TEACHING METHODS – BRAIN BASED LEARNING

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A teaching method comprises the principles and methods used for instruction. Commonly used teaching methods may include class participation, demonstration, recitation, memorization, or combinations of these. The choice of an appropriate teaching method depends largely on the information or skill that is being taught, and it may also be influenced by the aptitude and enthusiasm of the students.

Explaining

Explaining, or lecturing, is the process of teaching by giving spoken explanations of the subject that is to be learned. Lecturing is often accompanied by visual aids to help students visualize an object or problem.

Demonstrating

Demonstration (teaching)

Demonstrating is the process of teaching through examples or experiments. For example, a science teacher may teach an idea by performing an experiment for students. A demonstration may be used to prove a fact through a combination of visual evidence and associated reasoning.

Demonstrations are similar to written storytelling and examples in that they allow students to personally relate to the presented information. Memorization of a list of facts is a detached and impersonal experience, whereas the same information, conveyed through demonstration, becomes personally relatable. Demonstrations help to raise student interest and reinforce memory retention because they provide connections between facts and real-world applications of those facts. Lectures, on the other hand, are often geared more towards factual presentation than connective learning.

Collaborating

Collaboration

Collaboration allows students to actively participate in the learning process by talking with each other and listening to other points of view. Collaboration establishes a personal connection between students and the topic of study and it helps students think in a less personally biased way. Group projects and discussions are examples of this teaching method. Teachers may employ collaboration to assess student's abilities to work as a team, leadership skills, or presentation abilities.

Collaborative discussions can take a variety of forms, such as fishbowl discussions. After some preparation and with clearly defined roles, a discussion may constitute most of a lesson, with the teacher only giving short feedback at the end or in the following lesson.

Learning by teaching

In this teaching method, students assume the role of teacher and teach their peers. Students who teach others as a group or as individuals must study and understand a topic well enough to teach it to their peers. By having students participate in the teaching process, they gain self-confidence and strengthen their speaking and communication skills.

Ancient education

About 3000 BC, with the advent of writing, education became more conscious or self-reflecting, with specialized occupations requiring particular skills and knowledge on how to be a scribe, an astronomer, etc.

Philosophy in ancient Greece led to questions of educational method entering national discourse. In his Republic, Plato describes a system of instruction that he felt would lead to an ideal state. In his Dialogues, Plato describes the Socratic method.

It has been the intent of many educators since then, such as the Roman educator Quintilian, to find specific, interesting ways to encourage students to use their intelligence and to help them to learn.

Medieval education

Comenius, in Bohemia, wanted all children to learn. In his The World in Pictures, he gave the first illustrated textbook containing much that children would be

familiar with in everyday life, and used it to teach the academic subjects they needed to know. Rabelais described how the student Gargantua learned about the world, and what is in it.

Much later, Jean-Jacques Rousseau in his Emile, presented methodology to teach children the elements of science and more. In it, he famously eschewed books, saying "the world is one's book".[citation needed]

During Napoleonic warfare, the teaching methodology of Johann Heinrich Pestalozzi of Switzerland enabled refugee children, of a class believed to be unteachable, to learn and love to learn. He describes this in his account of the educational experiment at Stanz. He felt the key to have children learn is for them to be loved, but his method has been thought[by whom?] "too unclear to be taught today".

19th century - compulsory education

Prussian education system

The Prussian education system was a system of mandatory education dating to the early 19th century. Parts of the Prussian education system have served as models for the education systems in a number of other countries, including Japan and the United States. The Prussian model required classroom management skills to be incorporated into the teaching process. [1]

20th century

In the 20th century, the philosopher Eli Siegel posited that the purpose of education is to "like the world through knowing it." Teachers in New York found that student performance improved when this principle was employed in their teaching methods. Many current teaching philosophies are aimed at fulfilling the precepts of a curriculum based on Specially Designed Academic Instruction in English (SDAIE).

According to Dr. Shaikh Imran, the teaching methodology in education is a new concept in the teaching learning process. New methods involved in the teaching learning process are television, radio, computer, etc.

Other educators believe that the use of technology, while facilitating learning to some degree, is not a substitute for educational method that brings out critical thinking and

a desire to learn. Another modern teaching method is inquiry learning and the related inquiry-based science.

"The Interdisciplinary Effect of Hands On Science", a three-year study of Tennessee middle school students, indicated that students who had hands-on science training had higher standardized test scores in science, math and social studies.

