

An Investigation of Classroom Interaction Patterns of Preschool Children in Nigeria: A Case Study of Selected Preschools in Lagos and Ogun States Nigeria.

¹Komolafe Adefunke Titilayo, & ²Babajide Veronica Folasade Titilayo

¹*Department of Arts & Social Sciences Education, Faculty of Education, University of Lagos*

²*Department of Science & Technology Education, Faculty of Education, University of Lagos*

Abstract

The study investigated the interaction pattern between Preschool teachers and their pupils during classroom teaching learning activities in language and science lessons. Preschool children's patterns of interactions with the content, learning materials, teacher and themselves no doubt determine to a large extent school success. The study adopted an action research design. The sample consisted of preschool children of intact classes in twelve preschool institutions in urban and rural areas selected through purposive stratified random sampling. Three instruments were used in data collection namely classroom interaction sheet (CIS) which includes the type of curriculum, textbooks, number of lessons per week, evaluation procedure, number of children in each class, evaluation procedure used in language and science lessons. Forty minutes' interaction instrument (TMI) to record interaction patterns during the teaching of language and science subjects and photograph. Seven research questions guided the study. Data collected were presented descriptively using descriptive statistics. The study lasted for a period of three months. The result shows that teachers were not using the same curriculum, text books and instructional materials. Play way method of teaching was frequently used. Assessment technique was based on asking questions only in the cognitive domain, the classroom environment is conducive for learning and the interaction pattern in the classroom was teacher-pupil interaction. Independent variable made a contribution of 98.9%. Based on these results, recommendation was provided

Keywords: *Classroom, Interaction, Pattern, Pre – schools children*

Corresponding Author: Komolafe Adefunke Titilayo

Background to the Study

One of the ways of creating a better world for children for sustainable development in the educational sector is to place the children at the center of the learning process while the teacher facilitates the teaching learning process. The classroom is an important factor in the teaching learning process where the actual learning takes place (Ajibade, 2005). Busari (2006) observes that the mode of classroom instruction is very germane since the success of any programme depends on the type of classroom presentations. Also, Adeyemo, Babajide and Morris (2015) reiterated that the Nigerian educational system should wake up from slumber and revitalize the classroom pedagogical mode of instruction right from the very foundation (the preschool) level. The researchers were affirmative of the fact that a good number of adults today would have become a scientist if the mode of presentation of classroom science instructions for effective learning were made concrete right from cradle (Ogunleye and Babajide, 2011). These can be achieved through variety of suitable instructional materials that can arouse, encourage and as well as capture learners' attention during the teaching and learning process (Ogaga, Igori, and Egbodo, 2016). Instructional materials are learning helps that ensure the understanding of concept in various disciplines. They are used in teaching languages (English), sciences, mathematics, social studies, among others. According to Akamobi, (1998) instructional materials are those learning aids used as a medium of interaction between the teacher and pupils, and pupils and pupils in classroom or workshops for effective learning. Chauha (1973) as cited by Ogaga, Igori, and Egbodo, (2016) opined that instructional materials are learning tools or equipment used as "hands on" process by teachers and pupils in order to improve the interactive skills needed for the pupils to socialize. Examples of such instructional materials include visual aids, audio aids, audio-visual aids, real object, text books, and many others. Educators and researchers are of the opinion that if the types of interactions that are needed for effective learning are presented in classroom, definitely, a better world will be created for children. Likewise, Vygotsky (1962) asserted that children are rooted in different sociocultural environments and their cognitive development is improved through social interaction with more skilled individuals.

