

Sentence

DESCRIBING AND CHUNKING BRAIN INTO PARTS The Brain is the most complicated organ that exist, we know. Understanding about how it works is complex. As, everything we do is associated with our brain. And our brain is interconnected to everything else in our body. For the sole purpose of learning and understanding, we can differentiate brain into different manageable categories or chunks. Although, we affiliate various functions to these different parts of brain but we must remember that brain functions as whole. When the canonical structure of the brain is viewed from different angles, interiorly and exteriorly and also from corners to edges; it can be concluded that brain can be categorised into mainly 3 parts: Fore Brain, Mid Brain and Hind Brain .

FORE BRAIN Fore brain is the most crucial part of the brain due to the fact it is accountable for enacting all of the emotional, cognitive and motor functions. It can be broadly divided into four different components as:- Hypothalamus, Thalamus ,The Limbic system and Cerebrum.

Hypothalamus : The hypothalamus is one of the smallest structures in the brain, however performs a important role in our behaviour. It regulates physiological processes concerned in emotional and motivational behaviour, consisting of eating, drinking, sleeping, temperature regulation, and sexual arousal. It additionally regulates and controls the inner surroundings of the body (e.g., heart rate, blood pressure, temperature) and regulates the secretion of hormones from various endocrine glands.

Thalamus: It includes an egg-shaped cluster of neurons located on the ventral (upper) side of the hypothalamus. It is sort of a relay station that receives all incoming sensory signals from sense organs and sends them to suitable elements of the cortex for processing. It additionally gets all outgoing motor signals coming from the cortex and sends them to suitable parts of the body.

The Limbic System: This system consists of a set of structures that form a part of the old mammalian brain. It enables in keeping internal homeostasis by regulating body temperature, blood pressure, and blood sugar level. It has close links with the hypothalamus. Besides hypothalamus, the limbic system incorporates the Hippocampus and Amygdala. The hippocampus performs an essential function in long-term memory. The amygdala performs the critical function in emotional behaviour.

The Cerebrum: Also referred to as Cerebral Cortex, this component regulates all higher stages of cognitive functions, including attention, perception, learning, memory, language behaviour, reasoning, and problem solving. The cerebrum makes -1/3 of the entire mass of the human brain. Its thickness varies from 1.5 mm to 4 mm, which covers the entire surface of the brain and incorporates neurons, neural nets, and bundles of axons. All these make it viable for us to carry out organised movements and create images, symbols, associations, and memories. The cerebrum is split into symmetrical halves, referred to as the Cerebral Hemispheres. Although the two hemispheres seem identical, functionally one hemisphere normally dominates the opposite. For example, the left hemisphere normally controls language behaviour. The right hemisphere is normally specialized to address images, spatial relationships, and pattern recognition. These hemispheres are linked through a white package of myelinated fibres, known as Corpus Callosum that carries messages backward and forward among the hemispheres. Cerebral cortex has also been divided into 4 lobes - Frontal lobe, Parietal lobe, Temporal lobe, and Occipital lobe. The Frontal lobe is especially involved with cognitive capabilities, which includes attention, thinking, memory, learning, and reasoning, however it also exerts inhibitory effects on autonomic and emotional responses. The Parietal lobe is in particular involved with cutaneous sensations and their coordination with visual and auditory sensations. The Temporal lobe is generally involved with the processing of auditory information. Memory for symbolic sounds and words resides here. Understanding of speech and written language relies upon this lobe. The Occipital lobe is in particular concerned with visual information. It is assumed that interpretation of visual impulses, memory for visual stimuli and colour visual orientation is accomplished via this lobe. Physiologists and psychologists have attempted to discover unique functions related to particular brain structures. They have discovered that no activity of the brain is achieved only through a single part of the cortex. Normally, other parts are involved.

MID BRAIN The Mid Brain is comparatively small in size and act as bridge between the fore brain and the hind brain. Reticular Activating System (RAS), essential part of midbrain that is responsible for arousal experiences. By regulating the various sensory inputs, it makes one alert and active. It also helps in scrutinizing information from the environment.

HIND BRAIN The Hind Brain consists of following structures associated with various functions as described below:

Medulla Oblongata: Lowest part of the brain containing various neural centres that coordinates basic life supporting processes such as heart rate, blood pressure and breathing.

Pons: Neural centres of pons receives auditory signals from our ears and also are involved in the sleep mechanisms, especially sleeps which are characterized by dreaming. It also contains various neural centres that are responsible for respiratory movement and facial expressions also.

