
Brain-Based Teaching Strategies: States for Learning

Adapted from *Completing the Puzzle: The Brain-Compatible Approach to Learning*,
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Learning Occurs in Specific “States”

State refers to the condition of the body and mind as determined by the specific chemical balance of the body at a given moment. Dozens of chemicals (of which testosterone, progesterone, serotonin, norepinephrine, vasopressin, dopamine, and ACTH are but a few) have a dramatic impact on the condition of the body and mind. Physiological conditions such as digestion, temperature, breathing, posture, gestures, and eye patterns also affect our states, as do our thoughts and feelings: joy, misery, suspicion, anger, peace, etc.

Successful learning requires that the learner be in a state appropriate for learning. J. Maguire (1990), author of *Care and Feeding of the Brain*, points out that a specific set of behaviors corresponds to each physiological state. Thus the student who sits anxiously fearing to be called upon to answer a question he or she does not understand is unlikely to learn anything, while the student who trusts the classroom process of sincere intellectual inquiry is very likely to learn. Though successful learning is obviously dependent upon material and learning objectives, there are appropriate, desirable states for learning that educators can inspire:

- Curiosity
- Expectation
- Suspense
- Slight anxiety (not high)
- High challenge
- Slight stress
- Temporary confusion

The ability to induce these states in learners is the mark of a great teacher. Even more empowering is the ability to help learners achieve these states on their own, enabling them to become responsible for their own learning.

Since behavior and state are related, teachers can influence students' behavior by altering their states. The student who is sitting with rigid posture staring at the desk and trying to look invisible will not and probably cannot respond to admonishments to “look

sharp” and “pay attention” because of the physiological, emotional, and mental states that student is in. Savvy teachers can replace vain attempts to change behavior with some good strategies for changing learners' states.

Ideas for Changing States:

Changing Activities

Changing an activity when it no longer inspires learning alters learners' states. For example, alternating concentrated work with a physical activity like stretching or jumping jacks makes the mind more alert, while introducing social interaction after a session of individual work brings the emotions into play.

Changing Classroom Environment

Changing aspects of the classroom itself can activate learning states. Moving furniture freshens the visual outlook, while changing students' accustomed places provides visual, physical, spatial, and emotional renewal. More subtle changes, such as changing the temperature, turning the lights down or up, or even using an ionizer, can also effect profound changes in receptivity. Stimulating the senses with fragrance, music, lighting, fresh air, or flowers awakens the mind. A very dramatic state-changing strategy is actually to change the entire class location by moving to another room within the school or by teaching outside.

Diversifying Media

Using visual aids, such as slides and overheads, or playing audiotapes can awaken learning states by changing mood as well as by appealing to differing learning modalities. Computers also provide a ready opportunity to alter students' states in a variety of ways.

Diversifying Personnel

Presentations by people from a variety of disciplines and professions can influence learners' states in many important ways. Inviting another teacher into the classroom and asking students themselves to teach lessons provide easily accessible variety, and teachers can also invite guest speakers, musicians, storytellers — even clowns or magicians — who live nearby or are passing through the area. In addition, teachers can change the pitch or tone of their own voices or even wear costumes and role-play different characters from history or of their own creation.