practice allows players to internalize these moves so that they instinctively respond to game-time stimuli.

After players internalize the correct movement of each play, the ultimate goal of consistent practice is to—as Craig Simmons⁵⁹ writes—“perform the technique without thinking about it, allowing attention to be devoted to strategic and tactical aspects of performance.”

English teachers need to borrow this paradigm, and now brain research demonstrates that we must see our classrooms as a field to practice the intellectual movements that can make all students experience success.

Designing a playbook for the English student begins with core questions:

- What skills must the English student internalize in order to read complex texts?
- What skills assist the student with crafting an essay within a timed situation?
- How can we break these movements into smaller parts so that our weakest students can practice them?
- How can we design language cues that correspond to precise movements in writing and reading?

The playbook demystifies the expert performance of the ideal reader and writer. For students who think they can't write well or can't interpret poems convincingly or can't do grammar, the playbook reveals they can and shows them how.

59 “Skill Acquisition in Football 8 to 16 Year Olds”

Because the playbook contains precise movements that students can understand and then execute, it opens a pathway to academic achievement for all students.

As English teachers, we often forget that the majority of our students have not magically internalized the skills of interpretive reading and analytical writing

Students will not acquire these skills unless we coherently show them how.

that made us major in English. Too often we have not realized that students will not acquire these skills unless we coherently show them how. Simply running a glorified book club in class, waxing philosophical with a few gifted students during fifty minutes, pretending a Socratic dialogue is occurring while the weakest students sit passively wondering

how Michele decided that the image of the spider reflects the psychological entrapment employed by Miss Havisham—none of these manifest effective instruction.

We would scoff at a coach who used the majority of practice time to talk *at* his players. But we have lauded the sages on the stage. Science proves, though, that the teacher-centered model stymies the impulses of the brain.

With neuroscience and the psychology of expert performance, the English teacher is equipped to craft a playbook that will indeed win championships.

What Teachers Need to Know about the Brain

Our brains continue to grow and respond to stimuli in a process called **neuroplasticity**; our brains are not static but dynamic. Our instructional decisions ought to stimulate the neuroplastic energy that fuels learning and memory. These decisions expedite physical changes that make our students' brains work more efficiently.⁶⁰

Learning, in fact, is the primary way in which our brains grow and change; our brain's strength is not marked by the presence of newly created neurons, but marked rather by the formation of new connections between existing neurons, forming new **memory networks**.⁶¹

60 McTighe & Willis, 2009

61 Owens, 2017

As the brain begins to learn, it becomes more effective if it absorbs stimuli from a variety of modalities—auditory, visual, physical.⁶² In this basic process, information and new learning gets prioritized and sifted, either discarded for lack of relevance or incorporated into previous or emerging circuits of memory.⁶³

Our goal as instructors is to carefully direct new learning so that it becomes part of longer term memory.

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The good news—teacher choices can positively influence each stage of this intricate process, providing all students the opportunity to achieve.

The brain possesses several basic impulses that should direct our instructional choices. The brain

- is dynamic and changing, continuing to grow through a process of neuroplasticity;⁶⁴
- strengthens memory networks that are stimulated frequently;⁶⁵
- possesses a survival instinct that derives pleasure from predicting outcomes based on seeking patterns;⁶⁶
- can process a limited amount of new information: its filtering system will quickly discard information not used or connected to existing memory networks;⁶⁷
- must be connected to larger long term circuits;⁶⁸ it requires breaks between new learning to rehearse and review information just entered into the short term memory⁶⁹

62 Schneider, et al., 2018; van den Heuval, et al., 2009

63 Eichenbaum, H. 2017

64 Jensen & McConchie, 2020; McTighe & Willis, 2009

65 Sanes, J., & Lichtman, J., 2001; Jensen, 2005

66 McTighe & Willis, 2009

67 Thalmann, Souza, & Oberauer, 2018

68 Luiten, Ames, & Ackerson, 1980

69 Smolen, Ahang, & Byrnm, 2016

- strengthens memory circuits when learning occurs through multiple modalities—auditory, visual, motor.⁷⁰

The English Coach's playbook, the core design of repeated movements throughout the year and throughout the vertical team, incorporates and reflects the following fourteen principles informed by our knowledge of how the brain functions. We've noted in brackets the corresponding coaching and expert performance categories that are related to the brain category.

