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Child's Physical Development, Enveironment and Intelligence: Implication for Administration of Childhood Education

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Abstract: *This work sought to examine how biological stages of development and the environment of a child provide for learning experiences and as such, are seen as factors or determinant which affects child's intellectual growth/development. As an academic subject, different view on childhood development has been reviewed for the purpose of this work. This research work is longitudinal in nature. It uses observational and experimental techniques. Case studies and expose-facto method was also employed. The conclusion to this work is universally generalized. The null hypotheses put to test are: Child intellectual development is not influenced by physical developments/ability and Child intellectual development is not affected by experience (level of exposure to environmental variables).*
These hypotheses were rejected, while the alternate hypotheses were upheld. The implications were presented in a table below. Recommendations and conclusion were also given.
Keywords: *intellectual development, physical abilities, environmental experiences, theorist's gender*

I. Introduction

This work is a summary of a book titled "Modern Theory on Child Intellectual Development" currently submitted for publication.Child psychology is a field which is being pre-dominated by male theorists. The absence of female theorist in this field calls for a justified concern.

To some extent this is a gender sensitive issue, because, right from conception, the female bears the growing child in her womb for a gestation period. Physically and psychologically, the child is thus being attached to the mother from the onset of his life, thus making a researching mother a part of mobile and continual observer in nature's laboratory set for experimental observation.

After child delivery, the mother begins to nurture the child, being directly involved in the child's welfare. The mother, as a matter of obligation is inseparable from the child in the early part of childhood, through the weaning period and beyond, as the case may be. It is little wonder that the Qur'an stated that "we did enjoin upon man concerning his parents; beareth him his mother in weakness upon weakness and his weaning taketh two years, saying "be thou grateful unto ---------.However a man loves his family (child in particular) he will find it an impossible task to play the natural role played by the mothers.

The implication of the above is that a female theorist, who is a mother and is availed the opportunities of interacting with children will present issues on child psychology with a greater accuracy than her male counterpart.

The author is of the opinion that scholars, who are mothers, whose view may be differentiated from the author's view on the basis of cultural or religious background, should strive through research in the field of child psychology.

A group of scientist from university of IOWA is of the opinion that to say "it's in the gene," –the world has relied on that simple explanation for too long. According to UI Health Care News "the UI team calls for tossing out the nature -nurture debate, which they11 say has prevailed for centuries in part out of convenience and intellectual laziness". Also, in the view of the author, this "conveniences" and "intellectual laziness" is the main reason why psychologists have accepted available theory on child intellectual development (Science Daily, July 21, 2009).

This is therefore a humble attempt of the researcher to share her views on child's intellectual development. The research is thus captured as Modern Theory on Child Intellectual Development.

II. Hpotheses

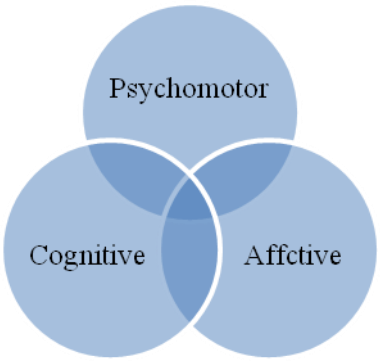
The hypotheses which guided this work were derived from the theory proposed in the book viz:
Child intellectual development depends on two factors viz physical developments/ability and experience (level of exposure to environmental variables).

The null hypotheses derived from the above are as follow:

- Child intellectual development is not influenced by physical developments/ability.
- Child intellectual development is not affected by experience (level of exposure to environmental variables).

Theoretical Frame Work/Empirical Studies

Jean Piaget, the oldest child of Arthur Piaget, a professor of medieval literature, had interest in cognitive development. That is, he was interested in knowledge and how children come to know their world (Wanda (downloaded on 19/12/12)). Coincidentally, the researcher is interested on the on the same topic coined as Modern Theory on Child's Intellectual Development. Though, Jean Piaget dwell more on the cognitive aspect whereas this research is interested in the three aspects of knowledge viz cognitive, psychomotor and affective development of the child.



