Analysis of the Single National Curriculum of Early Childhood Care and Education 2020 in regards to Brain-Based Learning.

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Abstract

In educating children, ignoring the primary years is the biggest mistake one can make. In many studies and researches, it has been proved that the maximum growth takes place in early years. One can make. From birth to six years, most of the development takes place and a child learns more than 70% of the life skills during this time among which language and communication is on the top. A good and effective curriculum should be able to highlight the needs and demands of such young kids. This comparison analysis is to see whether the current Single National Curriculum of Early Childhood education 2020 is reviewed through the lens of the Brain-based Curriculum as it claims being on the international standards.

Keywords:*: Brain-Based Learning , Basic tools of Learning Process, Early childhood Education, Curriculum Policy, Best Teaching Practice*

Introduction

It will be incorrect to say that children only grow in sizes. They change, progress and mature, overcoming more and more complex understanding of the world, objects and challenges around them. There is a universal pattern or sequence for the development that is true for the children. Early Childhood Education not only deals with the happening within the child but also sees that the care a child is required is provided in order to blossom (Larrison, 2013). For a child to develop, grow and learn in a healthy and normal way, it is important to provide and meet the basic needs for protection, safety, food and proper health care, but also to meet the basic requirement for interactions and stimulation, love and affection, safety and security, above all learning through discovering and exploring (Mr.A.Arun, 2018). The importance of the early childhood education is a fundamental education strategy. Just like before we build the house one make the foundation strong so that the entire house stands strong on it. In the same way a child's primary schooling is a foundational years in developing children in to adults. This growth of a child is embedded with in the family, community, culture, values, emotional and social abilities etc. that will build a capable child in the later years. In research, a successful education of the child depends on how the foundation is laid during the early years of education (Vallori, 2014).

Learning is consider as a continuous process of experiences which is the result of the interaction of the individual with the environment. How one learns shows the human behavior, which revolves around how brain learns or unlearns (Vallori, 2014). Brain is the essential part of the journey that a human takes after the birth to death. Brain-based learning deals with that notion of developing in the neuro-physiosocial context of learning. Brain is the basic feature in learning, so that the learning become effective for the child through environment, personality qualities etc. effect the process of learning.

A good effective teacher always considers different ways of methods of teaching children to improve their progress (Vallori, 2014). Every teacher is different from one another and hence their style of teaching as well. Brain research has built new knowledge how in many ways a human acquire learning (Baron-Cohen, 2005). The impact of the Brain-based learning has

pushed educators from all around the world to finding about brain research to guide teaching practice. Brain-based teaching and learning has elaborated into designing a lesson plan, curriculum principles and their impact before, during and after each delivery of the lesson (Mr.A.Arun, 2018).

Neuroscience is the scientific education of the brain that includes the structure and function of the brain. Knowing how the brain works, helps the teacher educators and student teacher to inform their teaching how, when, and why the learning occurs from a psychological standpoint (Larrison, 2013). It is a well-establish fact that curriculum plays a crucial role in construction of any nation. Having a one curriculum across the country is always been an inspiration of all the societies, culture and in other words governing bodies of a countries. Such attempt is made in the last year 2020 by the Pakistan Government as well. Pakistan launched Single National Curriculum across the country and the policies are under taking (Council, Single National Curriculum of Early Childhood Care and Education, 2020).

The decades old verities of educational system exists amongst the different streams of education in Pakistan that has not only kept different educational school of thoughts with in the country but has divided the educational quality, teachers and students as well (Carman, 2019). This has created an inequity of social and economic progress in the population. These different systems have created disparities and different mindsets among the nation (Vallori, 2014).

Definitions of Terms:

Brain Based Education

The word has become widely used to describe educational programmes that are meant to match with the brain. Because of the term's commercialization, researchers prefer to refer to it as neuroeducation, educational neuroscience, or mind, brain, and education science. The word, however, is still widely used, particularly in the educational world.

Curriculum: The phrase is used to define anything from the objectives, content, and presenting sequence of that material to the learning processes. Curriculum, as a learning process, is the most helpful term in neuroeducation.

Holistic Education

A humanistic educational approach in which the learner is first seen as a human being within a community is known as holistic education. In holistic education, the significance of the individual self is honoured, and practical programmes frequently incorporate activities that allow pupils express their personal experiences while also developing a passion and enthusiasm for learning. Holistic education integrates physical, social-emotional, cognitive and spiritual aspects of learning into the curriculum.

