CONCEPTUAL THOUGHTS ON COGNITIVE DEVELOPMENT IN YOUNG CHILDREN – A REVIEW

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Abstract: All over the world, research has picked up on early childhood education, especially with respect to the techniques and strategies used in nurturing the development of children in various aspects like cognitive, emotional, social, linguistic and physical. Most of the developed countries are working towards fine tuning the curriculum for early childhood education in terms of making them emotionally balanced, socially adaptive and future-ready with life skills and 21st century skills. Interestingly, it is the 21st century skills viz., Communication, Collaboration, Creative thinking and Critical thinking which lays the foundation for children to develop emotional and social maturity. Also, research has spread the results of nurturing 21st century skills in the early years as an effective strategy for preparing the young generation towards the unknown future. This paper presents a review on how the conceptual thoughts about cognitive development in young children have evolved.

Keywords: Cognitive development, young children, learning for life.

Introduction:
Early childhood care and education systems are being appraised in many countries due to various reasons. A major reason being the growing labour force participation of women which force the existing systems to expand their capacity and extend their services. Another crucial reason is to prepare the children from socio-economically disadvantaged families for formal schooling in primary schools and in preventing psychosocial problems.

Global research indicates that 85% of a child’s core brain structure is already complete in the early years and the actual spending on children below 6 years is only one-eighth of the spending on children in the 6-14 age group. Research has also indicated that the chances of a child’s brain developing to its full potential are considerably and often irreversibly reduced if the early years are not supported by or embedded in a stimulating and enriching physical and psychosocial environment. The United Nations Development Programme (UNDP), 1990 created the Human Development Index which measures the achievements of countries based
on three basic dimensions of human development viz., a long and healthy life, knowledge and a decent standard of living which specifically includes indicators relating to children’s mortality, education and child labour.

Education is aimed at helping students succeed in life. However, the education which was considered good enough 50 years ago is no longer appropriate to ensure success to the students in college, career and citizenship in the 21st century. The “21st Century Skills” movement is more than a decade old and NEA built a Partnership for 21st Century Skills (P21) and developed a “Framework for 21st Century Learning” in 2004 and now 16 states in the United States have joined P21. The framework highlights 18 different skills and over the years they found the framework to be too lengthy and complicated. To resolve the issue, many leaders were consulted and a unanimous decision was taken that four specific skills were the most important with respect to K-12 education. These skills are critical thinking, communication, collaboration and creativity which are now called as the “Four Cs”. This paper presents the logical progress in the conceptual thoughts on cognitive development in young children across the world with a special reference to Indian context.

Indian Philosophers:

Mahatma Gandhi (1869-1948) Gandhiji’s contribution to Indian education is the introduction of his scheme of new education called Nai-Talim or “Basic Education”. His focus on education for children below 7 years is called the “Pre-basic Education”. This means that each individual should not only develop creativity but also should acquire critical thinking skills.

Rabindranath Tagore (1861-1941) – Rabindranath Tagore emphasized greatly the Intellectual Development of the children. By intellectual development he meant development of imagination, creative thinking, free thinking, constant curiosity and alertness of the mind. He suggested that the child should be free to adopt his own way of learning which will lead to all-round development.

Sri Aurobindo Ghose (1872-1950) - Aurobindo Ghosh was an idealistic and his philosophy is based on Vedantic Philosophy of Upanishad. According to Sri Aurobindo, true teaching is “Nothing can be taught”. The teacher is not an instructor or task master but is a helper and a guide. His business is to suggest and not to impose. He felt that the idea of hammering the child into the shape desired by the parent or teacher is a barbarous and ignorant superstition. The mind has to be consulted in its growth. Sri Aurobindo wrote, “It is wrong and not be ignored and mutilated”. Another important principle of teaching is to work from the near to the far, from the known to the unknown. Man’s nature is moulded by his soul’s past, his heredity and his environment. The past is the foundation, the present is the material and future is the aim and each must find its due and natural place in any national system of education.

