Heightened Awareness, Attention, and Focus with Brain Boosters

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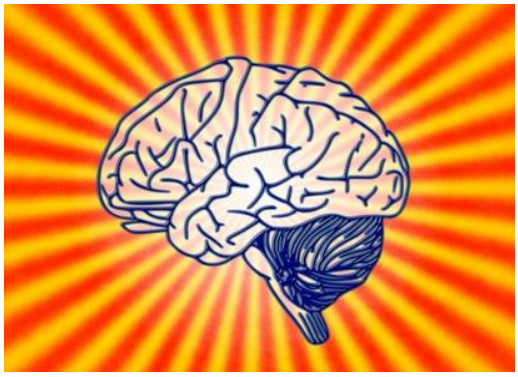
I. Introduction



Students' attention spans are similar to everyone else's in that they are inclined to pay attention to what interests them (Medina, 2014; Willis, 2006). Despite the recent perception (due to high Internet use) that the human attention span has decreased to the point it is shorter than the average attention span of a common goldfish, the truth is, it has not. In fact, some studies have shown that our attention spans have actually increased (Ghausi, 2018). In the end, however, what students pay attention to and for how long they pay attention really depends on their interest in the topic, how it is presented, and, most important, how focused their minds are.

As English language teachers (ELTs), we must always be sensitive to how our English language learners (ELLs) take in and process information. We need to be mindful and pay close attention to the expressions on their faces, and we need to be aware of their body language and their reactions to see if they are focused and ready to encode and learn new material. To assist ELTs in making the most of their classroom instruction and to help motivate their ELLs in the learning process, this article focuses on the concept of *brain boosters.* First, I will define what brain boosters are and discuss the reason I have changed the term from "brain breaks" to "brain boosters." Next, I will look at the five categories of brain boosters that I have created and offer an easy-to-implement activity for each category. I will conclude by pointing out the benefits that are yielded when these brain boosters are used by students and teachers.

II. Defining Brain Boosters

A brain booster (or what is commonly known as a brain break) is a relatively short break from studying—either as a group in a class or by oneself at home—that includes using a full body physical- or mindful-based exercise to help rejuvenate the mind. A brain booster can last anywhere from one to five minutes. Brain boosters may, of course, go longer, but the aforementioned limit has seemed to work best for the students in my classes and for those of my colleagues who use them.

The Purpose and Appropriate Use of Brain Boosters

The purpose of these short sessions is to get the students—and often instructors—refocused and to heighten their attention regarding the material they are studying or learning. In addition, these brain boosters also help release stress and calm the mind. The main purpose, though, is to help bolster thinking and other cognitive activities. This is accomplished by transporting more blood and oxygen to the brain and also developing healthy breathing techniques. In turn, this results in activating many learning- and attention-based neurotransmitters (e.g., acetylcholine) and neurotrophins (e.g., brain-derived neurotropic factor) that are also carried in the blood and released in the brain during the various brain booster activities.

When and how many brain boosters should be used is often a concern for ELTs. I advise using them as a regular routine, but I also recommend that teachers use their own discretion. If a class is flowing naturally with a great deal of enthusiasm and energy, then these brain boosters are not necessary. On the other hand, if a teacher perceives a sudden drop in attention or a need for an energy boost, then they ought to be employed immediately. I believe the key is to be sensitive to the atmosphere of the classroom and the needs of the students.

A Word on the Misnomer of Brain Breaks

Before continuing on, I would like to explain why there is a need to correct the current term, “brain break,” and rename it “brain booster.” First of all, the brain never breaks during one’s entire lifetime. Neuroscientists and their research (Eagleman, 2011; Medina, 2014) remind us that the human brain is constantly at work, and even when we sleep or nap, our brains never rest. In fact, a recent discovery at the University of Western Ontario reported that one patient’s brain

continued to function for more than 10 minutes after all other organs had stopped (Downey, 2017). In short, there are no "brain breaks" per se, and even during restful states, the brain furiously works away. I would thus like to rename these academic or study rest periods and call them "brain boosters." These sessions essentially energize the brain in the sense they help us refocus, attend to the information or task at hand, and heighten our learning and memory faculties.

III. The Categories of Brain Boosters with Examples and Benefits

Most examples of brain breaks in recent literature, or what I am calling brain boosters, focus on physical activities such as a "three-minute dance party" or "Simon says" (Cox, 2019, para. 4). I, however, have expanded the idea of brain boosters to include five categories:

- physical exercise- and yoga-based brain boosters,
- mindfulness- and meditation-based brain boosters,
- emotion-based brain boosters,
- music- and poetry-based brain boosters, and
- combination-based brain boosters.

Let us now look at a useful and easy-to-implement activity for each category. These brain boosters are appropriate for all levels of language learners, but instructors should feel free to modify them as they see fit. I will also offer the rationale for each of these brain boosters and give a brief explanation of its benefits.