The preschool is the foundation upon which subsequent levels are built; this level must be handled with care by experts as facilitators. The moment the foundation is faulty all other levels will collapse. Historical reviews show that preschool education is relatively new in Nigeria. A review of Onibokun, Okoye, Alao and Onwuchekwa (1985) clearly shows the origin of preschool institutions from the colonial era with the motive of catering for the children of the European and American officers when they are at work. In the early 1960s the few working Nigerian class who could afford the fees sent their children to preschool institutions. The demand for preschool education by parents increased as a result of increase in industrialization and employment facilities in Nigeria which changed workers' tastes, cultural value systems as well as socioeconomic status. Parents therefore saw the need for preschool institutions where their children will be taken care of before their mother returned from work and also be fully prepared for primary schools. The introduction of the Universal Basic Education in Nigeria in 1999 made it very difficult for working mothers to secure house helps as majority of the house have returned to school to further their study. Hence, they patronized local preschool institutions in Nigeria and where there is none closer to them, they

left the children with elderly relatives. This accounted for the high demand for preschool institutions in the country; hence, it called for it to revise in the National Policy of Nigeria in 2004.

The revision was necessary as Nigerian government as seen preschool institution as a paramount importance for cognitive, social, emotional, physical and moral development as well as for custodian guidance and development of a good health habit in a child in the society. As important as this very foundation institution is, the interaction pattern that exists between the variables of the teaching learning environment is of paramount importance. Classroom interaction according to Adeyemo, Babajide and Morris (2015) encompasses all types of interaction in the classroom. These interaction patterns may be teacher-pupil, pupil-pupil, pupil-material and teacher-material. In line with this affirmation is the submission of Onibokun, Okoye, Alao and Onwuchekwa (1985) that the attributes of the teacher-pupils relationship leads to personal growth and facilitates learning in a teaching learning environment while Kalu (undated) submitted that students' performance is a factor of classroom integration. The research reports of Ajeyalemi (1983), Okafor (1993), Domike(2002), Mckinnney, Mason, Perkerson and Clifford(1975), Macdonald (1976) and Udeani (1992) show that relationship exist between classroom interaction pattern and students achievement. Udeani (1992) observed that classroom interaction pattern accounted for 74% of students' cognitive development while 71% was accounted for by students' process skill development.

Furthermore, Adeyemo, Babajide and Morris (2015) reported that students exposed to teacher-student activity setting in relation to interaction pattern performed better than students exposed to other forms of interaction patterns in an experimental study.

This is similar to the reports obtained from the studies conducted outside the country. For instance, Booren, Downer and Vitiello (2005) studied classroom activity setting in relation to children's observed behavior and teacher's behavior during interactions in preschool classroom. The result shows that on the average, children's interactions with teachers were higher in a teacher structured setting such as large group. Also, children's interactions with their peers when carrying out a task were more positive in a child directed setting.

The research reports of Buhs, Ladd and Herald (2006) and Downer, Booren, Lima, Luckne and Pianta (2010) suggest that children interactions with teachers, peers, and tasks are critical to their academic and social outcomes. Siti and Nik(undated) conducted a study on the qualitative analysis of the nature of children interaction patterns during their learning activities in Malaysia. The findings of the study show that children exhibited two types of interaction during learning activities which are: children-adult interaction which comprises constructive, dialogic and explicit correction and children-peer interaction which is sociable, creative and non-verbal in nature. Massey (2004) investigated the interaction pattern between preschool children and their teacher in the classroom environment. Findings show different interaction methods which include using props and leveling voices when presenting a piece of literature and a play book, and introducing new related words during mealtime which engage

children in cognitively challenging conversation to foster their language development. Fisher (1993) studied pupil-pupil interaction and discovered three types of interactions as exploratory, cumulative and dispositional talk. However, no study has been conducted on classroom interaction pattern of preschool children in Nigeria. This justifies the need for the study. The study is significant in the sense that it has revealed the type of curriculum and textbooks used in teaching English language and Basic science at the pre – primary school level. Also, the type of instrument materials and methods used as well as the assessment procedure in English and science classrooms level has been revealed. It has also revealed teachers' activities as well as pupils' activities in English and Science classrooms. And finally, this study has shown the interaction pattern and the status of Basic Science and English language teaching and learning classroom environment.

Objectives of the study

The study investigated the classroom interaction patterns of preschool children in twelve local governments of Lagos and Ogun states in Nigeria. Specifically, the study sought to

1. determine the subject curriculum used for the teaching of preschool children in English language and Science.
2. determine recommended textbooks used in the teaching of preschool children in English language and Science.
3. determine instructional materials used by the teachers of preschool children to teach English language and Science.
4. determine assessment and evaluation methods used by teachers of preschool children in English language and Science.
5. determine the interaction patterns in the preschool children English language and Science classroom environment.
6. determine how conducive are the English language and Science classroom environments.
7. determine the overall contributions of the variables of class room interaction pattern.

Theoretical Framework

The study is built on the theories of Brunner (1996), Gagne (1987), Vygotsky (1980), and Ausubel (1968). Brunner's theory says that learning is a process of discovery through classroom interactions of children with themselves, the learning materials, and teachers. Ausubel's theory admitted that learning is a process in which the learners actively construct their own knowledge through interaction in order to solve problems individually or collectively. Gagne's theory of hierarchical learning states that learning of a concept depends on the learning of a pre-requisite concept and should be arranged from simple to complex. Vygotsky's theory of learning is based on cognitive development which states that children's development is as a result of a social cultural process which can be obtained through classroom interactions.

Research Questions

The following research questions guided the study.

1. What subject curriculum is used for the teaching of preschool children in English language and Science?
2. What recommended textbooks are used in the teaching of preschool children in English language and Science?
3. Which instructional materials are used by the teachers of preschool children to teach English language and Science?
4. What assessment and evaluation methods are used by teachers of preschool children in English language and Science?
5. What are the interaction patterns in the preschool children English language and Science classroom environment?
6. How conducive are the English language and Science classroom environments?
7. What are the overall contributions of the variables of class room interaction pattern?

Methodology

The study is a qualitative type of descriptive research design. Robson, (2002) affirmed that descriptive research design studies have merits in that they can be adopted to gather information that can be generalized from all population and that they provide a straight forward approach to the study of values, attitudes, beliefs and motives. The population of the study comprised of all preschool and primary schools children and teachers in Lagos and Ogun state.

A sample size of one hundred forty-four (144) respondents comprising of 120 from eleven local government areas of Lagos and 24 from one local government area of Ogun states. Schools were selected through purposive sampling method (willingness of the school to participate in the study). Each school was selected from each local government area. The schools are private and government owned preschool institutions.

Three research instruments (A, B & C) were used in collecting data. **Instrument A** was a Classroom Interaction Inventory Sheet while **B** was a Classroom Observation Schedule and **C** was a Classroom Teaching Observation Schedule. **Instrument A** consisted of two sections. Section A focused on Name of school, State of School, Local Government Area of School, and Class Taught. Section B consists of 10 items which include: Type of Curriculum used for the teaching of English Language and Science, List of Text Books, Number of Time and Periods per Week in teaching English Language and Basic Science, Number of Children in Class and Type of Evaluation. The instrument A was adopted from Classroom observation sheet prepare by Faculty of Education, University of Ibadan.

Instrument B consisted of two sections. Section A focused on Name of School, Class, and Subject Taught, Date, and Textbook used in teaching English language and Basic Science. Section B consisted of 3 items each on: Preparation, Making Learners Ready, Progression, and Communication while 8 items on Evaluation given a total of 20 items. The 5points Likert scale of SA, A, U, D, SD were used. The instrument B was adopted from Eggleston, Galton

and Jones (1975). **Instrument C** consisted of two sections which include Teachers' and Students' Activities which were observed for a period of 40minutes. The instrument C was adopted from Eggleston, Galton & Jones (1975). The instruments were subjected to face validation before used since they have been validated and found reliable by Eggleston, Galton & Jones (1975) and the Faculty of Education University of Ibadan.

Method of Data Collection

Twelve research assistants were trained for a period of two weeks and evaluated before allowed to go to their respective schools. A simple random sampling technique was used to assign research assistants to a school for classroom observation, collection of relevant records and assessing teachers of English language and basic science. Each of the schools was observed for a minimum of 3times in a week and a maximum of 5 times in a week for a period of 8 weeks as shown in the figure below of some sample schools used.



Figure 1: Local Authority School, Ikorodu. Lagos



Figure 2: Local Authority School, Ikorodu. Lagos



Figure 3: Bade Uniq Schools, Sagamu Local Government Area



Figure 4: Bade Uniq Schools, Sagamu Local Government Area



Figure 5: Remark Private Nursery and primary School, Ikorodu Local Government Area.



Figure 6: Remark Private Nursery and Primary School, Ikorodu Local Government Area.



Figure 7: Faith Point Nursery and Primary School, Alimosho Local Government.



Figure 8: Faith Point Nursery and Primary School, Alimosho Local Government.

Presentation of Results

The result of the study was presented in line with the research questions which guided the study:

1. What subject curriculum is used for the teaching of preschool children in English language and Science?

Table 1: List of Curriculum used in Teaching English Language and Basic Science in Preschools in Nigeria.

	Subject Curriculum in Teaching English Language	Frequency	Subject Curriculum in Teaching Basic Science	Frequency
1	Federal Ministry of Education. (9years Basic Education Curriculum)	1	Federal Ministry of Education. (9years Basic Education Curriculum)	1
2	Nigeria Educational Research and Development. Coral Curriculum	1	Nigeria Educational Research and Development. Coral Curriculum	1
3	Evans Curriculum for pre – primary	2	Evans Curriculum for pre – primary	2
4	British Curriculum	2	Metropolitan Science Series	1
5	Comprehensive Continuous Assessment Test; Based on the new curriculum.	1	Comprehensive Continuous Assessment Test; Based on the new curriculum.	1
6	Written Curriculum	1	Written curriculum	1
7	Nigerian Curriculum	1	Nigerian Curriculum	1
8	UBE	1	UBE	1
9	Lagos State Ministry of Education Curriculum; Early Childhood Care and Development.	1	Lagos State Ministry of Education Curriculum; Early Childhood Care and Development.	1
10	Broad-based Curriculum for pre – school by EnitanAyoade	1	Broad-based Curriculum for pre – school by EnitanAyoade	1
11			British Curriculum	1
	Total	12		12

Table 1 shows that the sampled schools from 12 different Local Government Area are not using the same curriculum for the teaching of English language and Basic Science. The most frequently used curriculum adopted by the schools are Evans curriculum and British curriculum for teaching English language and Evans curriculum for teaching Basic Science.

2. What recommended textbooks are used in the teaching of preschool children in English language and science?

Table 2: List of Text books used in Teaching English Language and Basic Science in Preschools in Nigeria.

S/N	Textbooks used in teaching English language	Frequency	Textbook used in teaching basic science	Frequency
1	New wave primary English by Aderibigbe. O.A	1	Basic science & Technology for primary education by E.F. Bamidele and I.A Ojediran	1
	English grammar for basic education by Samuel Kwashie .G.	1	physical and Health education by Adeniji B.A	1
2	Book 3 mainstream	1	Evans science book 2	3
3	I can read by learn Africa	2	Science is fun, Book 3.	2
	Phonics is fun by learn Africa	1	S.T. Bajah (3 rd Edition) by learn Africa publisher.	
4	The new mastery English for Nursery schools Book 2	2	STAN basic science and technology by Ilesanmi	2
	Spectrum new era English. Book 2	1		
	Queen premier I and II	2		
5	Evans teachers' guide & scheme of work for nursery and primary schools.	1	Metropolitan foundation of basic science and technology	1
6	Genius Macmillan Nursery English	1	Nelson basic science and technology book 1	1
7	starting English (Atlantic)	1	Basic science for Nursery 2	1
	spelling word search	1		
	Atlantic structural English	1		
	Montesorri language activity	1		
8	first aid in English	1	Let's learn science by O.D.	1
	English Grammar for junior scholars.	1	Ayodele, G.U. Amele, U.	
	brighter grammar I & II	1	Odita & H.B. Salisu	
9	Busy hands for nursery 2 by N.A.	1		
	Hamzat. Habnaj Publisher			
	spelling and reading formula for nursery schools by Onyenike			
	Evidence	1		
10	Metropolitan Mastering English	1		
	Homework English language by Evans.	1		
	Total	12		12

Table 2 shows that the sampled schools from 12 different local governments are not using the same textbooks for teaching English language and Basic Science. The most frequent textbooks adopted by the schools for teaching English language are 'I can read' by learn Africa, the New Mastery English for Nursery, Queen Premier I and II while for Basic Science are Evans Science, Science is Fun Book 3 by S.T. Bajah; Learn Africa Publisher and STAN Basic Science and Technology.

3. Which instructional materials are used by the teachers of preschool children to teach English language and Science?

Table 3: List of Instructional Materials used in Teaching English Language and Basic Science in Preschools in Nigeria

S/N	Instructional Materials Used In Teaching English Language	Frequency	Instructional Materials Used In Teaching Basic Science	Frequency
1	Images drawn on cardboard and on white board	4	Images drawn on cardboard and on white board	5
2	Flash card	3	Flash card	3
3	Textbooks	2	Textbooks	2
4	Wallpaper	2	Real objects	3
5	Real objects	1		
	Total	12		12

Table 3 shows that the sampled schools from 12 different Local Governments are not using the same instructional materials for the teaching of English Language and basic science. The most frequent instructional material adopted by the schools for teaching English Language and Basic Science is “images drawn on cardboards and on white board”.

4. What are the interaction patterns in the preschool children English language and Basic Science classroom?

Table 4: The interaction patterns in the preschool children English language and Basic Science classroom

S/N	Interaction Pattern For Teaching English Language	Frequency	Interaction Pattern For Teaching Basic Science	Frequency
1	Reading and writing	2	Direct observation	2
2	Play way method of teaching	4	Play way method of teaching	4
3	Demonstration method	2	Demonstration method	2
4	Picture reading and questioning	2	Dramatization	2
5	Conventional methods	2	Conventional methods	2
6	Total	12		12

Table 4 shows that the sampled schools from 12 different local governments are not using the same interaction pattern or methods of teaching English language and basic science. The most frequent instructional pattern as obtained in table 4 which is adopted by the schools for the teaching and learning of English language and Basic Science is the play way method of teaching.

5. What assessment and evaluation methods are used by teachers of Preschool Children in English language and science?

Table 5: Assessment and evaluation methods are used by teachers of Preschool Children in English language and science

S/N	Assessment and Evaluation Pattern used in English Language	Frequency	Assessment and Evaluation Pattern used in Basic Science	Frequency
1	Formative	7	Formative	7
2	Summative	5	Summative	7
	Total	12		12

Table 5 shows that the sampled schools from 12 different local governments are not using the same assessment and evaluation pattern in English language and Basic science. The most frequent assessment and evaluation patterns adopted by the schools for the teaching and learning of English language and Basic Science is asking of questions. Formative and summative evaluations were used as well as standardized test.

6. How conducive is the classroom environment?

Table 6: Conduciveness of the classroom environment

	N	Minimum	Maximum	Mean	Std. Deviation
Conduciveness	144	.00	10.00	8.7847	1.77064
Valid N (list wise)	144				

Table 6 The bench mark mean is 5, if the estimated mean is <5 that means the learning environment is not conducive for teaching and learning and if the estimated mean is >5 then the learning environment is conducive for teaching and learning. The estimated mean from the table above is 8.7847, which shows that the classroom environment is conducive for teaching and learning of English language and Basic science.

7. What is the overall contribution of the indices of the independent variables (teacher's factors to the classroom interaction pattern)?

Table 7a: Regression Analysis of joint contributions of independent variables to dependent variable

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.995 ^a	.990	.989	1.41381

a. Predictors: (Constant), Conduciveness, Communication, Evaluation, Presentation, Progression

Table 7b.

Model		Coefficients ^a			T	Sig.
		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta		
1	(Constant)	.913	.871		1.047	.297
	Presentation	1.002	.031	.395	32.097	.000
	Progression	1.015	.061	.208	16.538	.000
	Communication	.895	.063	.149	14.127	.000
	Evaluation	1.023	.026	.433	39.840	.000
	Conduciveness	.949	.086	.123	11.008	.000

a. Dependent Variable: TOTAL

Table 7a shows joint contributions of 98.8%. Conduciveness has the least contribution while evaluation has the highest classroom interaction contribution. Table 7b shows the individual contributions.

Discussion of Findings

Results obtained show that the sampled pre – primary schools are not using the same curriculum and textbooks in the teaching of English language and Basic Science. Some private sectors are using the British curriculum and textbooks, this may be due to the fact that educational inspectors are not going round pre - primary schools especially the private owned schools to monitor teaching and learning activities starting from the use of the early childhood education curriculum and acceptable textbooks for each subjects offered at this level. The variation in textbooks may also be as an evidence of pre – primary schoolteachers in the private sectors not using the approved curriculum. The play way method of teaching used by teachers is due to the nature and characteristics of the children at this very level who does not know anything order than play, dance and sing. This is in line with national policy of education (NPE, 2008, 2013). Which state that the purpose of early childhood care and education in Nigeria shall be to ensure that the curriculum of teacher education is oriented towards play way method. The findings of this study support the findings of Massey (2004). Lius (2008) identified parallel play as one of the pattern of children's social induction in the experimental strategies conducted. All the learning at the pre – school level is informed by play since children at this level do not know anything besides playing, dancing, celebrating etc.

The assessment pattern is formative and it involves teachers asking questions from the pupils and pupils respond to teachers questions. This may be due to the nature of the Nigerian environment which does not give room for children exploration in class as a result of the inadequacy of infrastructure and absence of real object as well as teachers' inability to improvised relevant instructional material for the teaching of science. Teachers at the pre - school level adopted the formative evaluation probably because of nature of the children at this level as well as their respective characteristics; which required step by step assessment to ensure concentration and permanent learning. This type of assessment also allows the

teachers to correct students' misconceptions, assist in their difficulty area and finally teacher correct his/her own inadequacies and method of teaching.

The class environment is conducive for the effective learning of Basic Science and English language at the pre-school level as obtained from the result of this study. This is due to the fact that children at this level are still flexible and have not fully developed; their systems are flexible hence, a conducive environment is highly essential to tolerates them. In addition, greater percentages of preschools in Nigeria are private owned institutions hence, individual school owners therefore invest huge amount of money in making the classroom and school environment conducive and competitive and this is responsible for the high patronage of such schools. Lagos state has also made significant effort in making the classroom environment conducive through the intervention of Eko project.

The results obtained from this study also show that all the indices of the independent variable contributed significantly to the dependent variable interaction pattern in English Language and Basic science and the overall contributions accorded for by these variables of classroom interaction is 98%. Communication offers the least contribution while evaluation has the highest contribution of class room indices. This may be due to the fact that the teacher does not communicate with the learners which are very difficult for effective learning of any concept. Their not communicating with the learners may be due to inadequate varieties of instructional materials such as projectors, modern apparatus and science corner gadget and others.

Recommendations

1. Government should send inspectors of education to private and government owned pre – primary schools in Nigeria to monitor the activities of teachers and to ensure strict implementation of the approved curriculum and textbooks at the pre – primary school level textbooks for English and Basic science as well as other subjects.
2. Teachers at the pre – primary school level should strengthen communication, preparation, progression and conduciveness skills in their classroom teaching
3. The conducive environment should be maintained and improved upon and should be extended to public pre – primary school institutions.
4. Pre – school teacher should use real objects in teaching science concept rather than cardboard and flash cards.
5. Government should organize in – service training for pre – school teachers on improvisation of non available science equipment/materials.
6. Teachers at the pre – school level should involve the children more on practical activities in English and basic science lessons.

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