Evaluation Of Classroom Interaction Patterns at the Pre-Primary Level of Education in Nigeria

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Declaration

I declare that:

1. this thesis has been written by me
2. this work is entirely my own
3. no part of this work has been submitted for any other degree or professional qualification.

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2007

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Abstract of Thesis

The thesis analyses the interaction patterns of preschool teachers and the preschoolers during instruction in three subject areas of the curriculum, literacy, numeracy and science in preschool settings in Nigeria. Previous research in classroom dynamics has shown that preschoolers tend to learn better if they are actively engaged through interaction with their teachers However, because these were carried out at primary and secondary school levels of education in Nigeria this research provides a comprehensive examination of how teachers and pupils interact during instruction in pre-primary classrooms in Nigeria.

The research focused on preschool teachers use of instructional time, direction of interaction (who-to-whom), instructional approaches (teaching methods), classroom contexts (whole-class teaching, small group and one-to-one), use of language during instruction and types of questions, responses and feedbacks during instruction in preschool settings in Nigeria. The study also examined the extent to which significant group differences exist in the prevailing classroom interaction patterns based on grouping factors as class size, and teacher qualification, language of instruction, school location (urban/rural) and school type (public/private).

Research methods included direct observation techniques, which involved using two observational instruments (Classroom Interaction Sheet, CIS and Ten-Minute Interaction Instrument, TMI) and a video camera to record interaction patterns in 216 lessons during the teaching of literacy, numeracy and science. This produced two types of data (qualitative and quantitative). Data analysis involved the use of frequency counts, percentages, Chi-square, transcription and graphical/pictorial illustrations. This gave rise to two types of results – qualitative and quantitative.

Results reveal that Teacher whole-class activity involving direct teaching occurred very frequently, chorus response occurred more than individual pupil activity, monologue and other distracting behaviours occurred less frequently. The direction of communication was mainly from the teacher to the whole class. The more personal one-to-one communication between teacher and pupil occurred less frequently. The teachers,

irrespective of their location and type, spent a larger proportion of their lesson time interacting with pupils in large groups than in small groups. The major language of instruction was English language not the language of the pupils' immediate community as was prescribed by the Federal Government of Nigeria (FME, 2004). The use of instructional time and direction of interaction tend to be sensitive to language of instruction. Teacher-initiated interactions and whole class activities are associated more with the use of English as language of instruction while learner-initiated interactions and individual/small group activities are associated more with use of language of the pupils' immediate community during instructional delivery.

The study concluded by discussing the implications of these findings with a view to improving the following aspects of pre-school education in Nigeria: curriculum planning, classroom practice, teacher training and in-service programmes.

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Introduction

Background to the Thesis

The importance of giving young children the quality care and the stimulation needed for their intellectual growth and development has been receiving recognition both internationally and within Nigeria. Issues pertaining to Early Childhood Care and Education (ECCE) were prominent not only in the Convention on the Rights of the Child (CRC) (United Nations General Assembly, 1989) but also at the World Conference on Education for All (EFA) in Jomtien, Thailand in 1990 and reaffirmed at the Dakar Framework For Action (UNESCO, 2000) conference where it featured as the number one out of the six goals which all countries must aim at achieving. The EFA number one and six goals concerns early childhood education and issues concerning quality provision of educational programmes. They both focused on "expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children" and on the issue of "quality education and ensuring excellence at all levels" respectively. Unfortunately, this level of education was not included in the eight United Nations Millennium Development Goals at the summit held in New York in 2005 instead, priority attention was given to fighting extreme poverty to halting the spread of HIV/AIDS and providing universal primary education by the target date of 2015.

Nevertheless, the Nigerian Government is not only a signatory to each of these decisions on ECCE but has included ECCE as one of the compulsory levels of education which every Nigerian child must pass through under the Universal Basic Education programme. The other levels of government (States and Local), the Non-Governmental Organisations (NGOs), the Community-Based Organisations (CBOs) and private entrepreneurs are becoming interested in ECCE programmes. Furthermore, some research on the importance of giving children appropriate stimulation during the early years of life to ensure a reasonable and healthy development of the intellect must have also contributed to the emphasis given to this level of education in recent years. It would

seem that successful education of the child during his/her latter years of schooling is likely to depend to a great extent on the foundations laid during the pre-primary years. Consequently, the kind of interactions which exist during instructions between the teacher/care-giver and the child at this level of education and how stimulating the interactions are, would likely have an impact on the child's later ability to learn and in determining the extent to which the child develops intellectually.

The foregoing underscores the need to focus the present investigation on evaluation of interaction patterns in pre-school classrooms in Nigeria. The focus, aims and rationale of the study have been chosen because of the investigator's personal experience and interest, global views on early childhood education from different organisational bodies, individuals and countries, global monitoring reports on how countries have fared and the importance of early childhood education.