Diversity in Teaching in the Classroom

For effective teaching to take place, an appropriate teaching method must be employed. A teacher may develop lesson plans or use lesson plans that have been developed by other teachers. When deciding the teaching methods to use, a teacher considers the students' background knowledge, environment, and learning goals. Students have different ways of absorbing information and of demonstrating their knowledge. Teachers often use techniques which cater to multiple learning styles to help students retain information and strengthen understanding. A variety of strategies and methods are used to ensure that all students have equal opportunities to learn. A lesson plan may be carried out in several ways: Questioning, explaining, modeling, collaborating, and demonstrating.

A teaching method that includes questioning is similar to testing. A teacher may ask a series of questions to collect information of what students have learned and what needs to be taught. Testing is another application of questioning. A teacher tests the student on what was previously taught in order to determine whether a student has learned the material. Standardized testing is often used (e.g., Ohio Graduation Test (OGT), Proficiency Test, College entrance Tests (ACT and SAT).

Learning Styles and Creative Learning

Per the Theory of Multiple Intelligences by Howard Gardner, there are eight types of learning styles - Verbal, Logical, Spatial, Rhythmic, Kinesthetic, Interpersonal, Intrapersonal and Natural. Teaching method should facilitate multiple of these modes of learning. Creative Learning, a methodology developed in India is based on these learning styles.

Use of Brain-based Learning - Definition

This learning theory is based on the structure and function of the brain. As long as the brain is not prohibited from fulfilling its normal processes, learning will occur.

The core principles of brain-based learning state that:

1. The brain is a parallel processor, meaning it can perform several activities at once, like tasting and smelling.
2. Learning engages the whole physiology.
3. The search for meaning is innate.
4. The search for meaning comes through patterning.
5. Emotions are critical to patterning.
6. The brain processes wholes and parts simultaneously.
7. Learning involves both focused attention and peripheral perception.
8. Learning involves both conscious and unconscious processes.
9. We have two types of memory: spatial and rote.
10. We understand best when facts are embedded in natural, spatial memory.
11. Learning is enhanced by challenge and inhibited by threat.
12. Each brain is unique.

The three instructional techniques associated with brain-based learning are:

1. **Orchestrated immersion**–Creating learning environments that fully immerse students in an educational experience
2. **Relaxed alertness**–Trying to eliminate fear in learners, while maintaining a highly challenging environment
3. **Active processing**–Allowing the learner to consolidate and internalize information by actively processing it

How Brain-Based Learning Impacts Education

Curriculum–Teachers must design learning around student interests and make learning contextual.

Instruction–Educators let students learn in teams and use students to also learn

in settings outside the classroom and the school building.

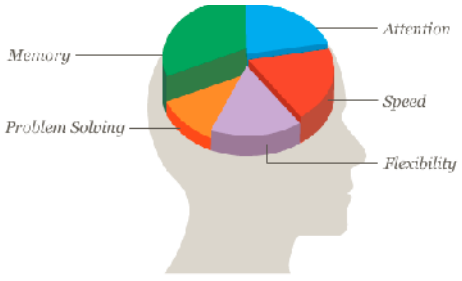
Assessment–Since all students are learning, their assessment should allow them to understand their own learning styles and preferences. This way, students monitor and enhance their own learning process.

What Brain-Based Learning Suggest

How the brain works has a significant impact on what kinds of learning activities are most effective. Educators need to help students have appropriate experiences and capitalize on those experiences. The three interactive elements are essential to this process:

- Teachers must immerse learners in complex, interactive experiences that are both rich and real. One excellent example is immersing students in a foreign culture to teach them a second language. Educators must take advantage of the brain's ability to parallel process.
- Students must have a personally meaningful challenge. Such challenges stimulate a student's mind to the desired state of alertness.
- In order for a student to gain insight about a problem, there must be intensive analysis of the different ways to approach it, and about learning in general. This is what's known as the "active processing of experience."

A few other tenets of brain-based learning include : Feedback is best when it comes from reality, rather than from an authority figure. People learn best when solving realistic problems. The big picture can't be separated from the details. Because every brain is different, educators should allow learners to customize their own environments. The best problem solvers are those that laugh ! Designers of educational tools **must be artistic** in their creation of brain-friendly environments. Instructors need to realize that the best way to learn is not through lecture, but by participation in realistic environments that let learners try new things safely.



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