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UNDERSTANDING COGNITIVE LEARNING BEHAVIOR WITH TRIUNE BRAIN MODEL: A PERSPECTIVE

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Abstract: Cognitive learning behavior has been a keen area of research for educationalists. It is justified as it defines the very purpose of education. As the debate for understanding learning as a nature- or nurture-driven process continues, a contemporary field of cognitive neuropsychology has emerged as a multi-disciplinary field of knowledge, integrating ideas and concepts from philosophy, cognitive psychology, and neuroscience. The applied research and innovations, in bringing the neurological shreds of evidence to learning are not only progressively opening new opportunities but also leading education, and especially school education, to a phase of metamorphosis. The newly emerged field has enabled us to rethink the conventional practices adhered to. An experimental study was conducted on ninth-class students, to investigate how the reptilian and the limbic brain affect the neocortex, that is, the thinking brain. The qualitative and semi-quantitative analysis of data collected through interactions, questionnaires, and observation established a positive relationship between the three regions of the triune brain. It was interesting to find how the brain can be trained to improve the learning using a triune brain model. On one hand, where it provides neurological shreds of evidence for understanding the learning behavior, on the other hand, it plays a critical role in defining the educational policies, that may be more grounded in assuring social emotional conditioning for appropriateness. The study was conducted to investigate and unfold the prepositions underpinning neurological shreds of evidence to cognitive learning behavior using the Triune Brain Model.

Keywords: cognitive, neuropsychology, triune brain, limbic brain, reptilian brain, neocortex

The mechanism of learning-teaching is complex and integrates many dynamic processes. Psychologists have been continuously engaged in the area of pedagogical research to formulate new learning-teaching strategies, that could help educators better understand the underpinning governing mechanisms. The idea is to apply the fundamentals of psychological science to make pedagogical processes more effective. In this quest, discoveries about the contribution of the "brain" are astonishing and exhilarating. It started in the times of Plato in 370 B.C. In his concept of the human psyche in the Republic (360 B.C.), he identifies the cerebrospinal marrow as the organic placement of the "rational" or "intelligent," the "temperamental" or "courageous" and "passionate" or "appetitive," in the cerebral, thoracic and abdominal portion respectively (Beare, pp. 270-271). Democritus (460-370 B.C.) referred to the brain as the "guard of the mind." Alcmaeon of Croton (500 B.C.), in his remarkable research, stated that the brain is the faculty of the mind (Celesia, 2012). Socrates in Phaedo mentions that the brain is responsible for sensations, which lead to memory and opinion, which eventually consolidate to form the body of knowledge. The promising interrelationship of

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education, psychology, and neuroscience, which was stipulated decades ago, is seen recently emerging as a field of "cognitive neuropsychology." The adapted pedagogical approach examines cognitive processes with the lens of psychology guided by shreds of evidence from neuroscience. The purpose was not only to bring about new scientific research-driven ways to address the learning teaching challenges but also to validate non-traditional techniques.

In this "century of neuroscience" (Goswami, 2006) the likely benefit that cognitive neuropsychology has to offer education is vast. It was in the early 1990s that the field of cognitive neuropsychology, or as said, mind, brain, and education, picked up momentum. The researchers "from the neuro-and cognitive sciences have made rapid strides…. producing findings that are highly relevant to the work of practitioners" (Rinne et al., 2011). It is thought that in ages to come to the time brain research will have a profound effect on how we teach in schools (Stein, in Smith, 2004). Confronting, the "identification and analysis of successful pedagogy is central to research in education" (Goswami, 2004, pp. 1-14), cognitive neuropsychology has evolved with a belief that educational practice can be transformed by science, just as medical practice is transformed by science (Royal Society, 2011).

The multidisciplinary collaboration has certainly led to the paradigm shift to improve learning and instructions (Ansari et al., 2011). The cognitive processes are understood in context to the neural research findings. With the non-invasive neuroimaging methods, it is possible to relate the mental processes and brain structures of the learner to determine how their neural correlates change (Rinne et al., 2011). The plasticity of the brain has established the fact that change in brain matter occurs after periods of instruction (Ansari et al., 2011). Though the brain remains plastic throughout the lifetime, the measure of plasticity decreases with age, probably, it is for this reason with age, the retention and acquisition of new knowledge have their challenges.