Piaget believed that children's spontaneous comments provides valuable clues to understanding their thinking, though he was not interested in a right or wrong answer but rather forms of logic and reasoning (Wanda).

Many philosophers of the past also debated the question of whether human knowledge is inborn or the product of experience. Nativists believed that certain elementary truths are innate to the human mind and need not be gained through experience. In contrast, empiricists believed that at birth, a person's mind is like a tabula rasa, or blank slate, and that all human knowledge ultimately comes from sensory experience. (Kassin, Saul. "Psychology." Microsoft® Encarta® 2009 [DVD])

The above express the position of the Qur'an as presented by Baqir.S (2000); "and Allah has brought you fourth from the wombs of your mothers, you did not know anything, and he gave you the hearing and sight and the hearts that you may give thanks. The pen, through writing is also a means of enhancing learning; in this case the physical development of the hand is relevant. In the chapter titled "the pen", in the Qur'an, Allah swears "by the pen and by what they write"; the first word revealed in the Qur'an is a command to "read"! Or "study"! Or "proclaim"! Therefore, to read also requires the physical ability to use the eyes/mouth. But learning has also gotten an innate aspect of it, as illustrated in this statement "He (God) thought the use of pen; He taught man what he knew not. He taught him expression" (Qur'an).

More to this , the researcher believed that child's spontaneous comment, facial expression and actions can provide valuable clues to understanding their thinking, feelings, as well as indicating the particular skill that child has acquired.

For example:

A child of one year, five month was given a small pocket sized book whose story/rhyme emphasized an expression in a picture than use of sentence. The child playfully studies this book for about one week. The storyline/rhymes is about a child, who put his thumb nail into a charismas pie, pull a plump of it with his thumb nail and said "what a good boy I am". In the absence of this book, a bowl of food was presented to this child whose picture appears to look like the cake placed in a bowl as shown in the picture. The child then digs her thumb nail and pulls a plump of the pounded yam while looking exited. the child is not interested in whether the food was charismas' pie of a bowl of pounded yam but her action indicated that she knows that it was food and she also know the basic shape of the food, ie around shaped cake as compare to the round shaped pounded yam in a bowl (cognitive) she also indicate that she has acquire the (psychomotor) skill that was demonstrated in the picture (though it was not explained to her; and the fact that she remember to practice what she saw in the picture, even in the absence of the book shows that she values (affective) the action she studied on the book.

III. Methodology

Mainly, the methodology used in this research work is experimental as well as ex-post-facto, yet it can still be referred to as developmental in nature. The data gathering techniques used was observatory skill. Mainly the home/ wherever the child is in the presence of the researcher serves as the laboratory in which specimen were closely observed while they were unaware and feel free in their behaviour. In other word, the children were systematically observed in their own environment which serves as their natural environment where they act freely.

Oral interview was also conducted to verify some relevant information. The instrument/technique is therefore highly reliable.

