

**The Impact of Early Childhood Education on the Academic Performance of Primary School Pupils in Arithmetics in Dutsin-Ma, Katsina State, Nigeria**

**BY**

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**Abstract**

*The study sought to establish facts about early childhood education experience on the academic performance of primary school children. The research instrument used was the school continuous assessment records. Two hypotheses were formulated and tested using z-test statistics, at .05 level of significance. The study revealed that there is a significant difference between pupils who had early childhood education and those without in their academic performance in Arithmetic ability, Cognitive ability, affective and psychomotor skills. The paper recommended among other things that the Parents should be involved in their children's early education involvement by providing the necessary materials*

**Keywords:** *Early Childhood Education, Arithmetics, Performance, Attitude, Cognitive, effective and psychomotor.*

**Introduction**

An education building is a process of systematic training and instruction designed to transmit knowledge and

acquisition of skill, potentials and abilities which will enable an individual to contribute efficiently to the growth and development of his society and

nation. It involves all round development of an individual physically, socially, morally, intellectually, and mentally, (Osakwe 2006). Pre-primary education as defined by Omozeghian (1995) is the education meant for children between the ages of 3 to 6 years. The

National Policy on Education (2004) sees pre-primary education as the education given in an educational institution to children aged 3-5 years plus prior to their entering the primary school.

That is to say that early education is a special kind of education provided in an institution for children, prior to their entering the primary school.

Early childhood education, in the context of formal education can be said to be “a formalized educational process to which children between the ages of 2 through five plus are subjected to in designated pre-school institutions” (Mezieobi, 2006) Early childhood education is the term commonly used to describe the formal teaching and care of young children by people other than their family or in settings outside of the home. According to the National Association for the Education of Young Children (NAEYC) the developmental

definition of early childhood education, spans the human life from birth to age eight. However, typically early childhood education covers the period from birth to when a child starts school and this can be as early as five years of age. Early childhood development and education is the overall development of the child socially, physically and intellectually. It encompasses the care, development and education of children below the age of six years. Maduwesi, in Osakwe (2009). Pre - primary education as defined by Omozeghian (1995) is the education meant for children between the ages of 3 to 6 years. The National Policy on Education (2004) sees pre -primary education as the education given in an educational institution to children aged 3-5 years plus prior to their entering the primary school. That is to say that early education is a special kind of education provided in an institution for children, prior to their entering the primary school. Early childhood education, in the context of formal education can be said to be “a formalized educational process to which children between the ages 2½ through five plus are subjected to in designated pre-school institutions” Mezieobi (2006).

Early childhood education involvement according to Barnard (2001) positively affects home and school participation in education at the long run. A child who fails to acquire early education may suffer emotionally, socially, intellectually and even physically if he or she is trusted into the primary school with out a sustainable early childhood education involvement that will give him a solid foundation in the primary school. Infact, for the effective and efficient unfolding and development of a child's latent abilities, attitudes and other forms of behaviour of positive values in the society in which he lives, early childhood education becomes very imminent. This is of utmost importance because researches on early childhood education have shown that early childhood education involvement have great impact on every facet of a child's development and had suggested that the first teacher is an extremely important person in the child's life, hence he becomes a role-model to the child.

According to Feeney, Christensen and Moravick (1987), early childhood education is an asset of immense value in the later academic pursuit of a

child and much more lately in life. This early involvement exposes the child to all fields which make him more apt to learn in the primary level as the confidence in his learning capabilities which he acquired from the nursery school is lifted to the primary school. This eventually aids and facilitates his learning. The early childhood institution aims at developing the cognitive and affective potential at an early age. Anderson (2002) is of the view that when children are exposed to early childhood education, they develop superior communication skills, necessary physical ability and social unity needed in adult life and an increased cognitive and effective educational balance.

Researchers in the field and early childhood educators both view the parents as an integral part of the early childhood process. Early childhood education takes many forms depending on the beliefs of the educator or parent. In today's world, parents and families contribute as much as teachers, students and administrators to the educational process or even more. More than any other time in history, involving community players represents a high priority of most school settings.

The measured and researched positive effects of parent involvement on student academic achievement pushes this area into focus of most school district and early childhood programme goals.

Miedel and Reynolds (1999) are of the opinion that when families are involved in their children's early education, children experience greater success once they enter primary school and even in later life. The formal school setting in early childhood education is a supplement to the home and a substitute. It promotes the complete development of the child that the house can easily provide. Most parents are limited in what they can give such as space, variety of equipment, educational materials and experiences of their children. Many parents are burdened with their own concerns that they are unable to provide the guidance that a child needs as he faces problems and frustrations especially where mothers are the sole support or the breadwinner of the family. Children may be left in the care of untrained and unhealthy people in crowded apartment devoid of play materials and playmates that children need leading to neglect and deprivation

which may result to lasting severe and negative effects in the life of the child. If however the formative years are characterized by exposure to a wide variety of learning activities and social contacts, skilled teaching, and intelligent guidance, then healthy growth and adjustment occurs. Early childhood education give children a group experience which extends values of family given then a total experience in democratic living in which cooperation is strengthened and competition minimized.