The psychological theories of learning are also validated by the findings of neuroscience. The four stages of development of Piaget relate to the newly evolving neuroscience shreds of evidence. The role of social interaction and environment in the theories of John Dewey, Lev Vygotsky, and Bruner are no limitations. Sigmund Freud in *The Ego and the Id* solidifies the mental apparatus model of psychoanalysis (1974). The triarchic theory of human intelligence proposed by Robert J. Sternberg (1988) also discusses the anatomical-functional prepositions of the brain. It is for this reason that cognitive neuropsychology is acknowledged as a discipline and has evolved at a rapid rate. In contrast to cognitive psychology, cognitive neuropsychology now examines behavior using the neurological image of the brain changes, this reinforcing previously held suppositions as well as identifying new knowledge (Rueda et al., 2005; Stewart et al., 2003, Mason 2009).

Triune Brain Model

Prior, based on the deep biological and neural phylogeny understanding, Christfried Jakob (1866-1956), had formulated a "tripsychic" brain system in his book *The Elements of Neurobiology* (1923). Decades later, the work of Paul D. MacLean, the triune brain (1969; 1970; 1973), which is the evolutionary model of brain and behavior in modern neuroscience, gained much attention and controversy. The "triune" brain conceptualizes the fact that the brain constitutes three sub-brains; the reptilian brain, the mammalian brain, and the neocortex brain.

(1) The reptilian brain is the most primitive and evolved in reptiles and lizards. Anatomically, it occupies the upper brainstem, midbrain, hypothalamus, basal ganglia, and cerebellum. It controls some of the vital functions like breathing, heart rate, sleep, food, body temperature, and body balancing. It is the unconscious brain on autopilot mode. This part of the brain is controlled by the Reticular Activating System (RAS). RAS is responsible for the body's response to stress. As stress level increases, the RAS is activated, which in turn, shuts down the gateway to the thinking brain, that is, the Neo-cortex brain. Test anxiety, freezing out, body temperature, out-of-control emotions, and mind block are symptoms that result from RAS activation. The RAS notices and records events that confirm the beliefs. Therefore, accepting positive information and refraining from negative, helps manipulate the belief, which controls the stress, which in turn regulates the RAS, thereby assuring an open gateway to the thinking brain.

(2) The mammalian brain, also called the limbic brain, anatomically has its presence in the amygdala and hippocampus, in the primitive cortex region. This sub-brain cannot think but is the emotion factory of the brain and controls memory formation. Chemically, these emotions flow in the bloodstream as protein peptides and reach cells. The protein peptides tend to knock the other cells, causing the cell nucleus to divide. The new cells are formed as receptor sites with the emotion "knocked." The more the receptor sites, the more the emotions, inhibiting more of the long-term memory formation. The protein peptides are found to be stimulated by emotions, color, music, and food. The concept of emotional intelligence helps filter the stimulus and interprets the positive behavior.

(3) The neocortex brain, also called the neomammalian brain and the thinking brain, is the highly evolved brain in the frontal lobes. It controls logical reasoning, critical thinking, rationale, imagination, abstraction, and language. Being the conscious brain, it can manipulate the reptilian and the mammalian brain. This is the most attended part of the brain by researchers. It was quite evident that the traditional education system considered the neocortex brain only for understanding the learning processes.

The triune brain theory suggests that the human brain is the integration of the three parts of the brain that evolved in chronological order. The three parts retain their functions and attributes while functioning as a whole. Paul D. MacLean specifies the three types of mental functions as "protomentation," "emotional mentation," and "rational mentation" for reptilian, mammalian, and neocortex brains respectively. The integration and influence of the three sub-brains of the triune brain theory dictate the social behavior and personality of the individual. It is therefore considered relevant to understand how the cognitive learning behavior of the students is impacted by stimulating the three sub-brains of the triune brain theory.

The current research work studies MacLean's triune brain model in the context of cognitive learning behavior, the neuropsychological evidence for cognitive learning behavior based on the triune brain model, and the impact of environment and teacher's role in controlling the three parts of the brain: the reptilian brain, the limbic brain, and the neocortex brain.