Cerebellum: The most advanced and developed part of the hind brain. It is responsible for maintaining posture and equilibrium of the body. The function is coordination of motor movements affiliated with various muscles. The particular motor commands originate in the fore brain but the cerebellum receives and disseminates them to the associated specific muscles. Once

we learn how to walk, ride a bicycle etc. we don't have to recall it every time when we do. Hence, it also stores the memory of the various movement patterns performed. DEVELOPED BRAIN BASED LEARNING PROGRAMME Based on the various researches in the field of Brain Based Learning and Educational Neuroscience it can be concluded that human brain is not at all designed for formal instructions rather it tends to oppose orders and if enforced to do something. Traditional pedagogies of teaching learning processes that has always emphasised on imbibing the information as it has been spoon-fed, rote memorize those what is taught. There is greater need to shift from traditional teaching-learning to those teaching learning processes that are effective in terms of creating the thirst for learning and creating the rich learning environments wherein they learn themselves while enjoying the process of learning. The brain-based learning (BBL) program was developed by inculcating the various brain-based learning principles devised by Caine and Caine, various Brain Based Teaching Strategies and also by understanding the various functions associated with different parts of brain, as the way those were interpreted by the researcher that are already mentioned above. This provides the outline of the BBL programme designed. It includes the Correlation of various parts of the brain involved with different strategies, also keeping in view the BBL Principles and BBL Strategies that are suggested by various experts and researches in the field. Those were interpreted and co-linked with various strategies and different parts of the brain. CONCLUSION: To conclude, the whole and sole idea of this programme is to carry out the teaching learning process the way that leads to the learning of the brain naturally. Also, to catering the diversified needs of the individual keeping into view the inclusive classes. Using the brain friendly strategies help child learn better and also helps to draw the utmost potential and abilities hidden in the child. Challenging yet relaxed classroom would help learner expand their capacities and make them confident enough to withstand the challenges in the real world after their schooling. The program would lay the base of how the lessons can be planned for learners. The researcher has tried to actively use different parts of brain that would help learners process the learning as an outcome of brain functioning as the one whole unit. The activities and strategies can be modified according to the scenario of the classroom taking into consideration the age, culture and background of the learners coming from. Altogether, this framework of program would be useful for all those who are working in field of Educational Neuroscience, Education, Curriculum and Pedagogy Development. And further researches based on this would help to a great extent in policy making also. Moreover, its importance lays for educators and school academic planners. "Great beneficiaries of BBL are the Learners"

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Sentence wise detail:

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When the canonical structure of the brain is viewed from different angles, interiorly and exteriorly and also from corners to edges; it can be concluded that brain can be categorised into mainly 3 parts: Fore Brain, Mid Brain and (2)

Hind Brain . FORE BRAIN Fore brain is the most crucial part of the brain due to the fact it is accountable for enacting all of the emotional, cognitive and motor functions. (3)

It can be broadly divided into four different components as:- Hypothalamus, Thalamus, The Limbic system and Cerebrum.

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stages of cognitive functions, including attention, perception, learning, memory, language behaviour, reasoning, and problem

solving. The cerebrum makes $\frac{1}{3}$ of the entire mass of the human brain. (5)

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The cerebrum is split into symmetrical halves, referred to as the Cerebral Hemispheres.

Although the two hemispheres seem identical, functionally one hemisphere normally dominates the opposite.

For example, the left hemisphere normally controls language behaviour.

The right hemisphere is normally specialized to address images, spatial relationships, and pattern recognition.

These hemispheres are linked through a white package of myelinated fibres, known as Corpus Callosum that carries messages backward and forward among the hemispheres.

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we don't have to recall it every time when we do.

Using the brain friendly strategies help child learn better and also helps to draw the utmost potential and abilities hidden in the child.

Challenging yet relaxed classroom would help learner expand their capacities and make them confident enough to withstand the challenges in the real world after their

schooling. The program would lay the base of how the lessons can be planned for learners. (8)

The researcher has tried to actively use different parts of brain that would help learners process the learning as an outcome of brain functioning as the one whole unit.

The activities and strategies can be modified according to the scenario of the classroom taking into consideration the age, culture and background of the learners coming from.

Altogether, this framework of program would be useful for all those who are working in field of Educational Neuroscience, Education, Curriculum and Pedagogy Development.

And further researches based on this would help to a great extent in policy making also.

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1: <https://www.ncbi.nlm.nih.gov/books/NBK234157/>

2: <https://www.hopkinsmedicine.org/health/conditions-and-diseases/anatomy-of-the-brain>

3: <https://courses.lumenlearning.com/wmopen-psychology/chapter/outcome-parts-of-the-brain/>

4:

<https://www.chegg.com/homework-help/questions-and-answers/1--brain-structure-serves-relay-station-sensory-impulses-b-sensory-impulses-originating-ge-q33657730>

5: <https://brainmadesimple.com/cerebrum/>

6: <https://eduqar.com/q/the-thickness-of-veneers-varies-from-5f8b38691dfc2>

7: <https://www.toppr.com/ask/question/briefly-describe-the-structure-of-brain/>

8: <https://www.educationworld.com/teachers/aligning-goals-objectives-and-standards-lesson-plans>

Keywords Density

One Word	2 Words	3 Words
brain 6.33%	parts brain 0.86%	brain based learning 0.58%
learn 3.45%	fore brain 0.72%	brain hind brain 0.43%
learning 2.3%	brain based 0.72%	teaching learning processes 0.29%
part 2.16%	hind brain 0.72%	lobe occipital lobe 0.29%
function 1.73%	based learning 0.58%	functions parts brain 0.29%

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