Physical Exercise- and Yoga-Based Brain Boosters

Shake and Wake

This brain booster allows students to bolster their physical energy level and cognitive focus. It also helps foster immediate oxygen intake, and it nurtures balance and flexibility. For an example of this exercise, please go to my YouTube video and forward it to the 22:43 mark: https://www.youtube.com/watch?v=60y5JF3FszY. Note: This activity was first introduced to me by professor Michael Berman of Montgomery College, in Rockville, Maryland.

The Process

1. Lead the students by asking them to stand up and make sure they allow enough space to move freely about.
2. Have everyone take three deep breaths and focus on each inhalation and exhalation.
3. Next, ask the students to stand up straight, but also have them bend their knees ever so slightly.
4. Then, have the students stretch out their right hand and shake it vigorously while counting to five all together as a class. Next, do the same action with the left hand, followed by the right foot and the left foot. Then, shake the whole body while counting to five.
5. Repeat the sequence and count to four while shaking each body part (i.e., by shaking each hand, each foot, and the body), then repeat the process by counting to three, two, and finally to one.
6. As they do the activity, have the students focus on both inhaling and exhaling.
7. Finish by taking three deep breaths together as a class.

   * The breathing component in 6-7 is a key aspect of yoga, and it helps to increase a sense of mindfulness.

The Benefits

According to Jensen (2008), students need to be up and moving every 20 minutes in order to produce a healthy flow of blood and oxygen to the brain. In essence, these brain boosters are not only recommended learning tools, but they are actually vital in terms of producing and maintaining alert and focused students. If we want our ELLs to learn, we must incorporate these short energizing sessions during class (Schmidt-Kassow et al., 2013).

The benefits of these kinds of brain boosters are numerous: They help students release stress through exercise, and they help release crucial learning and memory-based neurotransmitters in the blood. These neurotransmitters allow students to maintain a focused, alert, and attentive mind, and they also help in formulating long-term memories of the newly acquired material (Ratey & Hagerman, 2010).

Mindfulness- and Meditation-Based Brain Boosters

Guided Full-Body Breathing & Reflection

The current working definition of mindfulness is one put forth by Kabat-Zinn (1994). He explains it as "paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally" (Kabat-Zinn, 1994, p. 4). Practicing mindfulness, which is essentially a full-body form of meditation, helps bring the students consciously into contact with themselves and their immediate environment. This kind of brain booster can be done either sitting or standing. However, as the human being has spent most of its time on earth in motion, and this is a very natural and beneficial pose, I have found it best to do this exercise while standing. The upright positioning of the body also helps circulate the blood and wake up the mind.

The Process

1. Have the students stand up, stretch their arms, and twist their bodies a bit.
2. Once their bodies are relaxed, ask the students to comfortably take three deep breaths.

3. Next, have the students continue to pay attention to their natural breathing, focusing on each breath as it enters and exits their mouth or nose.
4. Then, guide them from head to toe by acknowledging, feeling, and paying attention to their head, neck, shoulders, arms, hands, chest, stomach, waist, thighs, knees, calves, feet, and toes.
5. Next, bring the students' attention to how their feet make contact with the floor. That is, are they putting weight on the balls of their feet or on their heels? And which positioning feels best?
6. Then, have them close their eyes and pay attention to the sounds in the room: What are the sounds and how do they make the students feel?
7. Conclude the brain booster by having the students take three breaths and stretch their arms out to trace a full circle in the air.

The Benefits

Mindfulness and meditation, like physical exercise, offer a sense of joy and well-being for our students. The general benefits that mindfulness and meditation foster are impressive, for they help strengthen the immune system, reduce stress, relax the body, and act as powerful anti-depressants. In terms of helping ELLs in class, mindfulness and meditation activities help increase the working memory, improve cognitive flexibility, enhance attention and focus, and also promote empathy and compassion among students (Davis & Hayes, 2012). And, like the physical exercise-based brain boosters, these can be done both in the classroom and later in each student's own private study session at home or in the library. These can thus be implemented in class and outside of class for our ELLs.

Emotion-Based Brain Boosters

Mirror the Emotion

This brain booster taps into both the use of positive emotions and the use of movement. These positive emotions, like physical exercise and mindfulness practices, relax us, lower our stress, and make us more focused. So, this brain booster is another useful way to invigorate the brain and help students refocus on the lesson at hand.

The Process

1. Have the students stand and take three deep, relaxing breaths. Then, have them close their eyes and think about a distant or recent positive memory. Emphasize the positive emotions linked to the memory like happiness, excitement, or surprise.
2. Ask the students to think about what the key emotion was in the experience.
3. Next, have them keep their eyes closed and imagine how they might describe this memory using only their body, with no words. This should take about one minute.
4. Then, ask students to open their eyes and have one partner face his/her neighbor and mime the short story/experience.
5. The partner, then, guesses what the story is about and also guesses the key emotion/ emotions of the story.
6. Next, the partners switch roles.

The Benefits

"We are driven by our emotions" (Jensen, 2008). Many studies in neuroscience (e.g., Davidson & Begley, 2013; Sousa, 2011) continue to shed more and more light on just how important the use of emotions is in learning. Immordino-Yang (2016) argues that "the aspects of cognition that are recruited most heavily in education, including learning, attention, memory, decision making, motivation, and social functioning, are both profoundly affected by emotion and in fact subsumed within the process of emotion" (p. 37).

