

# Trauma and Learning: Impacts and Strategies for Adult Classroom Success

Rachel Johnson

*Exposure to potentially traumatic events, which can have a significant impact on brain mechanisms for language learning, is high in adult ELL classrooms. Strategies targeting attention and memory networks presented here may mitigate those effects.*

*Key words: trauma, adult English language learners, language acquisition, cognitive function, attention, mindfulness*

## Trauma and Its Prevalence in the Adult Classroom

Discussions of traumatic exposure and their impacts on the classroom have become increasingly common in education circles in recent years, befitting its serious impact on subsequent quality of life and its prevalence in society. In the United States, up to 90% of adults report having experienced at least one potentially traumatic event (PTE) in their lifetime (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Kilpatrick et al, 2013). Furthermore, the majority of people who experience one PTE tend to experience additional PTEs (Kessler et al, 1995; Kilpatrick et al, 2013). An international study representing individuals from 24 countries found that over 70% of respondents experienced at least one PTE, and 30.5% had experienced four or more (Benjet et al, 2015). PTEs include childhood neglect; sexual, physical or emotional abuse; natural disasters; interpersonal violence; and generational or historical traumas.

There is considerable individual variability in response to PTEs. Although most people experience relatively positive outcomes with relatively limited dysfunction, such as resilience and recovery, others experience negative outcomes and dysfunction, such as diagnosable Posttraumatic Stress Disorder (PTSD) (Bonanno, 2004; Norris, Tracy, & Galea, 2009). Certain types of trauma, particularly sexual violence, are more likely to lead to negative quality of life, including diagnosable PTSD (Kessler et al, 1995).

The current international prevalence rate of PTSD is roughly 1.1%; however, prevalence rates vary widely in different populations (Yehuda et al, 2015). For instance, a systematic review of studies estimated 10% of refugees have PTSD (Fazel, Wheeler, & Danesh, 2005). Notably, 62% of a particular population of Cambodian refugees (586 surveyed) in California were found to have PTSD (Marshall, Schell, Elliott, Berthold, & Chun, 2005). Determining true prevalence can be complicated by underreporting of trauma or limited English language skills and lack of appropriate interpreters (Kirmayer et al, 2011; Yehuda et al, 2015).

In the adult ESL classroom, it can be assumed that many or all students have experienced at least one PTE in their lifetime either prior to arrival in a new country, post arrival, or both (Hollifield,

Warner, Krakow, & Westermeyer, 2018). Most will have survived more. Being in the classroom shows at least some level of resilience. This, however, does not indicate that trauma has not impacted students' day to day functionality and language acquisition (Emdad, Söndergaard, & Theorell, 2005; Söndergaard & Theorell, 2004). In this paper, I explore how exposure to trauma can impact the brain, affecting classroom behaviors and performance, particularly language acquisition ability, and review some strategies to mitigate the effects of trauma and enhance language learning in adult ESL students.

## **Trauma's Impact on the Learning Brain**

Few studies have explored the impact of PTSD and traumatic exposure on language learning. Results from two studies with a refugee population acquiring Swedish as a second language after resettlement provide initial evidence for impairment. Söndergaard and Theorell (2004) found as PTSD symptom severity increases, there is a corresponding decrease in the rate of language acquisition in their adult refugee students. Further, trauma duration and severity has been shown to correspond with learning difficulties (Emdad et al, 2005). Though few to no such studies have been conducted with adult ESL students who have experienced trauma, similar patterns of impairment are likely. These learning patterns may be a result of the effect traumatic stress can have on two key factors for second language acquisition, namely attention and memory.

As teachers are well aware, students' concentration in the classroom is critical for learning. The Noticing Hypothesis describes how this process works for language acquisition (Schmidt, 1990, 2010). Students do not automatically acquire input; rather, they must first notice it, or consciously register it, in order for it to be acquired. This requires capacity to focus and sustain attention. Unfortunately, traumatic stress can have a negative impact on brain networks that monitor and enforce attention control, such as the salience network, which allows humans to determine what stimuli to focus on; the default mode network, which helps with self-regulation; and the central executive network, which is critical for controlling thoughts, emotions and behaviors (Yehuda et al, 2015).

Memory is also required for learning to guide the storage of new material and its subsequent retrieval including both declarative and procedural forms of memory, which related to facts and events, and how to do tasks, respectively (Morgan-Short, Faretta-Stutenberg, Brill-Schuetz, Carpenter, & Wong, 2014). The negative impact from traumatic stress can limit language acquisition, particularly in terms of storing and retrieving new information, including vocabulary and grammar (Perry, 2006). When storing and retrieving information are negatively affected, students may have a difficult time remembering the day's lessons and subsequently applying what was learned.

