

# BEST ADVICE: LOVE WHAT YOU LEARN

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Theories of learning based on physiological studies of the human brain offer a number of insights into the affective elements of learning. Perhaps the most crucial discovery to surface from this research is the central role that emotions play in learning. Brain research has shown that the notion that logic and emotions reside at opposite ends of the learning spectrum and that they are not closely related is a fallacy. Studies show that the way “a person ‘feels’ about a learning situation determines the amount of attention devoted to it”<sup>1</sup> and when emotions are positive, they “can actually contribute to long-term memory and higher-order thinking processes.”<sup>2</sup> Conversely, when negative emotions are present—for example, when a learner does not see the relevance of the material being learned, s/he is not engaged or feels threatened—s/he is less likely to pay attention or remember what is being covered. Likewise, when a threatening emotion is present, the limbic or emotional system takes over in a fight-or-flight response that swiftly overrides any cognitive response and learning is prohibited.<sup>3</sup> It is therefore not enough for new information to make sense to a learner—that is, for him or her to comprehend it. Rather, the learner must be able to link the new knowledge to previous experience in order to derive meaning from it and furthermore, to believe that it is true, for “ultimately the learner must *feel something is true before it is believed.*”<sup>4</sup>

Studies of the brain’s reactions to learning indicate that those events in our lives that are the most emotional leave the equivalent of an emotional imprint on the brain.<sup>5</sup> As Hardiman pointed out, the type of learning experience that a learner is most likely to remember long after it is past is not a written exam or a final paper but rather “plays we were in, service-learning activities we completed, or art and music projects we created.”<sup>6</sup>

Given the importance of the limbic or emotional system to learning, it is not surprising that brain theory places great emphasis on the learning environment. Educators are encouraged to pay careful attention to the emotional environment as well as the physical environment and to promote a sense of choice and control over learning. Learners’ opportunity to feel they have choice and control also enhances the brain’s ability and receptiveness to learning. When given a choice, learners feel more involved and as a result, have a better attitude and wish to engage in learning which in turn enhances motivation.

The emotional climate of the learning environment should include room for fun and laughter, both of which physically

influence the brain and thus, learning. Laughter results in chemical alterations in the brain and encourages neurotransmitter production, which in turn makes one more alert.<sup>7</sup> Additionally, laughter and fun reduce tension and anxiety and even boost the immune system. Laughter allows for greater levels of oxygen to enter the bloodstream and causes endorphins to be released: the person laughing experiences both physical and emotional enjoyment as a result. Finally, laughing as part of a group helps to create a sense of community among learners. The inclusion of celebrations or acknowledgements is also an important element in helping to create an emotionally positive environment for learning and a sense of community. Additionally, these celebrations may encourage and enhance intrinsic motivation.

Learning environments should constantly introduce something new to spark curiosity and hold interest. These changes need not be great, for even subtle differences are enough to catch the brain’s attention instead of boring it into daydreaming or other activities to keep occupied.<sup>8</sup> Because novelty and variety are highly stimulating to the brain, a change in learning activities as well as in the actual physical environment is engaging. Any activity that can make learning meaningful and relevant to learners, that is appropriate for ability levels, and that is exciting because of its difference is likely to be engaging.<sup>9</sup>

Physical movement, so often relegated to recess time for primary school students and walking to class for high school and university students, is essential for keeping the brain alert and improving long-term learning. Physical activity is important because it elevates blood flow and oxygen delivery to the brain. It is also crucial for helping to bind meaning to the information being learned.<sup>10</sup> Activities that physically engage learners, such as games that have them up and moving—drama, music, and dance—“activate the neurotransmitter serotonin, associated with high self-esteem and enhanced cognitive skills.”<sup>11</sup>

If educators’ aim is to encourage motivation, long-term memory in learners, and an ability to use content in real-world situations, it is necessary to teach with an understanding of the ways the brain learns best. It is therefore essential to create environments that help produce and sustain positive emotional experiences and that offer variety, choice and physical movement. ▲

1. David A. Sousa. *How the brain learns*. (Thousand Oaks, CA: Corwin Press, 2001), 43.
2. *Ibid.*, 33.
3. Mariale M. Hardiman. *Connecting brain research with effective teaching: The brain-targeted model*. (Lanham, MD: Scarecrow Education, 2003).
4. Eric Jensen. *Brain-based learning*. (Del Mar, CA: Turning Point, 1996), 29.
5. Mariale M. Hardiman. *Connecting brain research with effective teaching: The brain-targeted model*. (Lanham, MD: Scarecrow Education, 2003).
6. *Ibid.*, 34.

7. Mariale M. Hardiman. *Connecting brain research with effective teaching: The brain-targeted model*. (Lanham, MD: Scarecrow Education, 2003) & Eric Jensen. *Brain-based learning*. (Del Mar, CA: Turning Point, 1996).
8. *Ibid.*; Eric Jensen, *Teaching with the brain in mind*. (Alexandria, VA: Association for Supervision and Curriculum Development, 1998).
9. Eric Jensen. *Brain-based learning*. (Del Mar, CA: Turning Point, 1996).
10. *Ibid.*; Eric Jensen, *Teaching with the brain in mind*. (Alexandria, VA: Association for Supervision and Curriculum Development, 1998); David Sousa, *How the brain learns*. (Thousand Oaks, CA: Corwin Press, 2001).
11. Mariale M. Hardiman. *Connecting brain research with effective teaching: The brain-targeted model*. (Lanham, MD: Scarecrow Education, 2003), 33.