Personal Experience and Interest.

I was introduced to a school-like environment in my early years (at about 3 years old). This happened in the 1970s. I was excited at getting dressed up in the morning by my mother who later dropped me off at a building located in a village square where I engaged in play activities with other children under the supervision of a middle aged woman (referred to as Auntie by all the children). My mother, a farmer and petty trader, had to go to the farm or market on a daily basis except on Sundays. Usually, she would come for me in the late afternoon on her way back from the farm or market.

The major activities each day at the village square were singing, dancing, counting, listening to stories, eating of snacks, telling and retelling of stories learnt from aunties or cousins during moonlight plays. Moonlight plays take place during the night after dinner when the moon is up. This occurs usually during the dry season when there are no rains. Children gather at the compound of an aunt or uncle who is good at relating folklores stories. Or children gather in a village square within the clan at night when the moonlight is out to play. This is common during dry season during which time not much work is done in the farms. It would seem that the other children and myself, our parents

and the supervisor/caregiver (teacher) placed a high of premium on the eating activity considering that each child's bag was stuffed with different snacks and food items particularly akara (baked beans). This, perhaps, would explain why such a child-care centre in the eastern region of Nigeria in the mid 1970s was referred to as 'Ota-akara' (meaning, a school where children only gather to eat akara). The introduction to letters of the alphabet as well as numbers were first done in our local language and later translated to us in English language. These were all done through the use of songs and rhymes. Reading materials such as picture books and alphabet books were not common. The only readily available writing materials were the chalkboards used by the teacher and the slates used by the children. The slate is a flat piece of wood that is square-shaped up to the size of the A3 sheet of paper. On this, we did all our scribbling and drawings.

In 'Ota-akara', we learned about nature through experimentation and discoveries finding out (e.g. teacher asking us to mould clay into pot to inform us what the clay pots we use at home for cooking are made of and how), history through story telling by the teacher or by an elderly uncle or aunt (who was very good at narrating stories to children) invited by the teacher. These stories we tried to retell to our parents at home when asked what we had done at school. The writing exercises were not enforced, in that we were allowed to move at our own individual speed and capacity. The centre was not associated with any physical punishment of the children in the course of teaching-learning activities. However, the activities carried out by each child were highly appreciated by the teacher and as a result we looked forward to showing whatever was done at school to our parents at home .To do this, we learned how to be extremely careful in handling our slates in order not to wipe out what one had written. We were, however, not introduced to paper and pencil materials until after our sixth birthdays.

After my secondary school education, I opted to pursue a course of study in sociology at university level. However, an uncle who had observed the way I relate to children advised that I would make a better career in childhood related courses. As a result, I took a course in teacher education majoring in pre-primary and primary education. In the first two years of study we were exposed to topics that had to do with teaching and learning in early years, child development and some early childhood

projects across the world. The third year scheme of work brought us face to face with practical aspects of what we had been taught in the previous years; selection, production and utilization of some teaching materials based on topics from different subject areas in the Nigerian pre-primary school scheme of work. The practical sessions were carried out in stages and formed part of the course assessment. Selection of topics (at least three topics each) was done across all the subject areas that were offered in most Nigerian pre-school settings (English language, mathematics, science, social studies, Christian religious knowledge or Islamic religious knowledge depending on one's religious affiliation). Materials to be used in teaching these topics were then selected and produced by the teacher-trainee. Reasons for the selection of such materials and how one intended to extend the teaching of the selected topics, either through play or sustaining children's interest to continue with the work without the help of the teacher, were also discussed. The last component involved practical teaching sessions, which we had in stages. The first stage was the use of micro pre-school classrooms during which time our fellow classmates acted as the preschoolers while we taught in turns. Colleagues carried out assessments and we all participated in discussing how each individual fared.

After all these preparations, came the next stage in the course, which was real teaching practice. We were sent to different pre-school institutions in the state where the university was located. This exercise lasted for a period of four months in the third year and another four months in the final year. The most demanding aspect of the exercise was the choosing and the preparation of teaching aids. This had to be done for various subjects on a weekly basis. However, one acknowledged that it made the teaching-learning activities a lot easier once one was able to provide enough of the materials to go round the children in one's class. A lot of money and time were devoted to the preparation of these teaching aids since they were not supplied and the teacher whose class I taught did not have any readily available. The teaching practice actually served as an eye opener and helped me come to terms with why most graduates of pre-primary education never wanted to take it up as a career after graduation. This is because of the nature of lesson preparations we were made to go through before teaching any new topic and secondly the number of pupils one teacher had to attend to. This not withstanding,

after graduation I voluntarily requested to be posted to a pre-primary and primary school where I served as a teacher in the pre-primary section for a period of one year (as a National Youth Service Programme staff). During this period, I gathered enormous wealth of hands-on-experience on teaching of pre-school children in the Nigerian setting.