Materials and Method

A mixed research methodology was used for the current research work. Using purposive sampling ninth-class students, of English and mathematics subjects, from private schools were selected. With experts' opinion, it was agreed that class ninth students from private schools could best represent the population of students intended for the current study. Selected students were just above average performers with no negative attitude toward the given subject. Gender was not taken into consideration in the sampling of students. The variance in the socio-economic status among the sampled students was negligible. The subject teachers were selected using purposive sampling. The selection criteria for subject teachers were: qualification, experience, and attitude toward teaching. Also, subjects like English and Science were selected to overrule any subject biases that may exist. The research methodology followed below mentioned eight steps.

A. Review literature on triune brain theory

The triune brain theory proposed by Paul D. MacLean (1969; 1970; 1973) was reviewed to understand cognitive learning behavior. Though deep literature is available to claim the proposed triune brain theory, not much research work was found in context to the classroom application of the theory.

B. Preliminary interaction with teachers and students

An informal interaction with the teachers and the students helped to understand the research field. The probable understanding gaps were addressed. It was just that the research was conducted in natural settings, therefore the interactions were sensitively monitored.

C. Preliminary screening of teachers and students

The students and teachers were screened at a preliminary level based on the defined selection criteria, with the help of a questionnaire.

D. Preparation of test for the purposive sampling of students

A set of four questionnaires in science and English subjects was prepared with twenty items in each. The content of the questionnaire for the difficulty level and relevance was validated with subject experts' opinions. The prepared questionnaires were administered with the set of selected class ninth students in both subjects. The students with scores in the range of 55% to 65% in both subjects individually were selected for the study. This scoring range was considered suitable to identify average performers. The selected students were randomly categorized into two groups, for both subjects.

E. Preparation of performance tasks with rubrics in science and English

Four sets of performance tasks with rubrics were prepared for both subjects. The four performance tasks were of the same difficulty level.

F. Preparation of framework for the two groups

The two groups were exposed to conditions defined for a period of 4 months.

Table 1
Experimental groups

Group T (20 students; 12 boys + 8 girls)		Group C (20 students; 9 boys + 11 girls)	
Teacher's Role	Authoritative	Teacher's Role	Teacher as mentor
	Lack of motivation		Motivational
	Poor student teacher relationship		Good student teacher relationship
Learning Environment	Poorly ventilated	Learning Environment	Well ventilated
	Dull ambiance		Colorful ambiance
	No recreations		Recreations with games/music

G. Preparation of framework for stress induction

Four levels of stress were defined to be administered with four performance tasks given periodically.

Table 2
Stress induction

Stress Level	Criteria 1: Time	Criteria 2: Assessment Strategy	Criteria 3: Qualifying percentage
S1	No time limit	No negative marking	40%
S2	No time limit	No negative marking	50%
S3	No time limit	Negative marking	60%
S4	Time limit	Negative marking	70%

H. Preparation of framework for assessing emotional level

Seven emotional levels were defined. The students marked their responses on the checklist given with descriptions, post completion of each performance task. Any other data captured by the researcher was recorded to ensure no information remained unattended.

Table 3
Emotional index defined

S.No.	Emotional Level	Description	Interpretation
1	E1	I felt it was fun and will score the best	Happy
2	E2	I felt it was not easy, but can score fairly well	Satisfied
3	E3	I felt I could have performed and scored better	Confused
4	E4	I felt I could not do the task	Sad

5	E5	I felt others who were less competent than me could do it by manipulating	Jealous
6	E6	I felt I failed in the task	Depressed
7	E7	Anything other than listed above	

I. Preparation of framework for administration of performance tasks

One performance task, per subject, per week was given to both the groups. With each performance task given, the stress level was induced in the increasing order. The scores of the performance task were recorded on the scale designed.

Table 4
Administration of the experiment

	Day Count	Assignments (Performance task with rubrics)		Groups Administered	Stress Level Induced
1	Day 1 (1st week)	Assignment No. 1 (Science)	Assignment No. 1 (English)	Group T and Group C	S1
2	Day 2 (2nd week)	Assignment No. 2 (Science)	Assignment No. 2 (English)	Group T and Group C	S2
3	Day 3 (3rd week)	Assignment No. 3 (Science)	Assignment No. 3 (English)	Group T and Group C	S3
4	Day 4 (4th week)	Assignment No. 4 (Science)	Assignment No. 4 (English)	Group T and Group C	S4

J. Preparation of data collection formats

Data were collected through questionnaire, observation and interactions with students. Cognitive data were collected through the performance task and emotional state was captured through emotional index.