IV. Discussion of Finding

S/N	Stages	Age range	Characteristics	Affected domain	Practical example		Educational implication
					Action	Response	
1	Partial passive stage	(0-2 months)	16-18hrs of sleeping/4-6hrs of wakefulness spent in changing diaper or feeding and a little bit of looking.	Things are alternately made and unmade; child began to get use to her/his environment/ physiological challenges (hunger/thirst and toileting). Cognitive: Identification of object in motion above the bed, a name, exclamation mark as early as day ten Psychomotor: acquisition of communicative skill Affective: positive facial expression after meeting his needs	Child was rebuked for biting while sucking in the 1st 10 days through exclamation	Normally become still for a moment. When someone was rebuked in exactly the same way while he was sucking, he became still wondering what he did now	Learning begins from birth/any word repeated for two weeks sticks to their brain. Autism can be detected within 1st 2weeks
2	Mechanical operational stage	2-4months	Wakefulness increase by about 3hours, become stronger and exposed to greater environmental experience	Identification of people he is constantly interacting with. Associative reasoning is developed. Ie Associative knowledge of electricity Manipulative skill leading to more associative cognitive The child manipulates with his hand once he is able to hold his head this lead to unexpected outcome which prompt them for more and deliberate manipulation, interconnected skills is learned. The child feels happy/confident with favourable outcome of his manipulations	The click of stabilizer picking up current informs the child that electricity is back.	The child immediately will look at the 2 fan to check if they are rotating; look at the television showing that she is aware that there is a common linkage (electricity)	Suitable toys can be used to achieve the objective of learning associative knowledge
3	Self mobile stage	(4-6 months)	The child develops the ability to move around. The child is beginning to develop a sense of individuality.	The knowledge of risk taking strengthens associative reasoning. Things are not made and unmade Sense of precaution/ risk taking and height is being developed Knowing the risk of they gradually learn the skills needed to avoid/handle risk, ie learn how to step down climb up/holding tight to ones cloth to avoid falling They express their fear by crying when the challenge appeared great to overcome	A child fell from bed at four months	Subsequent attempts to get down from bed after that, she will alert by crying for help.	Things are not made and unmade Child should be introduced harmless risk ie falling from low mattress placed on the flour. Being overprotective will slow child development.
4	PRE-PRIMARY CONSOLIDATION STAGE	(6-12MONTHS)	The child can possibly chew soft food; move around by crawling, or walking with or without aid, express needs through signs, ie licking drop of water or empty cup/water bottle.	Child can recognize any environment he/she has constantly interacted with. Can detect change in environment Longer attention period/pointing to the change and attempting oral expression about the change. Facial expression of surprise/inquisitive look.	Reshuffling of wall charts	The child Pays longer attention while crosschecking others, as if thinking, that one was here before.	Constant changes in the environment can enhance learning at this stage. Caregivers should pay attention to their symbolic expressions
5	Primary consolidation stage	1-3 years	Social interaction commences, many concepts are learned, unlearned and relearned	There is consolidation of the acquired knowledge of a child At the earliest stage, for all children observed usually mean yes for no, on for off, in for out, up for down or vice versa. Because the consolidation of those opposite concepts is just setting in. At a later stage they can isolate simple phenomena in different context. An observatory skill is acquired. They can use of a particular sensory organ to arrive at a reasonable deduction i e the act of pointing out similarities while making comparism. Affectively, their response is shown by testing whether they like, dislike, excited or are frighten by the subject of interest.	Can identify moon, even when it appears in daytime.	A child was pointing to the moon in the day time, showing others by pointing to it.	Bruner's theory of circular learning is strongly recommended. To facilitate knowledge/skill consolidation: 1. An early childhood educator should be able to engage learner to learn a concept at a time. 2. When a child has learnt and is no longer interested in a concept, the teacher should recognise that and move onto the next concept which is to be learnt. 3. At subsequent level, when a child is ready to relearn, learning activities should be organised to explain such a concept to suit learners desire that satisfy his learning needs.

6	Secondary consolidation stage	3-7 years	They can display all the listed physical abilities of the preceding stage with greater dexterity.	This socio-sphere which constitutes sets of human activities of such environment facilitates cognitive, psychomotor and affective development. Deductive reasoning has set in. They can think abstractively in simple term and express such thought /curiosity/deduction	They can engage in running simple errand and participate in different types of physical activities and exercise within a short period of training.	They can carefully plan playful events and execute such plan to show their feeling.	Introduction to "ISLE" on Press TV: it discusses why a named government always considers American policy against it own national interest. A cartoon appear, showing a dog covered with an American flag	Suddenly, a child of four years, who earlier was uninterested in the program, concluded that "that is Obama's dog (i.e a government was portrayed as American government's dog).	early childhood educator/parent should be able to skillfully select a media socio-sphere which is rich in desirable learning experience to which the child is to be exposed.
7	Tertiary consolidation stage	(7-11 years)	by age seven, those trained with any particular skill/knowledge over a period of time can master such skill competently. Therefore, intellectuality is influenced by sex factor. previously, they have acquired a set of social skills which streamlined them along taste in different aspects of social life. Their personality has becoming evident. Learning has gradually become organized in nature.	The cognitive, psychomotive, and affective abilities of these children become very sensitive. Their imaginative skill is firmly established, When concepts, ideas, operation and activities are described into details, they can comprehend, appreciate and even put into practice any of such aspect that appeals their intellectuality. abstract ideas set in due to the strength of their imaginative skill. Learning has also become easier as a result of the influence of organizational learning through peers and environmental changes.			Traditional teaching/learning of Qur'an in groups shows organizational learning achieved through the team. Children who were brought to school (my school) and was initially stubborn were thought the social manners of interaction within the school,	They learn by heart, They got changed and become less troublesome as far as they are in the school.	Learning has also become easier as a result of the influence of organizational learning through peers. Another implication is that collaboration is required between the school, home and religious evening/ weekend classes.