However, after the Youth Service Programme, I decided to return to the university to further my education. I went for a master's degree programme in child psychology and another one in educational evaluation. During my course of study at the master's level, I was exposed to courses in child development, child and adolescent psychology, measurement and evaluation of educational programmes and, data collection procedures as well as statistical procedures for data analysis. Most of the courses which one was exposed to in psychology threw more light on why early childhood educators advocated different teaching-learning approaches in the early stage of development. However, the courses, which I took in educational evaluation, taught me to how to go about doing research. These courses comprised topics that covered different data gathering techniques (e.g. the use of observation methods, interview schedules, questionnaires, tests, etc.) and statistical procedures to use for data analysis as well as processes that made each method peculiar. The topic that centred on the use of observational techniques for data collection was actually delineated in some extra detail. Practical sessions were conducted during which time we were made to use Flanders Interaction Sheet to observe teaching-learning sessions at different levels of education. This was the beginning of my interest in active observation of the teaching-learning process in real classrooms with a view to assessing the quality of the process.

The Master's degree programmes had also exposed me to policy documents on early childhood education, the views of early childhood educators on appropriate teaching-learning practices, the expected behaviours during instruction at the pre-school level of education and the under-researched status of early childhood education in a Nigerian setting. The experiences gathered from my educational training, most especially in the research methods courses taken, have enabled me to realise that

focusing any research work requires reviewing theoretical and empirical works relating to such area of interest.

Further, practical experiences from my work schedules also served as eye opener. In the Institute of Education University of Ibadan were I am employed, one of their major duties is to reach out to the communities. As a result, we operate consultancy services to individuals and groups who run private schools (from pre-primary to tertiary institutions). Such services include observing teachers and their pupils during teaching and learning activities in school settings, evaluation of school environments (material provision and use). Of particular interest is the one we conducted for a private pre-primary and primary school on a regular basis (once a month). After each observation usually conducted with structured instruments, discussions are held with the teachers on the activities of the day. Suggestions are given on areas we felt the teachers needed to improve upon. After three months of such contacts, the owner of the school requested that we organise a 3-day workshop for the teachers during the holidays. This was because the teachers acknowledged the effect of our visits and the accompanying discussions held after each visit. The practical component of the workshop (on preparations of teaching aids, types, how and why they should be used) made the teachers realise the discrepancies between what they were exposed to and their everyday work practices. Further visits after the workshop showed a lot of differences in the teachers work patterns. After this, words went round and many more private pre-school owners come to register with us.

The skills acquired through these educational programmes and my work schedules informed me on how to focus the work, know the best analytical procedures to use as well as extract the needed information from the results to make sense of the data collected. All these contributed towards my considering it worthwhile to put in time, energy and money to carry out a research study that required observation of classroom interactions in pre-school institutions in Nigeria.

Chapter 1

Pre-school Education: Countries Views and Aims for Establishing Such Programmes

1.1 Introduction to the Thesis

In recent years, the attention of the Nigerian governments is focused on Nigerian children's developmental needs with greater emphasis laid on their cognitive developmental needs (Federal Ministry of Education, 1999, UBE, 2000; NERDC, 2002). This could be due to some scientific evidence on the importance of giving children appropriate stimulation especially one associated with active interaction with adults during the early years of life to ensure a reasonable healthy development of the intellect (National Research Council, 2002; Evans, Myers, Ellen and Ilfeld, 2000; Hagan & Smith, 1999; UNICEF, 1998; UNESCO, 1995). Based on this premise, it seems that the successful education of the child during its latter years of schooling is likely to depend to a great extent on the foundations laid during the pre-primary years. Consequently, the kind of interactions which exist during instructions between the teacher and the child at this level of education and how stimulating the lessons are, would likely have an impact on the child's ability to learn. This could also play some roles in determining the extent to which the child develops intellectually. It thus seems that proper mental stimulation and interactions with children during their formative years could be good preventive measures in avoiding cognitive development delays; hence the volume of researches on classroom interactions at this level by different researchers in recent years (Vandeyar and Killen, 2006; Wilcox-Herzog and Ward, 2002; Bowman, Donovan, & Burns, 2001; Duffy, Warren and Walsh, 2001; Bredekamp, 1997; Curtis, 1997).

