



The Influence of Education and Home Environment on the Cognitive Development of Preschool Children in Owerri West Local Government Area Imo State, Nigeria

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Abstract

Educational imbalance is adhering to accepted standards issues among the scientific community in African countries. The psychological characteristics that distinguish one person from another and thus help to define each person's individuality emerge well before children arrive at school. Moreover, the following analysis deals with the explanation of early differences in cognitive outcomes. However, there is much research done in the world and in Nigeria to be precise on the subject matter. The main question is if the influence of the educational background and the home environment has strong effects on the cognitive development of Preschool children. This study was designed to investigate the influence of education and home environment on the cognitive development of preschool children in Owerri west Local Government Area of Imo State, Nigeria. The study confirms that home environment and the education of the parents are important for children's outcomes at the age. In addition both factors also play a major role for the explanation of the improvement of cognitive abilities. The results show that in Owerri West, the home environment and parental education are important predictors of cognitive abilities. As a main result the study shows that it is very important to control for earlier abilities of the children and to encourage low educated parents to be active with their children, since in that way they can compensate for their lower educational background.

Keywords: Education, Home Environment, Cognitive Development, Preschool, Children, Nigeria.

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INTRODUCTION

Education is a means of transmitting culture from one generation to another and the process of bringing about a relatively permanent change in human behavior. As the oldest industry, it is the main instrument used by society to preserve, maintain and upgrade its social equilibrium. In all human societies, education is meant to pass on to new generations existing knowledge of their physical environment, to introduce them to the organization of society, give them skills for performing their daily jobs and enjoying their leisure, and inculcate sound morals in them for their own benefit and that of the society. In other words, education is a process by which the society assists younger generations in understanding the heritage of their past, participating productively in the society of the present and contributing to the future (Briggs et al., 2012 cited in Ololube et al., 2013). Despite this, Western models of education have been the most successful in meeting the overall learning needs of Africa (Ololube et al., 2013). Education is one of the most important inputs for the well-being of any society. Education is a powerful instrument of social progress without which neither an individual nor a nation can attain the growth that is necessary for development. The education of students is interesting especially from a comparative perspective. Undoubtedly, every education system can, in some way, be improved so as to better develop the potential of human capital and the quality of future leaders, community members and employees (Ololube et al., 2013). It has great influence in the development of families, homes, communities and pupils.

Numerous studies have established the influence of education and home environment on child cognitive and behaviour (Amanze et al, 2020); however, fewer have assessed these outcomes in the context of relatively “normal” range of home environmental conditions. From birth to age eighteen, children spend just a fraction of their lives in school. Thus it is not surprising that many factors outside the school environment can significantly influence students' prospects for academic success in school. These factors are in play both during the years before children begin formal schooling and while they are actually enrolled in elementary and secondary school (Agulanna & Nwachukwu, 2009). Major individual differences emerge well before children arrive at school. Therefore the following analysis deals with the explanation of early differences in cognitive outcomes. Current explanations of inequality stress the influence of cultural and human capital. The cultural capital of parents influences the home environment and activities between parents and their children.

A comparable mechanism holds true for the case of human capital: if parents are highly educated, the probability rises that their children will also be highly educated. It is assumed that it is easier for highly educated parents to help and stimulate their children (Ngwoke & Eze, 2010). Conclusively, a child's chance of positive cognitive outcomes depends on the (educational) resources of its parents and their home environment. Even though the disadvantages of social groups might still be quite small at early ages, in the long run, the accumulation process produces great differences.

A diverse array of issues, including (but not limited to) parents' beliefs and expectations about education; the availability and quality of child care; family economic status; the persistence, or absence, of violence in a child's life; access to social services; physical and mental health issues; opportunities for constructive, healthy activities outside of school (Stanley et al., 2020); and the nature and strength of school-community connections, can make a difference in a child's opportunities to do well in school. The home environment shapes a child's initial views of learning. Parents' beliefs, expectations, and attitudes about education and their children's

achievement (Nwagu & Umeakuka, 2008) have a profound early impact on students' conceptions of the place of education in their lives. What parents think about the importance (or unimportance) of doing well in school is often mirrored in student results. Some families clearly have more resources to devote to their children and can more easily find time to spend nurturing and encouraging them. When both parents work (an increasingly common phenomenon) or when a child is being raised by a single parent, finding time to read to the child, to encourage the completion of homework, or to participate in school functions—all known to have a salutary effect on student success in school—become more difficult. The problem is often compounded for parents who speak limited or no English.