V. Conclusion

The conclusion arrived at are as follow:

- Child intellectual development is influenced by physical developments/ability.
- Child intellectual development is affected by experience (level of exposure to environmental variables).

For children at the following stages of child development:

- Partial passive stage (0-2 months), things are alternately made and unmade;
- Mechanical operational stage (2-4months) Associative reasoning is developed. Ie Associative knowledge of electricity through it appliances.
- Pre-primary consolidation stage (1-3 years), the knowledge of risk taking strengthens associative reasoning. Things are not made and unmade
- Secondary consolidation stage (3-7 years)
  There is consolidation of the acquired knowledge of a child at the earliest stage
  The socio-sphere which constitutes sets of human activities of such environment facilitates cognitive, psychomotor and affective development.
- Tertiary consolidation stage (7-11 years)
  Good teachers/parents/school management has to carefully manage this stage.
  Their imaginative skill is firmly established requiring the provision of the right key to take them along an imaginative path.

VI. Recommendation

The aim of every successful educational organization is to maximize learning. Looking at the educational implication as stated in the table above, the following suggestions are recommended for effective administration of early childhood education:

- Learning begins from birth; it is therefore encouraged for early childhood education administration to ensure that the staff catering for crèche pupils should communicate to them using desirable scheme of work. Within two weeks, they should be able to detect the condition of Autism.
- Early childhood education administrators should take advantage of using suitable toys which can be used to achieve the objective of learning associative knowledge.
- Things are not made and unmade Children should be introduced to harmless risk ie falling from low mattress placed on the flour or from chair/ bed to any soft materials like foam, Being over protective will slow child development.
- Constant changes in the environment can enhance learning at this stage; therefore, care givers should pay attention to their symbolic expressions. Administrators should see to regular introduction of changes in classrooms and school environment.
- Bruner's theory of circular learning is strongly recommended. To facilitate knowledge/skill consolidation, hence it is recommended that :

1. An early childhood educator should be able to engage learner to learn a concept at a time.
2. When a child has learnt and is no longer interested in a concept, the teacher should recognise that and move onto the next concept which is to be learnt.
3. At subsequent level, when a child is ready to relearn, learning activities should be organised to explain such a concept to suit learners' desire that satisfy his learning needs.

- An effective teacher should break down related concepts into their building blocks (analysis). And at the end of the lesson sum up the same related concepts to have such ideas firmly established for children of seven years and above.

VII. Conclusion

- Child Intellectual development is a function of physical development/abilities and environment variables/experience.
- Intelligence is the abilities to adjust to ones environment and the capacity to solve new environmental problems, leading to the highest probability of satisfying one's need within the physical abilities of such individuals as a result of accumulated past experiences.
- The extent to which one exploits his physical/innate abilities, environment and draw on past experience determines the outcome of a child intellectual achievement.

END NOTE:

With the write up so far, what was observed over the years has been discussed to the best of the writer's knowledge and findings.

The struggle on this path is continuous one. When more knowledge is gained, it will be presented before the community of scholars. Meanwhile, the writer hopes to engage in further longitudinal studies in the following areas:

- Adolescent Intellectuality
- Intellectual Behaviour: Middle age
- Intellectual Behaviour: old age

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