BRAIN ANOMALY OF LEARNING DISABILITY (DYSLEXIC) CHILDREN – NEED TO STUDY FROM EDUCATIONAL PERSPECTIVE

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Abstract:
With a much hyped discussion and research on Learning Disabilities (LD) i.e Dyslexics among the educators and medical profession, it is of immense importance to study the root cause of it.
Educators in regular classrooms come across various situations where a Learning Disabled child fails to perform in the academics and is an underachiever in the grade level skills, a lagging child compared to his peer group. Is it the excuse given by the child for not studying, non-performing or is it the mess in the brain structure which does not allow the child to perform.
Considering the impact on academic achievement, the study of the neuro model understanding from educational perspective proves to be prudent.
Keywords: *Brain Anomaly, Learning Disability, Dyslexia Learning Disability and Dyslexia is used interchangeably.*

Introduction:

Rushil(name changed) is a hyper child, and an underachiever in academics. The teacher even after repeated follow-ups and extra classes fails to get desired results. The teacher fails to improve his academic performance as compared to his peers. Moreover, it hurts the teacher for Rushil's distraction in studies, behavioral problems that are exhibited in the classroom which gets difficult to handle in huge classroom size. After umpteen efforts, the teacher feels it the child who gives excuses and does not want to perform and study hard. On repeated failures the school authorities decide to detain the student on pretence of academic underachievement and behavioural issues.

The case above represents the lack of educators understanding in-

1) Reasons for academic underachievement
2) Behavioural Problems
3) Teacher's lack of knowledge about LD and problems associated.

Prima facie it is in the classroom when the teacher's during classroom teaching and academic task assessment can gauge the child's performance and problems faced by the child in performing the task.

Awareness about LD and types of LD definitely proves to be credible in the classroom situations and extend assistance to children with problems.

But why a study on brain structure is required? Since LD (Dyslexia) brain structure is different from the normal child's brain and responsible for the problems associated, it is of utmost importance to have a sound knowledge about it.

The preceding discussion underlines the importance of the study from an educational perspective. But first a thorough understanding of the term Learning Disability and Dyslexia, and Brain and it's structure is necessary.

Meaning of Learning Disability and Dyslexia:

'Learning Disability' and 'Dyslexia' is commonly and widely used interchangeably. Dyslexia affects and hampers the overall academic performance.

According to NCLD (2013) learning disability is neurobiological disorder that affects the brain's ability to receive, process, store and respond to information.

According to IDA (2002) Dyslexia is a specific learning disability that is neurobiological in nature and is characterized by difficulties with accurate and/or word recognition, spelling and decoding abilities.

Other definitions and theories suggest that Learning Disability and Dyslexia is a neurobiological disorder or dysfunction and the brain does not perform like that of the normal children.

Brain Anomaly of Learning Disability/Dyslexic Children:

In a decade or so the studies on neuroanatomy of the dyslexic brains gained momentum. The recent neuroimaging techniques like fMRI and PET allows to study the living brains giving a comparative and understanding of brain functions. The problems of Dyslexia is physically located on the brain.

From the researches in the domain it is evident that there is anomalies i.e. deviations in the dyslexic brains. The disorder refers to the abnormal, physical or mental conditions.

From large volume of studies few reliable findings from Greatschools staff (2015), Geshwind. N, Levitsky.W (1968) Booth and Burman (2001), Hoeft(2010), Obrzut(1991) is summarized below:

1. Asymmetry in brain region called planumn temporal.
2. Difference in left occipital temporal cortex
3. Different pattern of thalamic connectivity in sensorimotor and lateral prefrontal cortices was found.
4. Dyslexic have less gray matter in the left part of brain than the non-dyslexic individuals
5. LD brain is symmetrical and normal brain is asymmetrical (Hynd.G.W. et al, 1990)
6. Dyslexics have smaller right frontal widths.

7. Dyslexics have pattern of increased activity in the inferior frontal gyrus, area on the right side of brain.

With this study, the need to study it from educators point of view can be studied.

Need to Study Brain Anomaly of LD from Educational Perspective:

As discussed in the introductory paragraph, the classroom encompasses of students with varied 'abilities' and 'disabilities'. A ignored, left out child and with delayed diagnosis and treatment aggravates the learning problems in a child and with and that is displayed in the academic achievement and behavioral issues.

Though LD is neuro related difficulty, the answers to it is educational form. Educators can use this knowledge effectively and relieve the struggling students. The following are some of the ways that can be seen through educational perspective:

1. Having known that one of the cause of LD is genetics, a strong and positive environmental approach with enriched learning experience, joyful and healthy learning environment can certainly alter brain structure and improve brain functions by retraining.
2. The knowledge of brain anomaly allows to peep into the problems and assist by banking on the strengths and address the weakness.
3. Neuro scientific tools helps in clarifying misconceptions and form strategies to improve diagnosis and intervention(Greatschools Staff, 2018)
4. The educational programmes can be designed based on the area of concern in learning.
5. The knowledge of dyslexic brain allows in altering and modifying teaching content for curricular adaptations.
6. Teacher's can form effective teaching instructions making them more precise, lucid and altered suiting the learning style of dyslexics.
7. As every individual case is different and the gravity of the case differs, it forms the base for forming policies, educational planning and further explains the reasons in implementing them.
8. Effective research based approaches and goal oriented structured IEP's can be designed based on neuro diversity.
9. It helps in changing the perspectives of educators and policy makers attitude towards inclusivity and diversity.

The study of brain anomaly from educational perspective is far beyond imagination. With a little awareness about it no teacher in the classroom would say it is the excuse given by the child and would consider the struggles faced by LD students with empathy.

References:

Dyslexia and the Brain. (n.d.). Retrieved from https://www.dyslexicadvantage.org/dyslexia-and-the-brain/

The Human Brain (Infographic). (2017, November 14). Retrieved from http://www.learningsuccessblog.com/human-brain-infographic?utm_source=dlvr.it&utm_medium=facebook

Is Dyslexia a Brain Disorder? (n.d.). Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5924397/?report=classic#B45-brainsci-08-00061

Learning Disability: What the Heck Is It? (n.d.). Retrieved from https://dyslexiaida.org/learning-disability-what-the-heck-is-it/

NCLD. (n.d.). Retrieved from https://www.ncld.org

Research Summary: Asymmetry and Dyslexia. (2017, November 14). Retrieved from https://blog.dyslexia.com/research-assymetry/

Staff, G. (2013, October 28). Dyslexia and the education environment. Retrieved from https://www.greatschools.org/gk/articles/dyslexia-and-education/