Table 5
Rating scale for assignments

Points	10	9	8	7	6	5	4
Grade	A+	A	B+	B	C+	C	D

Results

The data were presented in a tabular format. The data collected were analyzed qualitatively to draw inferences.

Table 6
Data analysis for science (Group T & Group C)

	T Group (20 participants)	C Group (20 participants)

	Emotional Level	Day 1 (Stress level 1)	Day 2 (Stress level 2)	Day 3 (Stress level 3)	Day 4 (Stress level 4)	Day 1 (Stress level 1)	Day 2 (Stress level 2)	Day 3 (Stress level 3)	Day 4 (Stress level 4)
1	E1 (Happy)	3	-	-	-	20	17	14	13
2	E2 (satisfied)	16	9	1	-	-	3	5	5
3	E3 (Confused)	1	3	10	8	-	-	1	2
4	E4 (Sad)	-	7	5	6	-	-	-	-
5	E5 (Jealous)	-	1	3	2	-	-	-	-
6	E6 (Depressed)	-	-	1	4	-	-	-	-
	Grade	A	B	C+	C	A	A	B+	A

Table 7
Data analysis for English (Group T & Group C)

		T Group (20 participants)				C Group (20 participants)			
	Emotional Level	Day 1 (Stress level 1)	Day 2 (Stress level 2)	Day 3 (Stress level 3)	Day 4 (Stress level 4)	Day 1 (Stress level 1)	Day 2 (Stress level 2)	Day 3 (Stress level 3)	Day 4 (Stress level 4)
1	E1 (Happy)	2	-	-	-	20	15	11	12
2	E2 (satisfied)	15	10	6	4	-	5	4	6
3	E3 (Confused)	3	3	8	7	-	-	5	2
4	E4 (Sad)	-	5	4	5	-	-	-	-
5	E5 (Jealous)	-	2	1	1	-	-	-	-
6	E6 (Depressed)	-	-	1	3	-	-	-	-
	Grade	A	B+	C	D	A	A	A+	A

Findings

- There was not much variation seen in scores obtained in science and English assignments given, across the two groups, at different stress levels induced and different emotional levels.
- The scores obtained and the stress level induced showed a positive relation.
- The scores obtained and the emotional level showed a positive relation.
- The positive relation between the scores obtained and the stress-induced was stronger in the "T" group students compared to the "C" group students
- The positive relation between the scores obtained and the emotional level was stronger in the "T" group students compared to the "C" group students
- The environment and the teacher's role showed a positive relationship with the emotional level in both groups.

- The environment and the teacher’s role showed a positive relationship with the scores obtained in both groups.

Triune Brain Model in Classrooms

The triune brain model has been used to develop many pedagogical approaches. For instance, cognitive load theory (CLT), cognitive acceleration through science education (CASE), brain-targeted teaching (BTT), and research-based strategies to ignite student learning, are understood through the lens of neuropsychology. Though, the current study does not intend to develop any framework but identifies reflexes that should be borne by the teachers as attitudes to ensure optimized meaningful learning. It was interesting to note how the emotional level and stress level were manipulated through the teachers’ role and given physical environment. It was observed the reptilian brain and the limbic brain components integrate, to impact the cognitive learning behavior of the students controlled by the neocortex brain.

Brain and the stress factor

The stress factor activates the hypothalamus in the reptilian brain. This stops the “thinking” brain, and it is for this reason that children under stress are unable to perform. The Reticular Activating System (RAS) controls the reptilian brain, which in turn is subject to the belief and values of the individual. Teachers must constantly challenge the students for the perceptions the children hold. For instance, examinations are stress-inducing because examinations are not taken as keys to improvement and growth, rather it is believed to be a judgment that decides the worth. Teachers need an environment that balances the stress level just to motivate and excite students to their potential.

Brain and the emotional factor

This study has revealed the intimate connection between the emotional and cognitive brain, that is the limbic and the neocortex brain. The limbic brain is responsible for processing the information before it is processed by the “thinking” brain, the neocortex. It is for this reason that emotions impair the learning process. It was notable to observe how in the study the teachers impact learning by promoting a conducive environment and balancing the emotional state. Shreds of evidence from the study consolidate the fact that conducive emotional experiences trigger the release of neurotransmitters that facilitate long-term memory. Teachers should establish connections with students as mentors.