My own students' beliefs in and needs for the use of emotions in the classroom are indeed testament to their significance. In a 2013 survey, I asked my students in three different writing classes how emotions affected their learning and retention of new skills and material (*N*=42). It was no surprise that all 42 students were passionate about the need for emotions while learning the English language (Randolph, 2013). It is only logical, then, that we include emotions in our brain boosters. "Emotions trigger the chemical changes that change our moods, behaviors, and eventually our lives" (Jensen, 2008, p. 89). In short, the emotion-based brain boosters are exactly like our previous boosters; they help students release stress and focus on the material with renewed interest and attention.

Music- and Poetry-Based Brain Boosters

Music & Lyrics

This music-based activity is at the core of human evolution; that is, music has been an important part of our evolution and cognitive development for thousands of years. Moreover, as music is well known for increasing cognitive flexibility and physical energy, speeding up the heart rate, releasing significant neurotransmitters to create a host of positive emotions, and enhancing creativity and critical thinking (Jensen, 2008), this activity, coupled with the physical exercise component, is a perfect brain booster.

The Process

1. Select either a short song or a portion of a song for the class. Choose a song from YouTube that features the lyrics appearing simultaneously with the song. “Twinkle, Twinkle Little Star” for young ELLs and “Everything at Once” (by Lenka) for older ELLs are fitting songs.
2. Next, play 1-2 minutes of the piece and act out or gesture the lexical items in the song. You can lead your students the first time you try this, and once students understand the idea, they can create their own gestures to represent the words, phrases, or idioms in the song.
3. It is important to note that there is no goal to finish an entire song, but rather, the main purpose is to have fun, let the music move the students, and embody the words with physical actions.

A Note on the Poetry-Based Brain Boosters

A variation of this can be done by either writing one or two stanzas of a poem on the board or by projecting it on a screen. As the instructor reads the poem, the students gesture the words and images. For example, one could use the famous two stanzas of Ryokan’s poem, “Winter Night:”

A long, cold winter’s night—
slowly a piece of wood burns in the fireplace.

Nothing can be heard except the sound of
snow striking the window.

The Benefits

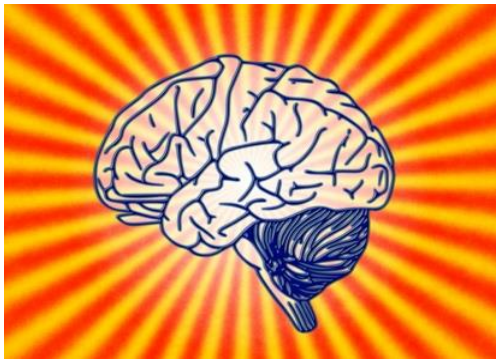
The brain’s relationship with music—both making music and enjoying it—dates back to every period of human history (Levitin, 2007). It is consequently a very logical and natural pedagogical tool to use in the classroom. In addition, the brain employs numerous areas while listening to music and thus benefits greatly (Jun, 2019). For instance, the motor cortex is used for playing music or dancing to the sound of music; the hippocampus is used for memory regarding music and certain associations with music, and the amygdala is used as an emotional center in response to music (Levitin, 2007). But more important, like the other brain boosters, music simply makes the students’ brains, hearts, and consciousness come to life, and it energizes their minds as well as their bodies.

Combination-Based Brain Boosters

I have included a category that combines two or more of the brain boosters. ELTs are free to create any kind of activity by employing a combination of the categories they feel their students will best respond to. For example, an instructor could have his/her students do the *Shake and Wake* while practicing mindfulness by being aware of their breathing and their bodies. In addition, they could add in an uplifting or relaxing piece of background music. Students could then report to their neighbor how this activity made them feel emotionally. In essence, all categories could easily be combined for this particular brain booster.

As the reader has already noted, each of the first four brain booster categories overlap with at least one other category (e.g., the physical exercise welcomes a mindfulness component and the mindfulness practice is also physically active.) By nature, then, each brain booster category is multidimensional; and this, I believe, is what makes each brain booster so effective.

IV. Concluding Remarks



It is no secret that our students' minds wander during class at one time or another. This is unavoidable as it is part and parcel of the human condition. There are, however, those moments that cause every instructor to realize it is necessary to rejuvenate the learners' bodies and minds in order to refocus their attention and inspire an interest in the material. Whether they are

primary school ELLs or university level ELLs, they need help to get their minds back on track. The five categories of brain boosters that I have surveyed act as powerful solutions to combat those problematic periods in class. One central reason why I believe they are so compelling comes down to the interesting fact that these brain boosters all activate three key areas of the brain that deal with learning, memory, attention, and emotions. That is, these brain boosters work because they tap into the prefrontal cortex, the hippocampus, and the amygdala—the areas vital for memory and learning. I also believe they work because students of all ages appreciate what the brain boosters do for their sense of awareness, attention, and focus.

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