Neuro Education

"Neuroeducation," as defined by Zenhausern (1982, p 122)

"A word that may be used to that component of education that focuses on the connection of the brain and behaviour in learning systems" (from Sonnier & Goldsmith, 2005). Neuroeducation is also a phrase that has been used to characterise the developing multidisciplinary area of Mind, Brain, and Education. It has recently gained reliability with its adoption by the Dana Alliance and John Hopkins.

Neuro Educator*:* Howard Gardner (2008) defines a "professional who is based in both the theories and research of neuroscience and the practise of education" as "a professional who is based in both the theories and research of neuroscience and the practise of education" (p 165). This phrase is most commonly applied to the instructor in the classroom.

Neuro Science

The nervous system's science. Neuroscience, which began as a part of biology, has grown to encompass all aspects of brain anatomy and function. In 1969, the Society for Neuroscience was founded. Educational neuroscience is one of a number of sub-disciplines of neuroscience that deals with topics in neuroscience that are directly related to educational concerns.

Sensitive Periods

A human (or an entity) is predisposed to develop various capabilities throughout specific stages of development. Creating a developmentally appropriate educational methodology requires the use of sensitive times to allow for the complete development of brain systems.

Literature Review

Brain-based teaching strategies are effective for all students especially facing the learning challenges. According to Jensen (2008) if you are thinking about the learning process then brain-based learning is the right way. Brain-based learning should not be consider as a program or cure neither it is a solution to a problem. It is not a theory, or a philosophy or a recipe for a teacher and it should also not be considered as a gimmick or a trend. Brain-based learning is a set of principles, a guideline, or in other words a base for knowledge and skills on which one makes a better decisions for the learning process in the child's life (Carman, 2019).

The most recent development of Brain-based Learning is the applications of cognitive neuroscience. The operation of memory is another central part of the brain-based teaching. From the neuroscience research it is revealed that all the components of memory systems are interconnected and interrelated (Larrison, 2013). These systems contains various memory pathways that need is to be used in equilibrium and effective way in order to retrieve the information.

Brain-based learning emphasis a strong need on physical exercises and movement in the classroom. In order to obtain the benefit from the brain-based learning it is important to understand the conceptual understanding related to the structure and function of the brain (Vallori, 2014).

Principles for the Brain-based Learning in the Classroom:

Teaching through brain based learning is very different from traditional methods of teaching. It stress up on meaningful learning against the rote methods learning style. Brain-based learning is

more involved with hands on activity based learning and adopts student centered approach (Carman, 2019).

Principles of Brain-based learning need to be understood in order to be prove beneficial for the teaching purposes within the classroom. According to Caine and Caine (1991) following are the glimpse of the principles of brain-based learning:

1. The brain is the equivalent processor of learning.
2. It is the life long process
3. Brain based learning engages the entire human physiology.
4. Finding the meaning is an innate part of the brain-based learning
5. Brain based learning includes both focused attention as well as the exterior perception.
6. It always involves conscious and unconscious brain processes.

Meaningful Learning:

The concept ‘meaningful learning’ has become a clear understanding in a science education (Vallori, 2014). According to the educational psychologist David Amusable, in many context, meaningful learning is better than memorizing methods. As it provides value in real classroom situations as conditions as well as in various multidisciplinary.

If the learning is taking place in a contextual manner thane it helps the students to engage emotionally, socially and cognitively which promotes success (Mr.A.Arun, 2018). This enhances the emotional and cognitive growth of the students in a positive manner. Additionally it increases the curiosity and boosts the student’s level of joy towards the learning they are involved in, leading to self-actualization the higher level of Bloom Taxonomy.

According to the research, the knowledge acquire through meaningful learning helps the student to make new connections with the world, this type of learning stays with the student thorough out his lifespan (Vallori, 2014). When we say meaningful learning is taking place, this means the student is involve actively, constructively and acquiring lifelong skills (Carman, 2019).

Tools for meaningful learning and Brain-based Learning:

A teacher teaching through meaningful leering, teaches students important cognitive skills like analyzing, organizing, classifying the information to solve the situations and then communication skill to communicating the results obtained (Larrison, 2013). These lifelong skills assist them throughout their school life and as lifelong learners as well. These cognitive skills help students to utilize their brain ability which is the most effective way for the students to engage in the learning of any content (Vallori, 2014).

Brain-based learning is not a new idea however, awareness of teaching through this approach is still establishing. Educators and neuroscientist are working together to create a meaningful program for the teachers and students, to improve the teaching methods and bridge the gaps seen in the classroom (Baron-Cohen, 2005).