Brain and the environmental factor

The physical environment plays a crucial role in activating the reptilian and the limbic brain. The study showed students were distracted and lost interest in the environment that was bland and lacked lighting, colors, soft music, and scent. In studying the effects of lighting, researchers have shown increases in achievement of students who were taught in classrooms with the most natural and full spectrum lighting compared to dark classrooms or those with cool-white fluorescent lights (Kosik & Heschong, 2000). Scant and lighting triggers the limbic brain which is the emotional center, capturing the olfactory inputs more efficiently. On average the human eyes register 36,000 visual images per hour. Researchers state that the brain’s visual attending mechanism is strongly influenced by novelty in the environment. Studies emphasize soft background music can help to relax students and provide a comfortable learning environment. The current study further endorses the relevance of the physical environment in learning. The teachers need to create a well-lit learning environment, that has colors, scented and soft music for relaxation to keep the reptilian and limbic brain positively controlled.

Discussion

The current research work argues the contribution of the “brain” in what brings about cognitive behavior in classrooms. Though the anecdotal reports suggest that the evidence about how children’s brains develop and learn, is not the focus of current pedagogical knowledge frameworks (Ansari, 2005; Wilson & Conyers, 2013), it is strongly believed that the intriguing integration of recent neuroscience shreds of evidence with the conceptualized psychological findings would help teachers perform their tasks optimally rather than just working on an ad-hoc basis. The three sub-brains of the triune brain model specifically validate the psychological theories with the neurological context in the undertaken current research.

Anatomically, a network of over 80 billion neurons constitutes the matured human brain. These neurons connect at junctions called synapses. It is through synapses that the neurotransmitters are released. Brain activities are controlled through the transmission of neurotransmitters. One supposedly accepted fact is that structure and function of the brain are fixed and the teachers have the least role to develop the brain for adaptive learning. It is here that the concept of brain plasticity throws light on how the brain adapts to the environment and learning experiences given. Brain plasticity can be broadly understood as experience-expected and experience-dependent (Greenough, Black, & Wallace, 2002). The changes in the organization of the brain that are pervasive to individuals due to the experiences encountered within a community fall under experience-expected plasticity. The changes that are the result of the varied experience encountered by the individual from the environment cause experience-dependent plasticity. It is through experience-dependent plasticity that the individual adapts and reacts to the environment. Experience-dependent plasticity is the crucial process by which humans learn to adapt to their specific socio-cultural niches and function successfully within them (Greenough et al., 2002). Research conducted suggests the impact of the environment on the biological organization of the brain. It is documented in various studies that individual differences in children’s socio-economic status (SES) and the environment in which a child grows affect the brain circuits underlying functions such as those underlying literacy (Hackman, Farah, & Meaney, 2010; Noble et al., 2006). Yet another research work brings out how environmental factors impact the organization of the brain, where individuals from urban and rural environments report different responses to the stress-induced. There are no apprehensions about the neurological shreds of evidence endorsing the role of environment on children’s learning. Cognitive neuroscience has progressed beyond the studies that evaluate the impact of sensory-motor experiences on neuronal plasticity, to understanding the role of the environment in facilitating learning.

Brain plasticity is not a standardized process for all humans, which means all humans will not have the same effect on a particular environment and learning experiences given. The behavior of students in the classroom cannot be interpreted as a result of any one variable. It is here that the notions of individualized and personalized learning experiences come into play. The genetic variability and the experience together inform neuronal plasticity. To a large extent, such notions help teachers to be consciously involved in ethical challenges that have implications for human conditions. To understand and apply the knowledge extracted by the neuroscientists of neuronal plasticity, the teachers need not be mandatory "biologists" with sound anatomical and psychological knowledge of the "brain." The medicine is prepared in the pharmacology laboratory and distributed by the pharmacist, to be eventually consumed by the patient for wellness. At all levels the skills and the expertise required are different, but the purpose for all is the same, that is, curing the illness. In the same scenario, neuroscientists bring about the shreds of evidence, the educators need to integrate it with existing pedagogical knowledge for validation, and finally, served to teachers as "solutions" for enhancing the practices. It is intended that understanding neuroscience would enable educators to evaluate misconceptions about the brain and avoid accepting information or commercial products that are not evidence-based. (Dekker et al., 2012; Goswami, 2006).

