



# Teaching English to the Rhythm of the Brain

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Have you ever had a foreign language lesson? Probably yes! And there's a great chance that you studied, or you are still studying, English if it isn't your first language. Have you ever wondered how to efficiently learn it? Well, I have. To find out, I went back to the source of learning: the brain. How does the brain learn? What can teachers do to provide for an environment that will bring forth its full potential? How can they teach to "the rhythm of the brain"?

Recent technologies have allowed scientists to closely observe its function. Fortunately, many scientists and educators sought to find the answer to how the brain learns. They emphasised the following aspects.

Motivation! Yes, if you are motivated, you will learn better. Inside your brain, it's a complex interconnected circuit. But in simple words, motivation is what pushes you to act and therefore learn. It strengthens your performance. You can get motivated by receiving feedback, understanding the benefits and objectives of the learning, and through a positive learning experience.

Pay attention! How many times have you heard that? Well, it's important! You are surrounded by information and distractions. Attention allows your brain to select and better remember what you are taught. Using different materials (audio, images, text, videos...), making sure new topics are presented in a clear, brief, and precise way, as well as having breaks will draw your attention. An element of "surprise" is also helpful.

How are you feeling? This is an essential question in education. Emotions make the brain more active. Emotional memories are stronger than neutral ones. Both the content and teachers' attitude can generate positive emotions. Teachers are a bit like mirrors. If they control their emotions and believe in you, you will be more likely to enjoy and learn better. As one way of learning is through imitation.

In this research, we looked at teaching high school students. To teach to the rhythm of the brain, it's important to adapt to its stage of development. Adolescents go through a lot of changes. The prefrontal cortex, which controls elements such as attention, planning, and rationalisation does not fully develop until the mid-twenties unlike the limbic system, the structures of the brain specialised in emotions. Sometimes, especially in a stressful situation if you are a teenager, your

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#### Conflict of interest

The authors declare no conflicts of interest, and that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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emotions and impulsivity can dominate the reflective and rational part of your brain. And you can easily be overloaded with information. To be more efficient, we can give less information at once, connect new learning with what you know, and reduce stress. Teachers can especially boost young people's motivation via social interaction and exploration activities.

Now let's zoom into neuroscience discoveries about language. Have you ever wondered whether you were too old to learn English? Well, if you learn it earlier, you give yourself more time and opportunities. However, let's focus on what you can do now. Neuroscience teaches us that the brain has the capacity to change and adapt to different situations. Meaning that you can learn until you get very old. One first step into learning English is to believe in yourself!

Where is language located in the brain? Studies found that the management of language is mainly done in the left hemisphere of your brain, especially through the Broca's area and the Wernicke's area. If the first area gets damaged, you will have difficulties talking and finding your words. But you will have good understanding. However, a problem in the Wernicke's area results in having difficulties understanding others while speaking fluently, but people will struggle to understand you. Scientists found a separation between the first and second language in Broca's area and a minor one in Wernicke's area. This might explain the difficulty to pronounce and find your words when speaking a foreign language. For this reason, it is productive to do lots of speaking practices. Recent research found that the right hemisphere also processes language. It's involved in identifying sound, intonation, automatic speech, and approaching the language without thinking so much. Knowing that both hemispheres play a role highlights the importance of creating a multimodal teaching-learning environment. That is, using a variety of modes including writing, audio, pictures, colours, movement etc.

How is language remembered in the brain? It is done thanks to the long-term memory systems. They are like storage where your memory is organised, kept, and where you can grab the information you need. Two types of memories involved with language are the Declarative Memory (DM) and Procedural Memory (PM). The DM is the memory of "what". The memory of events and facts, like remembering what you did yesterday or historical dates. It's explicit, flexible, and fast. PM is the memory of "how". It involves memories like biking or walking. It's implicit, slow, and gradual, but the learning is strong and automatised. Furthermore, it's hard to forget how to walk. Both memories assist you in remembering a language. However, older children and teenagers have a stronger DM. To learn English, you can use your DM while allowing the PM to develop for the language to become automatic and solid. Meaning that it is useful to explicitly observe the language, learn vocabulary, and grammar. Making sure to bring your learning to life by applying and learning it within a context to assist your memory. Whilst also practicing the language without paying attention to the form but to the message. High exposition to the language through listening activities, role plays, and dialogues will also make your English more natural and fluent.

To finish, other useful strategies are using stories and games, regarding error not as an embarrassing moment but as an opportunity to learn, associating ideas and

vocabulary, using mind-maps, and technology. You can do that by learning English through a topic of interest, tasks, and projects.

Maybe you knew and have applied some of the information. Well done! This is an invitation to be intentional. So, you can use your full potential and learn English better or any other language!