However, regardless of family composition or circumstance, Children whose families provide supervision and support, and who have aspirations for their children, tend to multiply those children's chances of being successful students (Ngwoke & Eze, 2010). Poverty takes a toll on students' school performance. Poor children are twice as likely as their more affluent counterparts to repeat a grade; to be suspended, expelled, or drop out of high school; and to be placed in special education classes. Family composition and economic circumstance are often intertwined. More than half of the poor families in the United States are headed by an unmarried mother who must balance employment issues (these women are often trapped in low-wage jobs) with child care and parenting responsibilities. In sum, children from more economically affluent home circumstances have a leg up in many areas of life, including education. Children begin learning from the time they are born. Where children spend their time before they enter kindergarten has an effect on both their readiness for school and their chances for good long-term achievement results.

Studies show that early childhood care and education make a difference. Studies have shown that home environmental influence to a very large extent affects both the physical and psychological potential of Children. This word led to the contention that many students' tails to develop their potential is due to inadequate environmental stimulation (Adams, 2010). However, there are some environmental influence which have contributed to the poor cognitive development of student which are home background, inadequate school facilities, misuse of technology such as internet and school climate, such as student teacher relationship, classrooms, libraries, technical workshops, laboratories, teachers quality, school management, teaching methods, peers etc are variables that affect students intellectual development (Maganga, 2016). Hence, the school environment remains an important area that should be studied and will manage to enhance student's cognitive development.

THEORY OF COGNITIVE DEVELOPMENT

The most well-known and influential theory of cognitive development is that of French psychologist Jean Piaget (1896–1980). Piaget's theory, first published in 1952, grew out of decades of extensive observation of children, including his own, in their natural environments as opposed to the laboratory experiments of the behaviorists. Jean Piaget's theory of intellectual development (Flavell, 1963) is considered a leading theory on cognitive development (Flavell, 1963). Piaget's theory asserts that intellectual development is a direct continuation of inborn biological development. That is the child is born biologically equipped to make a variety of motor responses, which provide them with the framework for the thought processes that follow. That is, the ability to think springs from the physiological base. Piaget maintains that intelligence is rooted in two biological attributes found in all living creatures: organization and adaptation.

Organization is the tendency of every living organism to integrate processes into coherent systems. It occurs, for instance, when an infant, originally capable of either looking at objects or grasping them, integrates these two separate processes into a higher order structure which enable him to grasp something at the same time he looks at it. Adaptation is the innate tendency of a child to interact with his environment. This interaction fosters the development of a progressively complex mental organization. Each stage in this sequence of development provides the foundation for the next stage permitting progressively complex and effective adaptations to the environment. Adaptation comprises two complementary processes of assimilation and accommodation. The child assimilates experiences and fits them into the expanding structure of the intellect when he encounters new experiences which he cannot fit into the existing structure accommodation, or modified way of reacting takes place. Piaget stresses that as children mature mentally, they pass sequentially through four major stages of cognitive development, each stage having several sub stages (Hertherington & Parke, 1975). The major stages of cognitive growth are:

- Sensory motor stage - 0 - 2 years;
- Pre-operational or intuitive stage - 2 - 7 years;
- Concrete operations stage - 7 - 11 years;
- Formal operations stage - 11 - 15 years.

These stages are of a probabilistic nature. At most ages it is possible for a child to exhibit behavior characteristic of more than a single stage because heredity interacts with the environment. Each stage is a system of thinking that is quantitatively different from the preceding stage. Each stage is a major transformation in thought processes compared to the preceding stage. The stages are sequential and follow an invariant sequence. This means that the child cannot skip or miss a stage or by - pass a stage. He must go through each stage in a regular sequence. Children cannot overcome a developmental lag or speed up their movement from one stage to the next. They need to have sufficient experience in each stage and sufficient time to internalize that experience before they can move on.

Processes of Development

Many of the questions about the nature of developmental stages, their universality, and the extent of individual differences would be substantially clarified by a solid analysis of the processes underlying cognitive development. However, the best way to conceptualize the results of the extensive research literature on developmental processes is very much an open question. No emerging consensus is evident here, except perhaps that none of the traditional explanations is adequate. Three main types of models have dominated research to date. The first type of model grows out of Piaget's approach. The developing organization of behaviour is said to be based fundamentally in logic (Piaget, 1957, 1975). Developmental change results from the push toward logical consistency. Stages are defined by the occurrence of an equilibrium based on logical reversibility, and two such equilibria develop during the school years—one at concrete operations and one at formal operations.