Currently, there has not been much research available on measuring the changes the brain undergoes during synapsis, but procedures like MRI, are used to quantify the changes in brain volume. Such data is useful in drawing shreds of evidence to establish connections between the brain and the behavior expressed. Using the neuroimaging methods, the neural correlates exhibited during complex behaviors like problem-solving and processing of emotions are studied. It is evident to the core that experience-dependent plasticity is at the crux of learning. In this context, developmental cognitive neuroscientists research the functional changes the brain undergoes with different experiences, which eventually have an impact on learning and development. The research focus is not limited to areas connected to cognition, but also extends to understanding the social behaviors under varied emotional and environmental conditions.

On the contrary, there have been perceptions that education is highly complex, and findings from the domains like neuroscience are not any fix to understand the much-entangled phenomenon. From a neurologist, the triune brain model is just the representation of the evolution of the brain from reptilian to highly evolved human species. They deny any psychological basis for understanding the three sub-brains. Even the theory fails to stand on the comparative and evolutionary neuroanatomical grounds. Shreds of evidence from research show "the limbic system evolved long before the advent of amniote vertebrates, let alone early mammals" (Hodos & Butler, 1996, pp. 86, 455). Few other research works of psychologists also strongly argued for the fact that shreds of evidence-driven by psychological experiments can only be considered authentic and reliable to examine learning behavior. How so ever, this research paper declines such a narrow viewpoint that fails to accommodate divergent perceptions about education and considers the triune brain model as "a useful structure-function framework for more recent thinking about the evolution of emotional systems" (Kelley, 2005, p. ??). The study of the "brain," as in neuroscience, in isolation, may not be self-evident to dictate the mechanisms of learning, but together with cognitive science and psychology, the triune brain model does hold possibilities of revisiting and rephrasing the expected pedagogical knowledge. Research conducted at multiple levels, from the influence of genes to brain networks impacting cognitive behavior, has ample shreds of evidence to establish the connection between what goes in the classroom and the "brain." Though "if teacher education programs do include empirical research on how children develop, the knowledge transmitted is based on comparatively old theoretical models (e.g. Jean Piaget, Lev Vygotsky)" (Tokuhama-Espinosa, 2014, p. ??), it has been argued that the study of how the brain develops and acquires new information has the potential to transform education (Sigman et al., 2014). It is because of this reason, that the conferences like, "Learning and the Brain" and "Neuroscience and Education" are organized by bodies like the Mind Brain and Education Society (IMBES) and the European Association for Research on Learning to establish bidirectional relationships that can facilitate informed decision making in the classroom. Therefore, would conclude with the statement, that "there is no need to pit neurosciences and psychology against one another and to be forced to choose which level of explanation is superior to the other in terms of informing education" (Howard-Jones et al., 2016, p. ??).

Conclusion

The brain is accepted as the site for all mental processes, and therefore shreds of evidence from neurosciences are inevitable in the learning process. The traditional educational system laid much emphasis on the neocortex brain only. How so ever, the relevance of the triune brain theory has been further endorsed in the present study. All three parts of the brain work in coordination and affect learning behavior. Factors like emotional intelligence, motivation, stress-free conducive environment, and teacher's attitude have now proven neurological significance, therefore should be treated strongly as a matter of high importance. The teachers must rethink and emphasize on classroom environment as an influential factor in learning as it has a direct impact on the functioning of the brain. The educators and the senior leaders in the schools should evaluate the policies and norms for relevance and creditability. There is a need to also integrate neurological shreds of evidence in defining the educational procedures, may it be curriculum, pedagogy, assessments, or learning environment. Teacher education program or any other.

Future Scope

The shooting up of the interdisciplinary field of cognitive neuropsychology brings out concerns and questions in context to neural underpinnings in the psychological development and functioning of pedagogical knowledge. It will be interesting to note the impact on teachers' professional development, as the shreds of evidence from neuroscience are integrated with the teacher education program. Discussing the concept of brain plasticity to understand learning implications would highlight the importance of evidence-based education. Neuroscience integrated with psychology and cognitive science plays constructively in drawing the educational outcomes, and therefore, can be considered as a paradigm shift in defining and framing apt educational policies.

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Conflict of Interest

The author declares there is no conflict of interests.

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