## **Classroom Behaviors after Trauma**

The impact of traumatic stress and PTSD extends beyond learning capabilities in most studied populations. Biological evidence demonstrates that individuals with PTSD can display a dynamic shifting between hyperarousal, or a heightened arousal response tending towards anxiety and hypoarousal, or a heightened settling down response. Hyperarousal may result in displays of fear,

anger, and guilt, while hypoarousal may result in lack of portrayed emotion (flat affect) or numbing (Yehuda et al, 2015). These arousal patterns are seen in relation to the autonomic nervous system, which allows the body to respond to potential threats and relax after threat is gone (Williamson, Porges, Lamb, & Porges, 2014).

Instead of staying within the limits of a healthy autonomic nervous system or within patterns of healthy arousal and settle, individuals exposed to trauma may be well outside normal range, with an increased sympathetic system response, leading to high anxiety, panic, exaggerated startle reflexes, restlessness, digestive problems, sleeplessness, and rage. Conversely, individuals exposed to trauma can also get stuck below the normal healthy range of the autonomic nervous system, with an increased parasympathetic response, resulting in depression, exhaustion, disconnection, and inability to express emotions (Sherin & Nemeroff, 2011; Williamson et al, 2014; Yehuda et al, 2015).

There is little research on how these biological patterns impact behaviors within the adult classroom. Perry (2006) synthesizes the biological impacts of shifting between hyperarousal and hypoarousal with behaviors commonly seen in the adult classroom. He explains that when hyperaroused, students might jump at noises or seem unable to focus on the teacher. There could be outbursts of crying or laughter at inappropriate times. Students may seem emotionless, or overly emotional when hypoaroused. They may refuse to work with other students or teachers. To complicate the picture, these behaviors may change from day to day (Perry, 2006). It's important to recognize that these behaviors may be protective strategies stemming from fight-or-flight system activation (Perry, 2006). When behaviors become disruptive to student learning, however, there are some interventions that may be helpful.

## **What can teachers do to mitigate the effects?**

Evidence-based research on interventions to improve learning and emotional regulation in adult ESL classrooms after trauma is limited to date. Fortunately, there has been substantive work on improving cognition and learning following Traumatic Brain Injury (TBI), particularly with memory (Kennedy & Coelho, 2005) and attention (Mckay, Moore, & Sohlberg et al, 2003). Below I present several strategies from that field that could benefit adult ESL learners whose attentional networks are impacted by trauma. Additionally, to mitigate the emotional-behavioral impacts, I present some simple mindfulness exercises, which have shown strong positive outcomes in K-12 classrooms with and without non-native speakers of English in emotional regulation (Napoli, Krech, & Holley, 2005; Zenner, Herrnleben-Kurz, & Walach, 2014), and in connection with psychological therapy with traumatized adult refugee and immigrant populations (Hinton, Pich, Hofmann, & Otto, 2013).

### **Attention tasks**

The goal of attention tasks is to regain control over the attentional brain networks that want to respond too quickly, or may not be willing to respond when asked. These tasks have shown transferability of improved attention in more natural settings, such as classroom instruction, which may result in improved language acquisition by training attentional focus to return to

healthy levels (Mckay, Moore, Sohlberg, et al, 2003).

1. **Selective Attention Task:** Read a story with a target word (or a list of letters with a target letter). Every time the target is read, students complete some action (raising a hand, tapping the table, writing a number, etc.). As students show improved attention, this task can be made more difficult by asking comprehension questions from the story at the end. This adds an element of shifting attention between a specific stimuli and gist meaning, something that can be very difficult due to hyperarousal after trauma (Mckay, Moore, Sohlberg, et al, 2003).
2. **Alternating Attention Task:** Have students sort decks of cards (or any type of flashcard with at least two elements) by number or color. Change the rules every so often. This requires students to sustain focus on a particular rule, then shift their focus to a new rule, enhancing voluntary control of where attention is directed (Mckay, Moore, Sohlberg, et al, 2003).

### **Memory strategies and tasks**

Following trauma, students may have difficulties encoding new material from working memory to long term storage. In terms of improving memory, all of these systems may be functioning correctly, albeit slowly, due to the damaged networks (Morgan-Short et al, 2014; Perry, 2006). The strategies below have shown to help patients with TBI in storing information more effectively and maintaining it for future use (Kennedy & Coelho, 2005).