However, information, which focused on classroom interactions in Nigerian pre-school settings seems not to be available. Such researches were conducted at the primary and secondary levels (Okebukola, 1998; UNESCO, 1998; World Bank, 2002). This background, therefore, underscores the need to carry out a study that sought to provide a comprehensive description of how pre-school teachers and pupils

interact during instruction in pre-primary classrooms in Nigerian pre-school settings. More specifically, emphasis will be laid on the use of instructional time, direction of interaction (who to whom), instructional approaches (teaching methods), classroom contexts (teaching the entire class all the time, use of small groups, and one to one basis), use of language during instruction and types of questions, responses and feedbacks given during instruction in Nigerian pre school settings. The study will also examine the state of such factors as class size, location, teacher/caregiver qualification, availability and use of teaching materials as well as the extent to which these factors relate to prevailing classroom interaction patterns common in Nigerian pre-school settings.

All these are discussed in nine distinct but related chapters. They comprise three literature review chapters, a methodology chapter, four result chapters and a chapter, which discusses the overall findings. The following two literature review chapters continue on issues relating to pre-school provisions in Nigeria (chapter 2) and quality pre-school provisions (chapter 3) in relation to identified pre-school quality indicators by individuals and by some educational organisations.

Chapter two focuses on ECCE in the Nigerian context with an emphasis on how children at this age level grow up in traditional Nigerian communities (Hausa, Ibo, and Yoruba), influence of early childhood foreign theorists on preschool programmes practices in the country, Nigerian government's view on this level of education in terms of policy and practice as well as literature review on ECCE in order to find out if discrepancies existed between what the policy says and what is being practiced. Types of pre-school programmes available in Nigeria and the objectives of this level of education in the country are also discussed.

In chapter three, attention is focused on the views of educators, researchers, psychologists as well as organisational bodies on what quality pre-school programmes entail. This is discussed under the identified quality indicators in the pre-school setting. To address this, a general picture of the state of pre-school programmes in Nigeria with regard to the itemized quality indicators is given. Thus, information on this is given under such distinct headings as; the state of pre-school programmes in Nigeria and what

individuals, organisations as well researchers think pre-school quality should be. These are discussed under the following headings: pre-school learning environment, material provision and utilisation, teacher quality, medium of instruction, interaction patterns as well as class size. The research questions are also presented in this chapter.

The methodology of the study is presented in chapter four. It focuses on how the relevant data, used to provide answers to the research questions are gathered. A detailed description of the sample and sampling technique used, instruments for data collection, data analysis procedures as well as ethical issues on confidentiality, anonymity and informed consent are presented. The challenges which the methods used posed are also discussed.

The chapters giving the results are four (chapters 5, 6, 7, 8). Chapter five deals with the qualitative component of the data making sure that all the variables highlighted are in consonance with the ones used in chapter three. The quantitative results are presented in Chapters 6, 7, and 8 and these focused of the findings on research questions 2, 3, and 4 respectively. Finally, the last chapter of the thesis, provides a detailed discussion of all the findings as well as the policy implications, limitations of the study and the areas for further research are presented in Chapter 9.

1.2 Global Views on ECCE

The views which individuals, nations, groups and organizations share on the concept of Early Childhood Care Development and Education (ECCE) programmes vary. The variations are more prominent in such issues as, when young people should begin to be exposed to the programmes, what the programme experiences should comprise and how the programme beneficiaries should be exposed to such experiences. For instance, the United Nations Education Scientific and Cultural Organization (UNESCO) refers to such programmes as "those intended to provide care and/ or education for children from birth until the age of 6 or 7 prior to their entry into primary education" (UNESCO, 2000). The National Association for the Education of Young Children (NAEYC, 1997), a US based organization, in its position statement on

developmentally appropriate practices in early childhood programmes defined ECCE as "any programme in a centre, school, or other facility that serves children from birth through age 8" (NAEYC, 1997: 1). In the position statement, they are of the view that ECCE programmes should include also those run in family child care homes, private and public pre-schools, kindergartens and primary-grade schools. However, the World Bank (UNESCO, 2005), in its view emphasized that ECCE is an educational programme that is important to foetal development and children until their transition to primary school (up to age 8). This view corroborated the views of Comenius (cited in Rusk, 1969) that ECCE education should start from conception through to the age of six years (0 – 2 years at home and from 2 – 6 years in a school like environment). When people objected that this age is too early to instruct a child, Comenius argued, "it is the age at which the child learns how to speak and that the child only speaks what he learns"(Rusk, 1969: 106). He stressed the importance of a good beginning reminding us that a mistake made during infant education may not be rectified in latter learning.

Other individuals such as Fredrick Froebel (Rusk, 1969), view ECCE as "the most important stage for the total development of man and humanity" (Rusk 1969: 278). To support this view, he asserts, " earliest age is the most important for the education of man because the beginning determines the manner and progress of the end" (Ibid: 278). He sees infant education as very important for the formation of character and attitude towards learning. Maria Montessori, a renowned early childhood educator, referred to it as a programme given to children during the pre-school years in a prepared environment. Osokoya, (2000) defined ECCE as "the education given in an educational institution to children below primary school age under the guidance of trained personnel or expert" (Osokoya, 2000: 4) whereas, Tizard and Hughes (2002) see ECCE programmes as those provided for children below primary school age in a happy and relaxed environment.