Tests of this process model have proved to be remarkably unsuccessful. The primary empirical requirement of the model is that, when a logical equilibrium is reached, individuals must demonstrate high synchrony across domains. The prediction of synchrony arises from the

fact that at equilibrium a logical structure of the whole emerges and quickly pervades the mind, catalyzing change in most or all of the child's schemes. Consequently, when a 6-year-old girl develops her first concrete operational scheme, such as conservation of number, the logical structure of concrete operations should pervade her intelligence in a short time, according to Piaget's model. Her other schemes should quickly be transformed into concrete operations.

Environmental Challenges that influence on the Cognitive Development

School Environmental Influence

One of the factors that influence cognitive development of children is school location. This is so because in a situation whereby the school is sited in a noisy area like an airport or in the heart of a city, where activities disrupt the teaching and learning of the child. One will not expect such students in this area to be doing well academically. Osa-Edoh and Iyammu, (2010) in his note says that a favourable environment enhances a student's intellectual development. Students feel happy in a peaceful and friendly environment whereas schools sited in noisy urban streets are associated with deficits in mental concentration leading to student's poor performance. Noise is anything that interferes with the teaching/learning process. Noise produces influence on a student's information processing strategies, feelings of personal control as well as their level of arousal. Economic, motivational and emotion are also other factors that influence intellectual development of students (Fraser et al., 2008). These hampers student's intellectual development considerably as such treatments invariably results in negative self-concept. Also culture influences student's intellectual development.

The academic concepts are made known to the students by the teachers within the classroom. Teachers have the main job duty of completing the subject syllabus. Therefore, it is vital that the school environment should be disciplined, and well ordered (Kudari, 2016). Within the school environment, it is vital for the teachers and the students to implement the traits of morality and ethics. It is vital to promote mutual understanding, amiability and co-operation among the teachers and students as well as among the fellow students. The efficiency in the management of the classroom, introduces a well-organized and efficient management of the lesson plans, instructional strategies, teaching-learning processes and so forth. When there is discipline and effective communication among the individuals, then it would help the students learn better and improve their intellectual development.

Influence of education on Home Environment

The notion of family influence on cognitive development and education has great influence appeal and been publicized in educational practice. It widely recognizes the significance of the family as they attributed to the intellectual development needed to be described. Studies of the family influence are especially timely because families are undergoing change such as in the increased number of one parent families, increased participation of father and child rearing, the increase participation of mothers in the workforce (Okobiah, 2002). Most families in our society seem not to give adequate attention to the education of their children. It appears some of the parents have erroneous notion about the performance of their children, they do not know and seem to fulfill their role of guidance and encouragement in the child's performance in schools (Nnorom et al, 2020).

A student's first educational experiences are centred in the homes; his ideas, attitude and general pattern of behaviour are as a result of his student hood rearing. The variation in the academic attainments of students could be related directly to differences in the home and its influence (Maina, 2010). For the purpose of this research, the home is categorized into monogamous and polygamous type and both have effects in different ways on the academic progress and cognitive development of the child.

Talpur et al. (2012) noted that family size to a large extent determines the relative amount of physical attention and time which each student gets from his parents. Many children in the home entail less amount of attention in terms of time available for each child. It is also possible that family size affects the level of cognitive quantity that the child brings into the classroom. Evidence from several studies suggests that a measure of intellectual development varies directly with the size of the family and that correlation cuts across social class lines. Tompsett (2010) found out that the greater the number of children in the family, the lower the measure of intellectual development of the subsequent child. The significant relationship between socioeconomic class and success in school has been shown by Fraser et al. (2008); she looks at socio-economic class as one of the major causes of unnatural inequalities in education. In most western countries, all types of public and private schools serve different social classes. She further explains that inequality of educational opportunities results when there is keen competition to enter an institution and their need to play high fees. Students from higher socio-economic to classes are expected to perform better in schools. Oni (2010) states that, the most important predictor of achievement in school associated with the family is socio-economic status. He concluded by saying that his relationship of socio-economic achievement is always consistent, no matter whether our measure of status is occupation of the parents, education or both of them. On the whole, the student's background affects the school's success. Also family stability has been found to exert a serious effect on the student's intellectual development. Divorce, separation and single parenthood affect the student intellectual development.