To train all the senses hearing, speaking, listening, touching, smelling and testing. According to him these senses can be fully trained when nerve, chitta and manas are pure. To achieve mental development of the child, enhancement of all mental faculties namely memory, thinking, reasoning, imagination and discrimination etc should be developed fully and harmoniously. In other words, Aurobindo laid the basic principle of mental development on all the cognitive and metacognitive skills development.
International Philosophers

John Jacques Rousseau (1712-1778 A.D.)

Rousseau opined that “Education is not preparation for life but life itself”. The scheme of education is given in his book called “Emile”. The stress in early childhood education is on conceptual knowledge. He considered child as the discoverer and stressed on play way method. His focus was on freedom, growth, interests and activity. He suggested that attention should be given to the child’s curiosity and interest and education should be catered according to the stages as he believed in stages of development like Piaget. The concept of sense training and physical activities were first introduced by Rousseau. He also suggested that conversation nurtures language development.

Johann Heinrich Pestalozzi (1746-1827)

Pestalozzi motto was “learning by head, hand and heart”. He is rightly called the Father of Education as he saw Education as a subject to study in its own right. In 1801, he wrote a book – “How Gertrude Teaches Her Children” which talks about the development of thinking and needs of the child. It emphasizes active participation and direct experience of the world with the use of natural objects in teaching.

Frederich Wilhelm August Froebel (1782-1852)

Froebel began as an educator in 1805 in Frankfurt where he learnt about Pestalozzi’s ideas. Later, he worked with Pestalozzi in Switzerland where his ideas further developed. In 1826, he published his first creation, “The Education of Man” in which he says, “the true method of education consists in considering the mind of the child as a whole in which all the parts work together to produce harmonious unity”. He dedicated himself completely to preschool child education and began manufacturing playing materials which are known as “Froebel Gifts”. In 1840, he coined the term “Kindergarten” for the institute he had founded. Kindergarten was the first organised early childhood education method.

Froebel’s school featured games, play, songs, stories and crafts to stimulate imagination and develop physical and motor skills. Two categories of materials were given to children. Gifts - by playing with the object the child would learn the concept represented by the object and Occupations which consisted of things that children could shape and manipulate such as clay, sand, beads and string. He gave children:

- respect for their intellectual and emotional abilities and development.
- in the classroom (symbolically viewed as an extension of a flourishing garden.)
- and that which he needed most as a child.

Froebel was the first to recognize that significant brain development occurs between birth and age 3. His method combines an awareness of human physiology and the fact that humans are creative beings. Once early childhood education becomes widely adopted, it was the natural starting point for innovations that followed. He introduced play-way in the activities of the school. He suggested that children should be taught through songs, movements, gestures, dramatization, handwork, etc. Growth and development of the child
through play, self-activity, self-expression through play, spontaneity, freedom, happiness and joy in play activities, unity, aesthetic appreciation, creativeness, drawing out, discipline through love, sense training, principle of concrete to abstract are some of the principles. Clearly, Froebel recommended creativity, curiosity and suggested activities for the same to be the central theme of early childhood education.

**Maria Montessori (1870-1952)** The most admired educator Maria Montessori was a doctor by qualification and profession. She disagreed with Rousseau’s idea of unstructured education in the wilds of nature but she liked his ideas of developing the senses before abstract learning could take place. She also studied the work of Pestalozzi and Froebel and adapted them to her own use. Montessori developed the principle of first educating the senses, then educating the intellect. Maria Montessori developed a teaching programme that enabled ‘defective’ children to read and write not by having children repeatedly try it through drill but by developing exercises that prepare them. These exercises would then be repeated. Looking becomes reading; touching becomes writing.

“Montessori is a method of education that is based on self-directed activity, hands-on learning and collaborative play. In Montessori classrooms, children make creative choices in their learning, while the classroom and the teacher offer age appropriate activities to guide the process. Children work in groups and individually to discover and explore knowledge of the world and develop their maximum potential”. Montessori believed that the goal of education is to help people become more free-thinking innovators who can improve society through positive reform. It is very evident that the Montessori philosophy of education supports independent thinking, creativity and responsibility.