Views shared by countries are based on UNESCO EFA, Global Monitoring Reports (UNESCO, 2000, 2006, 2007), which focused on what some countries think about this level and how they have fared towards meeting the EFA mandate. However, views shared by the Nigerian government are not discussed in this chapter. This is because chapter two, covers pre-school education in Nigeria. The views on ECCE at a

country level to be discussed in this chapter include those of Finland, Uganda, Mozambique, Malawi, Botswana, Croatia, Brazil, China, India, Japan, the United States of America and the United Kingdom. The Finnish government portrays it as "the systematic education and instruction provided in the year preceding the beginning of compulsory education" (Packalén 2000). The Ugandan government, refers to it as the educational programme provided for children aged 0–8 years and functionally broken down to child care centres/nursery (0–3 years) and pre-primary (4–8). In Mozambique, ECCE is defined as "any education that takes place in nursery schools and kindergartens for children under six years of age" (Da Guz, 2000.). In Malawi, it is perceived as educational activities that are provided for children from age 3 to their transition to primary school (Matola, 2000), and Egypt, where it is referred to as education provided for children aged between 4 and 6 years old (El-Din, 2000).

Other countries' views include those of Botswana, where pre-school education is generally defined as a programme for 0–6 year olds, functionally broken down into 0–2 year olds (Early Stimulation and Care – ESC); 2 to 4 years olds (play School); and 4 to 6 year olds (pre-primary), (Mokuburg, 2000). In Croatia, it is viewed as education organized and implemented for children aged six months to three years (day care nursery) as well as for children at the age of until the school age (kindergartens) (Bras-Car, 2000). In Brazil it is seen as day care programme (for children aged 0–3 years) and pre-school education (for children in the 4–6 years age group) (Guimaraes de Castro, 2000). China, referrers to it as child-care and pre-school education for children aged 0–2 years and those aged 3–5 years respectively (Xuezhong, 2000). India sees it as Head Start educational programmes for children aged 0–2 years (Crèches and Day Care) and those aged 3–6 years pre-primary education (Singh, 2000). In the United States of America it is perceived as maternal care home-based education (for children aged 0–2 years) and kindergarten centre-based educational programmes (for children aged 3–5 years) (Moseley, 2000). In the United Kingdom it is seen as integrated Day Care (play groups and nurseries) and Early Years (pre-primary) education for children aged 0–2 and 2–4 years respectively whereas Japan where ECCE is perceived as education

provided for children of pre-school age (0–6 years) functionally split into Day nurseries for children aged 0 – 2 and Kindergartens for children aged 3–5 years (Watanabe, 2000).

However, in its recent Global Monitoring Report (GMR), conducted across the globe, (UNESCO, 2007), UNESCO adopted a holistic approach to defining ECCE to include all types of supports given to aid development in health, nutrition, hygiene, cognitive, social, physical and emotional development. Such programmes are suggested to begin from birth to entry into formal primary school. It also included those organised in both informal and non-formal settings. The report covered all ECCE programmes ranging from those organised for parents to community-based childcare, centre-based provision and formal pre-primary education, often in schools. In the report, UNESCO however advocates for programmes built on traditional childcare practices, respect children's linguistic and cultural diversity, and mainstream children with special educational needs and disabilities. They see mother tongue programmes as more effective than those in the official language, which remain the norm around the world. The report also insists that the single most important determinant of ECCE quality is interaction between children and staff, with a focus on the needs of the child. They however noted that this requires reasonable working conditions such as low child/staff ratios and adequate materials.

With respect to level of participation, the report shows that participation in pre-primary education varies widely both among and within the EFA regions. The report revealed that while this level of education is well advanced in most North American and European countries as well as in several countries of Latin America, the Caribbean and of East Asia, the reverse is the case for countries in sub-Saharan Africa. However, enrolment in pre-primary education is acknowledged by the report to have tripled since 1970, though coverage remains very low in most of the developing world. Among developing country regions, Latin America, Caribbean, North America/Western Europe and the Pacific are said to have the highest pre-primary gross enrolment ratios with figures such as 60.8%, the 101%, 78.5% 71.9% respectively while far behind come East Asia, South and West Asia, the Arab States and sub-Saharan Africa with ratios as low as 39.7%, 32.4%, 15.7% and 12.4% respectively. The report also revealed that there are

large disparities within countries with regard to environmental influence on the beneficiaries of such programmes. For instance, while children from poorer and rural households and those socially excluded (e.g. those lacking birth certificates) have significantly less access to ECCE those from richer and urban households do not.

Furthermore, with respect to whose responsibility it is to provide the programme, the report shows that among developed and transition countries, and in Latin America, most ECCE programmes are provided by the public sector whereas the private sector is prominent in providing such services in sub-Saharan Africa, the Arab States, the Caribbean and East Asia. Information from the report shows that most governments as well as donor agencies across the world accord relatively low priority to pre-primary education in their spending. For instance, most donor agencies allocate to pre-primary education programmes less than 10% of what they give for primary education and over half allocate less than 2%. Few countries (e.g. Brazil and Botswana) have established national frameworks to finance, coordinate and supervise ECCE programmes for infants and toddlers. According to the report, most government play more active role in the provision of programmes through their national ministries. They act as sole supervisors/coordinators of programmes. These functions are said to be shared by a ministry, non-governmental organizations, sub-national government entities or socio-political bodies and private organizations (e.g. Democratic Republic of Congo, Burundi, Cote d'Ivoire, Cuba and regional governments in Austria and Bulgaria, among others.

A critical look at what people, as well as countries, think shows differences in opinion. There are also variations in what ECCE experiences should comprise and how the programme beneficiaries should be exposed to experiences. For instance, Reggio Emilia[1] advocates that ECCE should be based on relationships to enable the child to become a producer of culture, values and rights (Edwards, 2002). It is a developmentally based programme that is designed to follow the child's interest to bring out the child's potential rather than follow a predetermined curriculum. According to Edwards, community-based classrooms with heterogeneous grouping of children characterize the approach. Emphases are laid on the provision of diverse materials for children to work with. The children are encouraged to explore and investigate through the use of symbols and language, be it expressive, communicative or cognitive.

Montessori (1912) evolved a theory of consecutive stages of mental development in which she postulated significant periods for specific stages. She advocated the development of the five senses as being fundamental to intellectual development and understanding of abstract concepts and designed teaching aids (didactic materials) to promote the use of the senses. These included sandpaper letters, graduated rods, colour tablets. Her approach to teaching emphasizes individualized teaching whereby each child is allowed to progress at his or her own pace, carried out in a carefully planned environment. The teaching materials required are usually real life objects, with less emphasis on artificial toys and the use of fantasy and pretend plays. Montessori is against the use of rewards and punishment as she argues this might destroy the child's

[1]The Reggio Emilia approach to teaching young children was developed by Loris Malaguzzi (1920-1994) in Italy. Community-oriented classrooms characterize the method, with everyone involved including the school cooks, custodians, parents, guardians, etc. It is developmentally based programme that is designed to follow the child's interest to bring out the child's potential rather than follow a predetermined curriculum. However, to achieve the objectives of this set up, children are provided with diverse materials to work with. Strong emphasis is laid on the arts, including music, drawing, and sculpting, and dramatic play. Children's works are documented giving the children the opportunity to see their work as important and to see how they progressed over time. There are emphases on hands-on experiences revolving around the community or nature. The children, thus, should be exploring and investigating through the use of symbols, language (expressive, communicative and cognitive). In consequence, the Reggio Emilia teacher should encourage children to find answers to things that puzzle them themselves rather than simply providing the answers. Relationships and cooperation among learners and teamwork through the use of group projects is also important whereas competition is discouraged. The teacher should also follow the children's interests without providing focused instruction in reading and writing as well as foster literacy-related activities as the children record and manipulate their ideas and communicate with others.

personality traits. She also advocated the use of child size furniture, a prepared environment (using appropriate materials in large numbers so that children are provided with the choice of working with ones that are of interest to them) and the keeping of detailed information on how each child has fared in the course of his/her learning adventures.

In his own contribution, Rousseau, (Henniger, 2005) argued that teachers on the ECCE programme should have a knowledge of child development and this knowledge should be used in determining what a child should learn at each stage of his /her development. The curriculum of the teacher education program should reflect the child-centred instructional method. This should be based on exposing children to sensory and practical experiences through observation and discovery rather than abstract ideas or reasoning. In the same light, Edgeworth (Rusk, 1969) advocated a child-centred, activity-oriented approach to teaching in ECCE programme. The teaching method should also involve experimenting with real objects. In terms of language of instruction, Comenius (Rusk, 1969) advised that children in ECCE programmes should receive instruction in their mother- tongue. To him, "to attempt to teach a foreign language before the mother-tongue has been learned is as irrational as to teach a boy to ride before he can walk"(Rusk, 1969: 98). He also urged that young children should be taught together in large groups since better results and more pleasure are obtained when one pupil serves as an example and stimulus for another.