Behavioral Relevance [Look like the game, SAID]

When we fail to show students why the learning is significant to them, that doorway to the brain remains closed and no learning of significance will take place.

Beginning a new unit requires a hook to entice students to engage with learning, to secure that “buy in.” This intuitive practice reflects a principle of the brain—the hook is like the porter opening a doorway to the brain, creating what researchers call “behavior relevance.” When we fail to show students why the learning is significant to them, that doorway to the brain remains closed and no learning of significance will take place.⁷¹ But when the porter opens that

doorway (achieving behavioral relevance), the brain activity begins and “the chances of its being learned, remembered, and internalized increases.”⁷²

Brain Breaks

Research once thought that evening sleep provided the only time for our brains to replay the learning that occurred in the day, a time to strengthen some of the newly formed neural networks. But this natural brain instinct—that reviews the lesson and reinforces memory—can be triggered during

70 Pashler, et al., 2008; van de Hueval, et al., 2009; Schneider, et al., 2018; Cassidy, 2004

71 Kilgard & Merzenich, 1998; Jenson and McConchie, 2020.

72 O'Keefe & Linnenbrink-Garcia, 2014.

The Brain Break

Research once thought that evening sleep provided the only time for our brains to replay the learning that occurred in the day, a time to strengthen some of the newly formed neural networks. But this natural brain instinct—that reviews the lesson and reinforces memory—can be triggered during our class periods in a manner of seconds, providing the brain relief from information overload or from the dissonance emerging whenever students struggle with the task.¹²⁷

The brain break, ideally for high school students, occurs after 30 minutes of a learning activity, the moment when the amygdala, the brain's filtering system, closes down. Shifting the brain away from its complex cognitive task provides that particular neural network resting time, an opportunity to recharge while the brain moves to another area.¹²⁸

Brain breaks lead students to a separate already rested area of the brain.

These breaks can engage students with additional physical movement and / or social interaction prompting positive emotions—joy, calmness, belonging, fellowship. Reading humorous poems without accompanying interpretation; playing musical chairs to switch groups or partners; playing a requested song or video clip; writing on the board a favorite hobby, sport, musician, movie; viewing artwork that connects to a current reading unit.

After the break, students return to the more challenging task with a refreshed brain, ultimately strengthening the long-term memory circuit connected to the lesson's goal.¹²⁹

127 Terrada, 2022.

128 Willis, 2016.

129 Buch, E. R., et al., 2021; Robertson, E.M., 2019; Kelley, P. & Watson, T., 2013; McTighe, J. & Willis, J., 2019; Smolen, Ahang, & Byrne, 2016.

Musical Chairs

In an activity divided into a series of timed rounds, students examine small quotations or passages from the novel. When the music plays, they must move to a different location, where they sit with a new partner or group to discuss a new quotation.

Core Plays Involved



Learning Objectives

- Link any reading content with the practice of the core reading and writing plays.

Procedure

- Arrange the classroom desks into table formations (e.g., four desks pushed together to make a table).
- The teacher selects ten quotations from the novel. These could be from a chapter the students have already read, or one they are about to begin reading.
- Print these quotations (number them, or indicate the page number) and place each one at a different table.
- Students need a place to record their associations (L2) from each round. Tell them to have their notebook/journal or a sheet of paper ready.

Human Sentences

Grammar Plays

- absolute phrase [the “AP”]
- present participle phrase [the “PrPP”]
- past participle phrase [the “PaPP”]
- gerund phrase [the “GP”]
- infinitive phrase [the “IP”]
- adverb subordinate clause [the “AdvSC”]
- noun subordinate clause [the “NSC”]
- adjective subordinate clause [the “AdjSC”]

Learning Objectives

- Use physical movement and social engagement to reinforce students’ knowledge of phrases and clauses, to strengthen their grammatical long-term “memory circuit.”
- Test how quickly students can apply core grammatical knowledge to the building of sentences.