**Jean Piaget (1952-1980)** was a Swiss developmental psychologist. He developed one of the most comprehensive theories of cognitive development. He developed the concept of genetic epistemology which refers to study of developmental changes in the process of knowing and in the organization of knowledge. According to him, cognitive development deals with how knowledge is acquired and developed through successive stages and at various age levels.

According to Piaget’s theory, all cognition takes place due to three processes. They are:

- **Assimilation** - fitting of new information into previously established cognitive structure (schema)
- **Accommodation** - alteration of existing cognitive structures (schema) in response to new information.
- **Equilibrium** - optimal level of intellectual functioning taking place when there is a balance between assimilation and accommodation. The cognitive structure changes from one stage to another by the process of equilibration, maintaining balance between the child and his changing environment.

These three processes together facilitate adaptation which is an inborn tendency to adjust to the demands of environment through assimilation and accommodation.

In early years of the child if he is not allowed a fairly wide sensory and motor experience, development will be retarded. It is important to remember that “Children should be treated as children”. Children should be made active and encouraged to find out by
themselves, by their own spontaneous activity. He believed that children learn fast if concrete materials are provided to them with a teacher who will arouse the curiosity of the child through planned activities.

Lev Vygotsky (1896-1934) – insisted that cognitive growth occurs in a socio-cultural context that influences the form it takes and many of a child’s most noteworthy cognitive skills evolve from social interactions with parents, teachers and other more competent associates.

According to Vygotsky, human cognition is inherently sociocultural, affected by the beliefs, values and tools of intellectual adaptation passed to individuals by their culture. He proposed that children are born with few elementary mental functions like attention, sensation, perception and memory. These eventually get transformed into new more sophisticated higher mental functions by the culture. Vygotsky agreed with Piaget that young children are curious explorers who are actively involved in learning and discovering new principles. However, he said that children make “discoveries” within the context of cooperative or collaborative “dialogues” between a skilful tutor-who models the activity and transmits verbal constructions and a novice pupil – who first tries to understand the tutor’s instruction and then finally internalises this information and uses it to regulate his/her own performance.

Children engaged in pretend play which is often guided by an elder, more expert associate is a good example of playing in ZPD. “Young children are more likely to engage in symbolic play when they are playing with someone else rather than alone and that mothers in particular bring out high levels of symbolic play in their children”. (Bornstein et al.,1996; Young blade and Dunn,1995)

Jerome Seymour Bruner (1915-2016) opined that the outcome of cognitive development is thinking. The intelligent mind creates from experience “generic coding systems that permit one to go beyond the data to new and possibly fruitful predictions” (Bruner,1957, p. 234). According to Bruner, the important outcomes of learning include not only the concepts, categories and problem-solving procedures invented previously by the culture but also the ability to “invent” these things for oneself. Bruner agreed with the principles of Vygotsky in that language serves to mediate between environmental stimuli and individual’s response. The aim of education should be to create autonomous learners (i.e., learning to learn).

John Dewey (1859-1952): Dewey was influenced by the work of Darwin and believed that the scientific method is an excellent way for teaching – students create a hypothesis, test the hypothesis and learn from consequences, and the methodology of intelligence is used since students must keep track of ideas, activities and consequences (Dewey, 1952). He is one of the founders of both pragmatism and progressive education. His influences include many of the ideas and concepts used by progressive educators and outcome-based education practitioners including outcome-based education, standard based education, life-long learning, critical thinking skills, problem solving skills and meaningful learning (Deblois,2002).

Conclusion:

Cognitive development in young children is of prime importance and is interrelated to other aspects of child development. Various philosophers and psychologists have discussed about the significance of cognitive development in early years and abundant literature is
available in the area. However, the cognitive development which proved efficient about five decades ago is no longer capable of preparing young children of the present generation. Hence, a shift in the paradigm of nurturing cognitive skills has resulted in focusing on creative and critical thinking skills specifically which will empower the children to prepare for the future in 21st century. However, the basic principles of nurturing cognitive development has remained almost unchanged.

REFERENCES
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