1. **Teacher strategies:** Wait longer after giving instructions to allow extra time for processing information along the network. Give instructions both orally and visually when appropriate to allow for review (Kennedy & Coelho, 2005).
2. **Errorless learning:** When brain networks have sustained damage, guessing an answer can lead to encoding inaccurate information. Errorless learning involves repeated rehearsal with answers provided before inaccurate guessing can occur, particularly when introducing a new topic (Sohlberg, Ehlhardt, & Kennedy, 2005). An example could be naming a word and its meaning before asking a student to guess. This has shown to result in improved long term retrieval in patients with memory problems, and ultimately improved learning (Baddeley & Wilson, 1994; Sohlberg, Ehlhardt, & Kennedy, 2005).
3. **Spaced retrieval task:** Read a story and immediately ask a comprehension question. Tell the class you'll ask the same question later, and progressively space it out. This task is a little trickier, in that it requires both attention and memory to be working well synchronously (Sohlberg et al, 2005).

### **Mindfulness**

Techniques presented below (Hinton et al, 2013) could benefit students, by promoting emotional balance and healthy release of potential stress by focusing on awareness of the present (Kabat-Zinn, 2005). At times, classroom material, interpersonal experiences at school, or other events may result in a flashback of distressing events or memories, or a hyperaroused state. The mindfulness strategies presented below may help to settle the autonomic nervous system to a healthier level. These specific strategies have been carefully selected to avoid the risk of

exacerbating this distress response by avoiding imagery techniques that may intensify the response to a triggering event (Creswell, 2017).

1. Breathing (Creswell, 2017): An excellent way to start and end the day, can be done sitting or standing. Place a hand on the stomach and take five refreshing breaths, counting to three on each inhale and exhale.
2. Stretching (Creswell, 2017): Reach for the sky with one hand, while keeping the other palm facing the floor, grounded. Slowly switch arms, being careful to avoid pain.
3. Tense/relax (Creswell, 2017): Tighten and release various muscle groups. For example, tighten all of the muscles in your arms, hold for five seconds, and release. Repeat as needed.
4. 5-4-3-2-1 (Creswell, 2017): Have a student describe five things they see in the room, four things they feel with their skin, three things they can hear, two things they can smell, and one good thing about themselves. This is very helpful in terms of settling down and returning to the present moment after an emotional episode.

Overall, it is important to note that though many students in the adult ESL classroom will have survived significant trauma, they have already demonstrated high levels of resilience by resettling, entering school, seeking (and finding) jobs, and caring for their family and friends. Many have developed successful strategies for their lives that are culturally encouraged and helpful. Some have not had that opportunity.

The strategies presented here could help mitigate the effects of trauma on learning, and may enhance learning for less traumatized students as well by increasing attentional, memory, and emotional resources. However, these strategies are not presented as a substitute for treatment from qualified mental health professionals. Finally, the mindfulness techniques presented here may also be useful for teachers of trauma-exposed learners to protect against the risk of secondary traumatic stress, compassion fatigue, and professional burnout, which can occur when continually being exposed to and absorbing students' distress (Newell & MacNeil, 2010).

## **Concluding remarks**

Trauma affects the learning brain. Attention, memory, the autonomic nervous system, and other parts of the body all show signs of this type of suffering. Generally, the result in the adult ESL classroom is slower, lower-level language acquisition. Students may get stuck, frustrated, or vanish. Though best practices are still being identified, teacher-led tasks aimed at increasing attention, enhancing memory and developing strategies to improve emotional regulation may assist in aiding students who are experiencing difficulties in the classroom due to traumatic exposure.

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## **Additionally recommended resources:**

SAMHSA on Trauma-Informed Care: [www.samhsa.gov](http://www.samhsa.gov); free download available

The National Child Traumatic Stress Network:  
[nctsn.org/sites/default/files/assets/pdfs/secondary\\_traumatic\\_tress.pdf](http://nctsn.org/sites/default/files/assets/pdfs/secondary_traumatic_tress.pdf)

## Author Bio:

Rachel Johnson is a former ABE/ESL teacher and Education Program Manager, who worked primarily with English language learners struggling to sustain literacy improvement. She holds an M.A. in ESL from the University of Minnesota and an ABE Teaching License. Rachel is currently pursuing a Ph.D. in Cognitive Science, with a focus on the effects of traumatic stress on brain mechanisms of language acquisition.

Contact: [john4830@umn.edu](mailto:john4830@umn.edu)

## Feature Image:

