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BRAIN BASED LEARNING: ENRICHING FUTURE GENERATION

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ABSTRACT

This paper tends to highlight the positive aspects of brain based learning to teaching learning process. This approach brings considerable changes in the behavior and output of the students. This approach is in contrast with the traditional constructivist approaches. The paper provides a comparative account of the constructivist and brain-based learning situations so as to gather a comprehensive insight of the concept.

This paper analyses the parts, functions and structure of the human brain. The human brain has immense power which is yet to be explored. Studies have succeeded in unveiling only some percentage of the potential of the human brain. This paper includes activities regarding the cognitive development of special children and how it can help in the overall development of the normal students as well special children.

The paper infers and highlights that the constructivist, neurological based strategies and brain based learning are not only helpful in the development of the normal students but also in the development of special children.

***KEYWORDS**: Cognitive Learning, Brain Based Learning, Neurological Based Strategies*

INTRODUCTION

During the past two decades the concept of Brain Based Learning has grown tremendously. Education is a tool for natural outgrowth for the human curiosity to know oneself combined with the new technology leading to the confirmation of many hypothesis related to effective teaching practices. The traditional models of learning emerged from psychology and neuroscience which led to the path for the present research problems need to devise better teaching tools.

Teachers have been teaching for centuries without the knowledge of brain based learning because there was a little scientific knowledge and credibility about the complex structure and functioning of the brain. Brain is considered as a vital organ of the human body. It controls all the activities like thinking, analyzing, perceiving and decision making so its study is important for the teachers. The teachers should be aware of the functioning and construction of this organ.

By applying some basic concepts, learners can be stimulated while making the learning processes more effective. Proper strategies can engage them better and enhance the opportunities for making strong learning outcome.

With the advancement of imaging techniques the human brain leads to better understanding of its mechanism and networking. All the latest discoveries lead to the new approaches of teaching and learning process which is brain based learning. This concept can bring drastic transition in the education system as it will guide the pedagogy by informing the teachers about 'how the brain perceives, processes, stores, and retrieves information'. Brain-based teaching practices

promote a more holistic approach to teaching that acknowledges the interconnectedness of the brain and how it naturally learns best not only for normal as well as special need learners.

BRAIN BASED LEARNING

Brain-based learning Clarifies' teaching methods, lesson layouts, and school Applications' That are based on the latest scientific research about how the brain learns, including such Factors as cognitive development--how Students learn differently as they age, Develop, and mature socially, emotionally, and cognitively

Brain-based learning has been inspired in the overall belief that learning could be accelerated and improved if teachers base' how and what they teach' about the science of education, rather than on traditional instructional practices, based conferences, or assumptions about the learning processes.

NEED OF BRAIN BASED LEARNING

Since the mind is closely involved and connected with all the actions of the teachers, teacher educators and the students at college. Any disconnection within this technique contributes to frustration among pupils and mental disaster.

Brain based education can be Understood by three words: participation, principles and strategies. The instructor should engage each of the students and apply the strategies that should be based on basic brain-based science.

From Using Brain based Learning the pupils can be connected better with the most recent discoveries and advancements in the environment and can enable them to discover realistic and suitable solutions of their day to day issues.

In recent times constructivist Approach was utilized by educationists to much bigger extent and has been Found to be getting the characteristics of the brain-based learning. It's Therefore crucial to understand the concept of constructivism in light of the Theoretical framework of learning.

CONSTRUCTIVIST TEACHING

Constructivist teaching relies on current research concerning the human mind and the way that teaching learning happens. It's AN method of learning and learning supported the premise that" cognition (learning) is that the outcomes of psychological construction". In various words, students learn by fitting new information and what they understand. Constructivists think that learning is put low with all the circumstance through that a inspiration is schooled too as by students' beliefs and viewpoints.

Constructivism lays stress on the careful research of the processes by that pupils produce and develop their notions. Its instructional applications area unit involved in creating curricula that match (but also challenge) pupils' comprehension, fostering additional growth and development of the mind. Researchers have shown that active engagement in learning can result in higher retention, understanding and active use of information obtained. The same as creative person strategy, the cooperative or cooperative learning also seems to cultivate learning.

Some learners may face issues once ancient techniques area unit replaced with creative person techniques. however exploitation the creative person techniques to support and to reinforce the normal strategies may gain advantage all learners.

COMPARING THE BRAIN-BASED AND CONSTRUCTIVIST LEARNING APPROACHES

In this section, the principles of the brain-based and constructivist learning approaches are analyzed on a comparative basis.

Table 1

BRAIN BASED LEARNING APPROACH	CONSTRUCTIVIST LEARNING APPROACH
Each physiology and brain being exceptional and also the consequence of the uniqueness	Learning being a societal process of committing Significance to experiences in light of those previously known.
The brain is a parallel processor, processing parts and wholes simultaneously.	Learning is based upon the conceptual frameworks Of the person, that can be assembled through previous experiences with the life and world
Learning involving both mindful and Unconscious processes and environment conditions impacts the unconscious.	Using lectures attentively and embedding various opportunities such as drawing, writing, symbols and also the language suitably to express previous knowledge, and providing time for reflection.
The significance of the affective variables and learning are enhanced by challenge and inhibited by threat.	Teaching depends upon culture, other students, Social, economical, political factors in addition to parents, directors and educators. Teachers Think about the requirements of students and socialize together, together with the evaluation Not being in the kind of judgment.

Based upon the comparison we can conclude that we have to incorporate and collaborate both these techniques in teaching learning process for the drastic changes in education. To study these postulates the most important organ is the human brain so let us study the human brain.

Functions of Brain - The human brain performs fundamantal functions like touch, sight, smell hearing, seeing, speaking and thinking etc. which helps us to perform effectivily and efficiently.

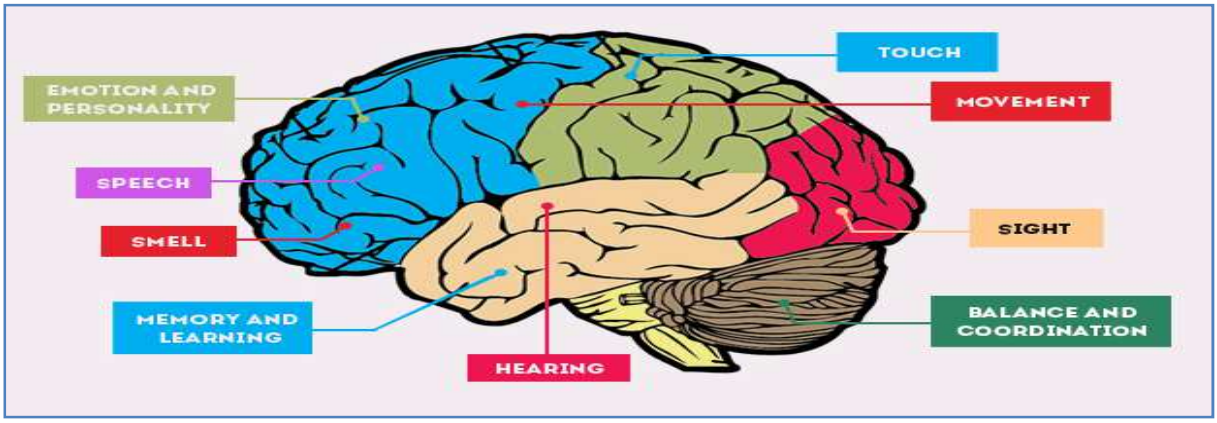

Figure 1

In this connection eminent educationist Caine & Caine (1995) has worked and suggested twelve principles for Brain based learning which are listed below with suitable suggestions-

PRINCIPLES AND APPLICATIONS OF BRAIN BASED LEARNING

Table 2

FEATURE OF BRAIN BASED LEARNING		EXAMPLES EMPLOYED
1	The brain is a parallel processor	Impact of use of cell phone and internet surfing.
2	Learning engages the entire physiology	Debates, sharing experiences, solving problems.
3	The search of meaning is innate	Putting up questions and giving solutions.
4	The search for meaning occurs through 'patterning'	Heuristic models, preparing flowcharts.
5	Emotions are critical to patterning	Exchanging old and new knowledge through experiences.
6	The brain processes part and wholes	Connect whole to parts such as case studies etc.
7	Learning involves both focused attention and peripheral perception	Relationship between cause and effect.
8	Learning always involves conscious and unconscious processes	Developing new attitude through thinking.
9	The Mind has at least two different types of Memory: a spatial memory platform and a set of systems of rote learning	Cause and effects of good student performance.
10	Humans understand and remember best when facts and skills are embedded in natural spatial memory	Support to abstract and reality.
11	Learning is enhanced by challenge and inhibited by threat	Involvement of students in individual and group activities.
12	Every brain is unique	New learning styles, experiences adopted by students.

Some activities can also help us to understand the things in a better way and reduce our burden and relax our brain. Brain based learning helps in the development of students and their retention power.

These activities are as follows:

Physical Activities- Physical education, recess and movement are important for learning viz. power walks, games, running, dance, aerobics, team sports and swimming. It enhances the good chemicals for thinking, focus, learning and memory.

Social Experiences- Behaviors in college are highly social encounters, which can be expressed through our awareness of benefit, endorsement, pain, pleasure, coherence, disposition and anxiety.

Teacher Student Relationship- Work with mentors, team and buddy systems to strengthen pro-social conditions by targeting planned diverse social groups, along with building teacher-student relationship.

Role of School- The school can play important role by influencing this process by skill building, meditation, arts and career.

Excess of Stress- Acute stress is harmful for good behavior and learning but some controlled stress is beneficial.

Life Skills- We should teach students skills to cope better in adverse conditions, increase perception of choice, application of school based practical, build coping skills, strengthen arts, physical activities, monitoring and mentoring.

Encouragement to Students- Promote kids to enrich interests, explore talents, utilize talents and build relationships.

Overload on Students- Students are overloaded quickly with contents, based partly on learner background and complexities of the subject.

Supplement to Brain- Brain should be supplemented with physical resources like glucose, proteins and other nutrients to facilitate learning and memory.

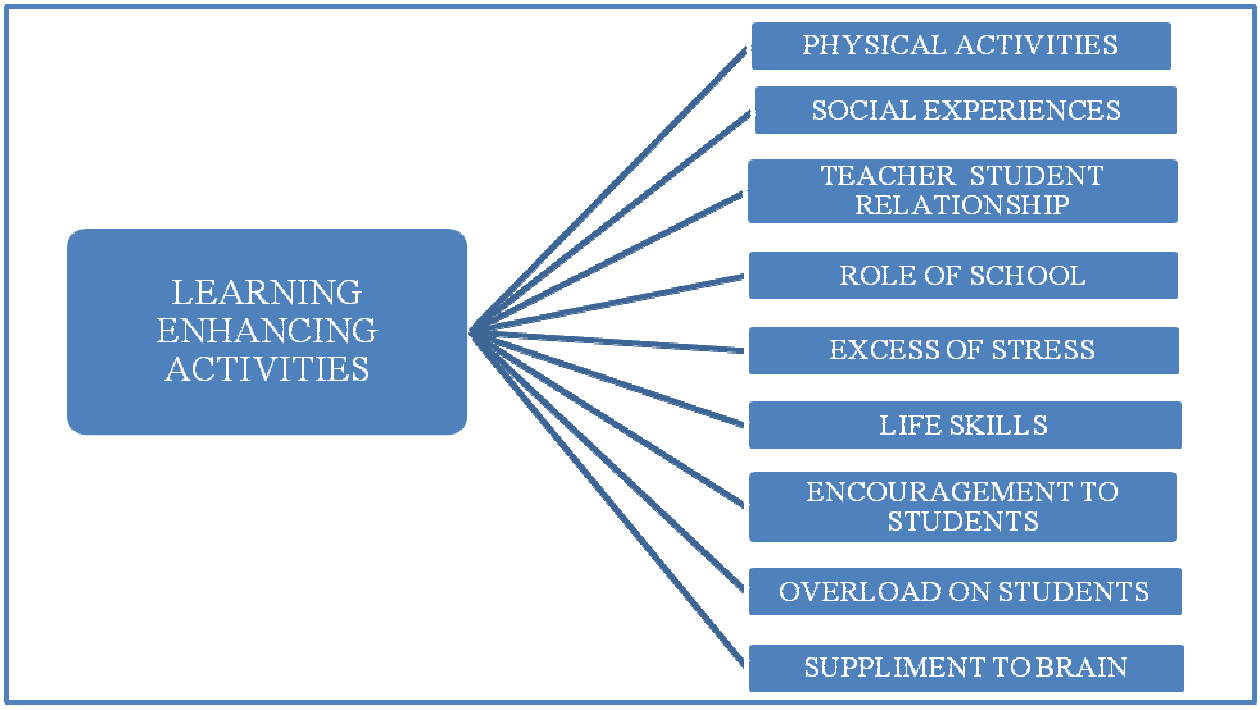

Figure 2

Outcomes of Brain Based Learning

The Influences of technologies on society explore the connections between technologies and societies. There square measure primarily four goals:

- Developing a robust Comprehension of Native and world forces and issues that have an impact on folks and societies,
- Guiding native and world societies to Applicable use of technologies.
- Alerting societies into technological Risks and failures
- Developing wise to and encompassing Private decision-making and leadership and providing ways to unravel issues in an exceedingly technological universe.