Brain-based learning is directly connected with neurology and discipline of education, in which educational psychology shows an important part. Classroom where academic failures and academic challenges are visibly seen, and after applying many approaches still the teachers feel unsuccessful in teaching some kids, neuroeducation gives the answer in the form of a tool (Baron-Cohen, 2005). This is a scientific tool for educators as well as for the teachers to help design and identify academic goals for the children who are subjected to struggle (Vallori, 2014).

Constructivist Approach and Brain-based Learning

Constructivism approach is driven through Brain-based learning. Teaching methods involves the brain is constructing learning process as discovering and organizing knowledge, associating the new learning with the previous experiences? (Mr.A.Arun, 2018) According to constructivism, learning is an inner process that happens in the individual's mind and it is different individually.

Role of Brain-based approach in a Curriculum

Educational neuroscience delivers enough evidence especially for the young mind to provision lifelong learning and provides wider benefits of acquiring learning that neglecting the area of brain research would be a harmful for a human race (Larrison, 2013) Cognitive functions are all developed by brain-based learning process therefore making changes in the curriculum is of

utmost important. Teachers and students are able to develop their behavior, attitude, and basic communication skills if the educational neuroscience is included in the curriculum (Larrison, 2013).

Considering the brain-based learning in teaching changes the way of teaching process and helps to develop or amend a curriculum which is more activity based and learner centered (Carman, 2019). Teacher must be aware about the methods of teaching learning and how the learner can be motivated. For this present era teacher should be made aware of the brain-based learning as the bases of meaningful learning opportunities. They should develop better understanding of the neuroscience in education to deliver better classroom practices (Vallori, 2014). Because the approach targets to shape and condition attitude and behavior not through inner-reflection, personal motivation and intrinsic rewards therefore it addresses all the needs of 21st century students (Mr.A.Arun, 2018).

Discussion

As an educationist, we are seeing result of the two decades of policies and directives that took nose-dive to provide for more than artificial learning goals. The education system of Pakistan continues to demonstrate below average level learning for many students especially in the public sectors. However, in my opinion the real disaster it the neglect of the emotional and physical needs of the students.

Motivation is a springboard of learning

Neuro science and biological sciences recognizes the connection between emotional, cognitive and physical development in terms of students meaningful learning. Motivation plays an integral and central role in this aspect, which provides a springboard to the development and understanding of an individual's learning of the world (Council, Single National Curriculum of Early Childhood Care and Education, 2020). The current system of education in Pakistan, does not supports the different learning styles, different abilities and neither the different learning

disabilities students within the classroom setting (Council, Curriculum for Early Childhood Care and Education, 2017). Throughout the world, Center of Disease Control website reports increasing levels of ADHD in schools at a rate of 3% per year from 1997 onwards. Such reporting is not possible in Pakistan especially in public sector (Carman, 2019). Which brings the concern forward that what these children are learning and whether the curriculum is tailored for them or not.

The other rising concern is the student against student and the increase of reporting drugs issues (Larrison, 2013). These are the cases which are reported mostly from private sector schools, whereas the public sector goes unreported and unseen, here in Pakistan. After decades of independence now in 2019, a zero policy have come up towards teachers' violence within the class. That leaves the emotional state of a child unaddressed (Naimatullah Khan, 2017). The violence in public schools has been attributed to the accessibility of teachers hitting children with slaps, slippers, sticks and admitting sever punishments. In such cases, if the curriculum is not tailored to address such issues then the improvement or the change is difficult to achieve especially in nationwide scope (Naimatullah Khan, 2017).

Student wellbeing is an absolute importance which is lost in our current focus on test and examination system (Naimatullah Khan, 2017). Research on neuroscience and cognitive science emphasize on the importance of developing cognitively as well as physical and emotional aspects of the growing brain. In general, the brain-based learning not only addresses the academic crisis but encompasses the deeply rooted trends of student to student violence, student to teacher violence and disparities as a social illness in the society. It is clear that the new path of reforming the curriculum, keeping brain-based learning will addresses the core issue facing by our government and students and to bring us pout from these crises, eventually (Mr.A.Arun, 2018).

Brain-based Learning and Curriculum Reform:

In the recent research, Carew and Magsamen 2010 states, that to prepare children for 21st century something needs to be done and neuroscience is the way forward that provides critical factor for

this problem. Keeping these factors the curriculums are reformed and brought on a surface so that students and ultimately nation benefits from it (Larrison, 2013).

In Pakistan, different educational systems cater to the different socio-economic society of children. These include low-cost schools, public schools, madrassas and higher class, state of an art private schools (Naimatullah Khan, 2017). These colorful and different educational institutes follow completely different curriculum and guidelines. Which result in students graduating from completely different thinking, approaches and livelihoods from one another. These are exactly the reasons why a curriculum is required to reform, bringing the nation under one umbrella. Therefore the National Curriculum of Early Childhood was added in 2002 and was rewritten in 2017, including the younger age as young as 3 years old. Kachi Jammat were establish across the country and teachers were trained around the need of the change. The Single National Curriculum for grades Pre 1 to 5 was developed through a broad-based collaborative process with specialists from all provinces and areas (Naimatullah Khan, 2017). The collaborative process included specialists from province and local curriculum authorities, textbook boards, faculty from prestigious universities, research organisations, teacher training institutes, and evaluation specialists, as well as minorities' representatives. For the first time, eminent experts from the Ittehad Tanzeemat Ul Madaras Pakistan (ITMP) took part in the formulation of the curriculum for grades Pre1 to 5, as part of an all-inclusive year-long consultation process that gathered comprehensive feedback from over 400 experts (Council, Single National Curriculum of Early Childhood Care and Education, 2020).

Single National Curriculum of Early Childhood Care and Education

Teachings from the Quran and Sunnah; Quaid-e-Azam Muhammad Ali Jinnah and Allama Iqbal's vision; Pakistan's Constitution and national policies; international commitments, including the Sustainable Development Goals (SDGs); latest educational trends; societal values; inclusive education; human rights and child protection; hygiene and sanitation; Environment and climate change; global citizenship; life skills-based and civic education; religious and cultural diversity; a shift away from rote learning; activities and project-based learning; 21st-century skills; use of information and communication technology; and the ever-changing challenges and trends of the new era (Council, Single National Curriculum of Early Childhood Care and Education, 2020).

The Single National Curriculum of Early Childhood Care and Education, highlights almost all the aspects of a child development and can be said as to fit the criterion set by the 21sy century skills. Under the careful supervision of specialists, the 2006 national curriculum was changed in light of recommendations gained from the aforementioned study and conferences. The SNC pre-1-5 draught, as a result, was disseminated with the provinces and regions for evaluation and comments. For the first time in Pakistan's history, specialists from Gilgit-Baltistan have collaborated on curriculum creation. Federal Government Educational Institutes (Cantts & Garrisons) participated in the consultative workshops. For expert advice and value addition, the proposed curriculum was also shared with Cambridge University UK and the Institute for Educational Development, Karachi. After receiving input, the proposed curriculum was modified. As a further step, a national conference was held, bringing together specialists from throughout the country to conduct a thorough examination of the situation (Council, Curriculum for Early Childhood Care and Education, 2017).

In my analysis the curriculum is now further refined and the reformed version is far better than before, meeting the international standard and inclined with the needs of the current student (Carman, 2019). However, the new normal of the post-epidemic period emphasizes the need to rethink educational goals. One of the top responsibilities for making the curriculum practical, acceptable, and sensitive is to build readiness for earthquakes, sicknesses, and crises. There are other goals in place for the curriculum that cover a variety of preparatory competencies in various disciplines of study. If this Single National Curriculum is able to be implemented then there is a hope of the survival of the young nation entering the new era in oppose to the old curriculum of 2017.

Active Engagement of the Student

The Early Childhood Care and Education 2020 Single National Curriculum (SNC) outlines the criteria and gives a road map and recommendations for establishing activities and a scheme of study for preschoolers (ages 04-05), with a focus on developmentally appropriate practices for this young age. This curriculum aims to promote children's entire well-being and to provide the greatest possible circumstances for growth and development in a safe, guided, and healthy

environment. This service is designed to assist children in growing into persons who can learn via play, discovery, experimentation and collaboration. This curriculum has gained importance as a result of a greater emphasis on values education and 21st-century skills, hence coexisting with the Brain-based Learning. This curriculum has gained importance as a result of a greater emphasis on values education and 21st-century skills.

Holistic Development through Early Childhood Care and Education and Brain-based learning

The unfolding process of learning, rather than the outcome, is one of the guiding ideas of holistic childhood development (Carman, 2019). It's a strategy that encourages people to want to study rather than just memories facts and statistics. It will not boost a child's desire to study if they are forced to acquire information and information. It will, in fact, harm the child's future growth as well as his or her capacity to study efficiently (Vallori, 2014). The major engines in exciting youngsters are learning by doing and the very fundamental need to know. The Single Nation Curriculum covers the emotional and physical needs of the children, so that the teachers get trained around it.

All educators, implementers, and policymakers bear a significant amount of responsibility for ensuring that children who begin school at the age of four are provided with a safe learning environment. The age for pre-primary grade (04-05) denotes the present ECCE grade system of Prep/Nursery/Katchi/Undakhil, which is common across the country. This component is the SDG's (SDG-4.2) mention of the necessity for a two-year ECCE programme to be implemented. In this regard, it's worth noting that this ECCE curriculum has room to grow, and a pre-primary grade for children aged 3 to 4 years may simply be generated if the need arises. This paper will serve as a foundation for the introduction of extended pre-primary grades into Pakistan's educational system. It is critical to have a basic grasp of the many domains of development in order to make developmentally appropriate accommodations in response to the collective and individual needs of children.

Development is a concurrent and interwoven process, not a linear one. The domains have been divided into the following primary areas for the purposes of explanation and comprehension.

Physical Growth and Brain-based Learning

It has to do with how youngsters utilize their muscles, both big and little. Walking, leaping, and carrying heavy items are all actions that need large muscles. Fine motor skills such as threading beads, writing, and sketching, cleaning rice, and working with little items are all done with the tiny muscles. Children benefit from daily exposure to activities that promote muscular development. They acquire confidence and begin to feel capable of assisting seniors (Mr.A.Arun, 2018).

Emotional Development and Brain-based Learning

The ability of a kid to feel, manage, and express a wide range of pleasant and negative emotions is referred to as emotional development. Throughout a child's early years, the development of self-esteem is crucial. At this age, pleasant experiences are critical for children. Feeling important, actively taking responsibility, and being heard and cared for are all necessary ingredients for a great work environment which are essentials for creating a positive self-concept in children (Council, Single National Curriculum of Early Childhood Care and Education, 2020).

Cognitive Development and Brain-based Learning

It focuses on how children learn and process information and refers to the development of mental processes and skills. It is the growth of the mind's thinking and organizing structures. Language, imagining, thinking, creating, exploring, reasoning, problem solving, forming and rejecting ideas and concepts, remembering, expression via many mediums, and experimenting and applying what they learn are all part of the process (Baron-Cohen, 2005). Children arrive at school with fundamental thinking and processing abilities already in place. It's all something they've picked up as they've matured. Humans' critical thinking and creativity are boosted by proper cognitive development. Children are given the opportunity to explore, think, imagine, question, and experiment in a supportive ECCE setting as they acquire the capacity to come up with new ideas and solutions.

Recommendations and Conclusion

The development of a student holistically among learners is a curricular aim that must be stressed in the new standard curriculum. When it comes to curricular material, deciding either to incorporate or reduce might be difficult. However, educational techniques that are rapidly turning to an online format should be evaluated in light of a range of aspects. In terms of instructional evaluation, several issues about learning assessment serve as useful reminders for educators. In all provinces/regions, the provisions of the ECE policy (2009) have to be implemented in their entirety. As a result, provincial/regional Education Departments should begin offering ECE lessons in public schools based on their own preferences. For ECE lessons, for example, extra teachers should be provided with one or two weeks of ECE trainings.

This paper looks at how academic programmers might be redesigned in the epidemic age to cater for the new normal. Other studies should look at many facets of schooling in more depth. COVID-19 pandemic has political, economic, sociological, and psychological ramifications. These factors, which are continually being researched in fresh studies, should be looked at further in order to better prepare educational institutions for the future age in social accountancy.

According to policy, additional funds need to be set up for the hiring of specific ECE instructors or other ECE class assistance. I.e. instructional materials and audiovisual aids, and so on. This necessitates a more detailed strategy and focused approach to the problem. Caregivers for ECE courses, on the other hand, were only available in Punjab province's schools to care for young children. This should spread in other provinces of Pakistan as well.

Following the conclusion of ECE, all children are simply admitted to class one. On the basis of these data, it is possible to infer that ECE is a viable option. It should be used to build a foundation for increasing primary enrollment in the country's public schools.

To inspire teachers to promote ECE education in Pakistan, the federal and provincial/regional governments may need to create a distinct body of ECE instructors with suitable qualifications and training in ECE, not only in the public sector but also in the private sector.

The importance of ECE necessitates a variety of tactics and adaptable ways in ECE provision in order for the ECE programme to be fully mainstreamed. It is possible to implement a proper system for overseeing and monitoring ECE classes. These factors, which are continually being researched in fresh studies, should be looked at further in order to better prepare educational institutions for the future age in social accountancy (Baron-Cohen, 2005).

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