Teacher Environmental Influence

Motivating students to achieve set goals in school is of great concern to teachers, parents and researchers. Teachers have an imperative role in influencing student's intellectual development. They are bestowed with the authority to direct all the classroom activities and administer learning. It is vital for the teachers to possess the traits of professionalism and conscientiousness. They need to possess an approachable nature, listen and provide solutions to the problems experienced by the students. They should possess adequate knowledge and information regarding the subjects that they are teaching, usage of technology, modern and innovative methods in the teaching and learning processes, managing discipline and directing all of the classroom as well as school activities and functions in a well-organized manner. The teachers in some cases are strict, but strictness should be maintained within limits. The main objective of the teachers should only be to enhance intellectual development of students.

Students Environmental Influence

In secondary schools, the students are between 12 to 18 years of age. They possess the abilities to differentiate between what is appropriate and what is inappropriate. Goal-oriented students usually possess positive feelings regarding their school experiences; they possess the traits of

discipline, diligence, and resourcefulness, are avid readers and tend to devote less time towards recreation and leisure activities. It is vital for the students to possess positive thinking in terms of their schools, teachers and academic subjects. With a positive attitude, they will be able to dedicate themselves wholeheartedly towards learning drama and generate the desired academic outcomes which will enable their teachers to teach drama well.

Discussion of the Implications of Piaget's Theory of Instructional Management

Piaget's theory of cognitive development may be used as broad and general guides to sequential curriculum planning. Curriculum planning revolves around the subject matter, the society and the learner. If society is chosen as the basis of the orientation of planning, then the content selected and organized should be around pertinent life situations confronted by students. When the orientation has the learner as a basis, then we must consider his interests, felt needs, basic urges or drives and concerns as he grows through the various stages. Thus the curriculum and instructional manager should be one that is diversified to call for the needs and interests of the many learners of varying ages, and abilities, which are found in the school. The objectives stated at the cognitive level, psychomotor and affective levels must reflect the different stages of the learner's growth. The scope, sequencing and integration of the subject matter have to relate to the learner's cognitive growth. The teaching methodology and teaching materials, and the learning activities should be those that are appropriate to each of the cognitive developmental stages of the learners. Since the theory says that there is a mutual interaction between the learner and the environment, teaching materials should come from the learner's environment. Teachers as instructional managers should use the hierarchy to: understand why children think and reason as they do; and to help the pupils' master intellectual processes at the appropriate age. Children at various ages have different capacities for attention and comprehensiveness (save for a few lessons in physical education and the appreciation of aesthetics). This means for instance that a standard one pupil may not endure a seventy minute double period as would a standard seven.

The theory clearly mandates that teachers as instructional managers should ensure that the learning environment should be rich in physical (concrete) experiences because growth in any one stage depends upon activity. Indeed Piaget calls for an active school involvement, which is a key to intellectual development, and should include direct physical manipulation of objects. The child must touch, sequence and push to experience and understand his environment. The curriculum, instructional and assignments developers should make a special effort to understand the child's world. They should not assume that what they think is good for the child is necessarily good for the child. They can then design educational experiences based on the child's need and readiness. By understanding how cognitive systems develop, they can avoid teaching children something before they are ready to learn it and missing a golden opportunity by waiting until well past the most sensitive moment. Rather than trying to accelerate "slow learners" in order to catch up, educators should provide children with rich experiences at their stage of development. Teachers should use diagnosis to determine a child's stage of development and then design individualized instruction to provide the optimal amount of stimulation and challenge.

CONCLUSION

Schools do not exist in a vacuum. A host of factors contribute to students' prospects for academic success. Some students come to school with all they need: stable and supportive families,

adequate financial resources, and good health. For students who do not enjoy these advantages, making provision to help them meet outside-of-school challenges can provide just the boost they need to succeed in school.

Recommendations

- The educational stakeholders and government should enhance in cognitive development of the pupils more especially those that are in abject poverty, to enable them develop their intellect for future educational background.
- It is very important to control for earlier abilities of the children and to encourage low educated parents to be active with their children, since in that way they can compensate for their lower educational background.
- Parents should endeavour to motivate and give their children adequate time to read and do their homework at home rather than engaging them in domestic and non-educational activities.
- Parents and all the significant others at homes should make home environments to be learning stimulatory and study friendly for children.
- The theory of cognitive development may be used as broad and general guides to sequential curriculum planning

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