It's anticipated by victimization brain-based And artistic person teaching Ways where, teachers can any market Future urgency and reality of Techno-social leadership to fitly and sensibly Ease to come up with our International community

BRIDGING THE GAP BETWEEN THE NEUROSCIENCE AND BRAIN BASED LEARNING

As discussed by Bruer (1997) we cannot bridge the gap between the neurological science and early education. Early education is best served by the application of cognition teaching practice. He believes that neuroscience has little to offer. Scientists do not have enough knowledge or new information for the functioning and instructional practice

According to the recent studies

- Neuroscience can inform education only indirectly.
- Neuroscience is only of a multipronged research strategy to address educational challenges rather a panacea. They do not claim that neuroscience has already created a body of knowledge that is applicable to learning.
- Neurological science has much of guidance to provide for learning design in the workplace or learning field.

Neuro-Biological Instruction

Neuro-biological instruction will be summarized because the use of the neuro-psychological data we have, of learning disabilities to create our instruction targeted toward stimulation of those elements of the brain that moderate behaviour / learning. During this means the teacher makes his instruction a lot of centered toward the specific centers of the mind which is going to lead to the correction of their instructional deficits youngsters with special desires bring together to the area.

Neurological Based Activities for the Class-Room

- Constructivists models for learning and teaching;
- Student engagement and active involvement in their own learning;
- Teachers teaching for meaning and understanding rather than rote memorization;
- Teachers creating classroom environments that are low in threat, yet high in challenge;
- Teachers immersing their students in complex learning experiences;
- Teachers using research to inform instructional practice; and
- Teachers have the power to judge what, and how research should be applied to their classrooms.

The study of neuroscience and the activities related to it for teaching would be beneficial and help in further development of special children. It's collaboration with brain based learning further enhances the concept by sharing new information and how it can bring revolution in education.

Importance of Brain Based Learning in Special Education

Children suffering from learning disabilities such as dyslexia, communication disorder emotional and behavioral disorder, physical disabilities such as brittle bone disease, cerebral palsy etc come under the category of special children.

SPECIAL CHILD NEEDS: TEACHING PRACTICES & STRATEGIES

- **Skipping Subjects:** Students is also instructed less info than typical students, skipping over material that the college deems inappropriate for the student's skills. for instance, students with poor fine motor skills is also instructed to print block letters, however not cursive handwriting.
- **Simplified Assignments:** Students might scan an equivalent literature as their peers however have an easier version.
- **Shorter Assignments:** Students might do shorter preparation assignments with further aids: If students have deficiencies in remembering, a listing of vocabulary words, known as a word bank, is provided throughout tests. Students would possibly use a calculator once different students don't.
- **Extended Time:** Students with a slower process speed might get pleasure from extended time for assignments. Students is offered a versatile setting within which to require tests.
- **Response Accommodations:** Typing preparation assignments instead of hand-writing them.
- **Presentation Accommodation:** Examples embody being attentive to audio-books instead of reading written books..
- **Setting Accommodations:** Taking a check during a quieter area. Moving the category to an area that's physically accessible. programming accommodations: Students is also given rest breaks or extended time on tests.

CONCLUSIONS AND IMPLICATIONS

Like the constructivist approach, in brain-based learning, the development of data, purposeful learning, and encouragement of scholars to construct data is predicated on their previous experiences, and is inspired. The on top of variations ought to be taken into thought throughout the teaching and analysis processes. during this study, the brain-based and artist approaches were analyzed relatively and therefore the relationship between them additionally because the correspondence was expressed in terms of overlapping principles.

The brain-based learning approach provides an account of many constructivist learning principles. This paper involves brain based learning for effective teaching learning as well as importance of constructivist approach which can be helpful in further development of the normal as well as special children. The paper has also focused on neuroscience for understanding the working of brain and how children should be taught through various activities so that they can give the best output in education. Through this paper we can also learn that the amalgamation of these activities-brain based learning, constructivist approach and neuro-science can help to bridge the gap between traditional class-room and modern class-room scenario.

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