The Federal Government of Nigeria recognizes the importance of education in our economic development and social transformation process; hence she has given priority to early childhood education by inculcating its purpose in the National Policy of Education (2004)as follows:

- Effect a smooth transition from the home to the school,
- Prepare the child for the primary level of education
- Provide adequate care and supervision of the children while their parents are at work (on the farms, in the markets, offices, etc),
- Inculcate in the child the spirit of enquiry and creativity through the

exploration of nature, the environment, art, music and playing with toys, etc,

- Inculcate Social norms
- Develop a sense of cooperation and team spirit,
- Learn good habits, especially health habits, and
- Teach the rudiments of numbers, letters, colours, shapes, forms, etc.

Therefore early childhood education will provide that vital physical, psychomotor, affective, cognitive, social potentials which are fundamental to human life that will play very essential roles in the academic performance of children in the primary, educational level and even more in the later life of the individual child. This is the height of the problem which this study attempts to analyze which will give rise to quality outcomes as learning what they need to learn, both at the primary school level and for learning throughout life, healthy, well-nourished and free from exploitation, violence and labour, awareness of their rights and have opportunities to realize them, Ability to participate in decisions that affect their lives in accordance with their evolving capacities and ability to respect diversity, practice equality and resolve differences without violence. (Wikley 2009).

### **Statement of the Problem**

Theorists on ECCE such as Sigmund Freud and Erik Ericson in Osakwe (2009) opinionated that early childhood experiences have a lot of implications on the later life of individuals. The rearing practices which the child is exposed to influences the values, norms, and belief of individuals even in later life. The contents of the knowledge which the child is exposed to early in life are bedrock to later education and life. (Osakwe 2009)

### **Research Hypotheses**

The following null hypotheses were formulated and tested:

Ho1: There is no significant difference in the Arithmetics ability of pupils with early childhood and without early childhood education.

Ho2: There is no significant difference in the cognitive, affective, psychomotive skills of pupils with early childhood and without early childhood education.

### **RESEARCH METHODOLOGY**

#### **Research Design**

The research design for this study was descriptive survey type, designed to examine the effect of early childhood education on the academic performance of primary school pupils in Arithmetics.

#### **Population of the Study**

The population for the study comprised 246,190 primary school pupils of public schools in Dutsin-ma, Katsina, State.

**Sample and Sampling Procedure**

The sample study comprised of 250 pupils drawn from all public primary schools in Katsina State. The selection was based on multistage stratified sampling technique. The information obtained from this selection provided some insight into the general nature of how early child hood education involvement would affect academic performance of primary school children.

**Data Collection**

The data for this study were mainly generated from School records were collected from the selected public schools.

**Data Analysis**

The data collected were analysed, using z-test statistical tool, the level of significance was tested the at 0.05.

**Results**

The null hypotheses were tested at 0.05 level of significance and presented on the following tables:

**Table 1: Cognitive, affective and psychomotor skills**

N	X	SD	DF	Z-CAL	Z-CRIT	REMARKS
150	17.3	2.24	249	2.13	0.98	significant
100	11.5	3.53				

**Hypothesis one**

There is no significance in the Arithmetics ability between pupils with early childhood education and those without.

**Table 1: Arithmetic's Skills Significant**

N	X	SD	DF	Z-CAL	Z-CRIT	REMARKS
150	19.4	4.23	249	2.37	0.98	significant
100	13.5	2.12				

Table 1 showed that the calculated z-value of 2.13 was greater than the critical value of 0.98 with df 249 at .05 level of significance. The null hypothesis was therefore rejected because pupils with early childhood education significantly differed in cognitive ability with pupils without early childhood education.

### **Hypothesis Two**

There is no significant difference in Cognitive, affective and psychomotor skills between pupils with early childhood and without early childhood, education

Table 2: Arithmetics Skills Significant critical=0.48 Significant at 0.05.

Since the calculated z-value of 2.37 was greater than the table value of 1.96, the result was significant and the null hypothesis rejected. It showed that there was a significant difference between pupils who had early childhood education and those without early childhood education in affective skills.

### **Discussion**

This study has shown that there is a significant difference in the Arithmetics ability between pupils with early childhood education and those without. This is not surprising as several

studies have shown that early childhood education has significant impact on the academic performance of pupils. (Barnard 2001; Miedel and Reynolds 1999). Early childhood education has been observed to impact and influence the pupils' performance in spoken and written English, Mathematics, Integrated Science, Social studies etc as shown in the continuous assessment records.

Furthermore, This study has also revealed that there is a significant difference between pupils with early childhood education and those without in..

Finally, the study observed that there is a significant difference between pupils who had early childhood education and those without in cognitive, social skills, psychomotor skills. This finding is in consistent with that of Anderson (2002) who said that when children are exposed to early education, they will develop superior communication skills necessary - physical ability, social unity needed in adult life and an increased cognitive and effective education outstanding.

### **Conclusion**

Based on the findings, it was concluded that pupils who had early

childhood education perform better in their cognitive skills, psychomotor skills, and affective skills than pupils who did not attend early childhood education in life

### Recommendations

Base on the findings and conclusion of the study, the following recommendations were made.

- The society at large, should see early childhood education as a vital investment which yields dividends on a daily basis.
- Early childhood education should be encouraged by the government by providing early childhood educational facilities (class-rooms, instructional materials, and equipments) needed for the success of the programme.
- There should be proper enlightenment campaign on the importance of early childhood education.
- Parents should be involved in their children's early education involvement by providing the necessary materials.
- Educational Planners should provide adequate programmes, policies and curriculum for early childhood education.

- Stakeholders of education should encourage JAMB candidates to study Early Childhood Education as a course.

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