Other views on how ECCE programme should be implemented include those of Pestalozzi and Froebel who advocated that teaching and learning in the programme should be through play (particularly spontaneous play) with emphasis on the use of natural objects as against artificial ones. Froebel, in addition, designed simple educational materials, advocated for the use of symbols to aid perception during instruction involving pre-school children and emphasized the importance of language development in ECCE programmes. There is also the Waldorf approach to teaching in early years, attributed to Rudolf Steiner who advocated learning through imitation and doing (Edwards, 2002). In using the approach, imaginary play is considered the most important "work" of a young child and the activity through which the child grows

physically, intellectually and emotionally. Sufficient emphasis is also placed on bodily exploration, constructive and creative play and oral language (never written), story, song and rhythm (Edwards, 2002).

In addition, views regarding whose responsibility it is to provide and to encourage this level of education tend to vary among countries. For instance, in Japan ECCE (Day Care nurseries and Kindergarten) is a non-compulsory stage of education sponsored by local government administration (public Day Care and kindergarten) and private individuals/organizations (private Day Care and kindergartens). These pre-primary institutions are designed to help develop the minds and bodies of Japanese infants (Watanabe, 2000). In the United States of America U.S.A, Moseley (2000) reported that the Federal Government provides the Early Childhood Education programme. In the US, it is aimed at ensuring a comprehensive development of the US child. According to him, the programme employs a "whole-child" philosophy that combines early education activities with health and nutrition services and stresses family and community participation.

However, in China, the programme (nursery and kindergarten) is aimed at providing family planning, sound child rearing, children's nutrition as well as preventing and treating children's diseases and protection of children's rights (Xuezhong, 2000). The providers include private individuals, organizations and governmental bodies. In addition, the government sets norms and standards for the operation of the programme as well as its supervision and monitoring. In India, Singh (2000) reported that the programme is aimed at providing necessary maturational and experiential readiness to the child for meeting the demands of the primary school curriculum. He stressed that it is also expected to enhance enrolment and retention of children particularly girls in primary schools, by providing substitute care facility for younger siblings. The providers include the central and state governments as well as private individuals and organizations. Similar providers of Early Childhood Education programme also exist in Croatia (central government, local administration, religious communities, private individuals and organizations). However, Croatia, the programme is aimed at providing children with an environment where they can develop all personal potential capacities

and capabilities, satisfy all actual needs and interests and thus acquire knowledge, skills and habits that enable them to adjust successfully to the new conditions of life, development and growth in the primary school (Bras-Car, 2000).

In the U.K, the government has put in place a comprehensive, non-compulsory range of programmes and polices designed to ensure that good quality, affordable early childhood care is made available in every neighbourhood (Mace, 2000). Providers include local authorities, voluntary agencies, private individuals and organizations. Prominent among the early childhood education programmes, is 'Sure Start' launched in England in 1998 to provide young children with better access to childcare, health and early education and practical support for their families in local communities. The programme is intended to improve the social and emotional development of children by supporting early bonding between parents and their children, improving children's health and their ability to learn, strengthening families and communities as well as adding value and reshaping existing services with a view to improving support for families in ensuring that their children get the best start in life.

In Scotland, Scottish Executive, (2000) views childcare delivery in Scotland as that provided by someone other than a parent or guardian. According to the document, Childcare in Scotland is provided in a variety of ways and is carried out in different environments. It ranges from nurseries offering full day-care nearly every day of the year, to care provided by a relative for a few hours a couple of times a month as well as those provided by friends for which payments are made (p. 3). The Local authorities, private people and voluntary organisations provide preschool services. Childcare could be provided on school premises or in people's homes. In Scotland, the importance attached to pre-school education according to the curriculum for the children aged 3 to 5 years 'lies in its aiding the development and broadening the range of children's learning experiences, to leave them confident and eager and enthusiastic learners who are looking forward to school" (Scottish Consultative Council on the Curriculum, 1999). The document stipulates that in order to make such experience qualitative, the following must be considered 'the best interest of the children, the central importance of

relationships, the need for all children to feel included as well as an understanding of the ways in which children learn' (p.2).

According to the document, preschool education in Scotland is aimed at:

> *providing a safe and stimulating environment in which children can feel happy and secure, encourage the emotional, social, physical, creative, intellectual development of children, promote the welfare of the children, encourage positive attitude to self and others, and develop confidence and self-esteem, create opportunities for play, encourage children to explore, appreciate and respect their environment, provide opportunities to stimulate interest and imagination as well as extend children's abilities to communicate ideas and feelings in a variety of ways (Education of Children under 5 in Scotland, SOED, 1994 cited in Scottish Consultative Council on the Curriculum, 1999 p. 2).*

According to the Scottish Executive (1999) Regulation of Early Education Childcare, aims at ensuring that the this level of education meets up with the required standard, the Government through the Scottish Commission is saddled with the responsibility to regulate and ensure that the required standards are met by the providers. What to regulate includes ensuring that:

> *All pre-school education provision centers must be registered be it Public, private, voluntary, or that given by a friend for a reward with the exception of those providing learning activities and care in schools for children of compulsory school age; provision of guidance on code of practice by nanny agencies through the Department of Trade and Industry (P. 17).*

Implementation guidelines includes that of ensuring that all provision for 0-5s whether "education" or "care" will be registered under the Scottish Care commission and regular inspection carried out with reference to appropriate National Care Standards with Commission's staff that will be multi-disciplinary allowing proper to the spread of performance indicators for early years services; ensuring that qualification requirements of all care providers are adhered to; making sure that the provider of pre-school services maintained the adult/child ratio of 1 : 3 for children aged under 2, 1 : 5 for children aged 2 to under 3, 1 : 10 for children aged 3 and above and 1 ; 15 for children aged 8 or over (where care is separated).

The government of Malawi also supports mothers and their families during the early childhood years of their children through the provision of a pre-school programme which is aimed at promoting the social, intellectual, emotional and physical development of the children (Matola, 2000). To achieve this, the programme is designed to instruct the children in basic literacy, numeracy and picture drawing through play and take proper care of the children in a healthy environment. However, in Mozambique, the government does not participate in the provision of early childhood education programme but only provides support, defines the overall aims, monitors its implementation, defines the criteria and norms for opening, running and closure of such programmes through the Ministry of Education, together with the Ministries of Health and Social Welfare. The early childhood education programme in Mozambique is expected to complement the educational activities of the family (Da Guz, 2000).

In Namibia, Matola (2000) reported that the government recognized the importance of early childhood development and believed that this level of education could best be addressed within communities with the assistance of the Ministry of Regional, Local Government and Housing (MRLGH). The principal focus of the Ministry of Basic Education and Culture (MBEC), with respect to this level of education, is to prepare early childhood educators and to assist in developing appropriate curricular, pedagogy and learning materials for use by individuals and groups through out the country. According to EFA assessment (UNESCO 2000) the expectation that the government should finance pre-school education in Namibia appears to be unrealistic. Instead, the government is of the opinion that the media should be used to sensitize and inform the public on meaningful ways in which they can fund and influence the development of their children and prepare them for school. In the same light, the government of Uganda would not be involved in financing early childhood education (Malinga, 2000). The role of the government is limited to creating an enabling environment and policy guidelines for the establishments of ECCE programmes. These programmes are expected to incorporate a holistic development of the child; embracing life-skills, health and physical growth, good social habits, values, imagination, self-

reliance and thinking power, language and communication skills in the mother tongue as well as preparation for success at the primary level of education.

However, in the Netherlands, Lageweg (2000) shows that the national government basically provides the early childhood education programme. The country has no formal legal regulations for the goals, contents or design of pre-school programmes. It is also not compulsory for children to take part in activities of programmes at the early childhood education level. The ECCE programme in Netherlands is organized to enable mothers to participate in the labour force, reinforce social cohesion, reduce educational disadvantages, prevent delinquent behaviours through early intervention and contribute to the improvement of children's learning achievement by focusing on cognitive and language development (mother-tongue-Dutch language vocabularies and communication) and socio-emotional development of Dutch children and its relation to life-long learning.

1.3 UNESCO Reports on How Countries Have Fared in ECCE Provision.

The UNESCO reports highlighted are those of 2002, 2006 and 2007. UNESCO reports were used because their reports have a wider coverage of countries and are readily available. In the reports, descriptive and analytical presentations were made country by country, based on the UNESCO goals on 'Education for All' (EFA) which covers access, quality, funding and enrolment of pre-school school children by different countries. The countries used are of different cultures, regions, continents, levels of socio-economic development and educational achievement. In all the countries reviewed, the data presented shows that significant progress has been made towards the realization of Education for All goals on ECCE- related issues. However, the data also reveal that some countries, especially those from Sub-Sahara Africa, are still far from realizing the EFA goals (with respect to ECCE programmes) in areas of quality, enrolment and equal opportunities for most disadvantaged children. On the other hand, reports on countries such as the U.K (Mace, 2000), the U.S.A (Moseley, 2000), and

South Asia (Xuezhoug, 2000; Singh, 2000) as well as Latin America e.g Croatia (Bras-Car, 2000) show that they are on track of achieving the EFA goals.

More specifically, irrespective of the fact that the World Declaration on Education for All emphasis that "learning begins at birth" (UNESCO, 2000) most reports from Sub-Sahara African countries revealed that less than 50 per cent of the country's children under formal schooling age were exposed to any form of pre-school education programme prior to entering the primary level of education. For instance, reports from Hansen and Loaiza (2002 cited in UNESCO (2002) show that Egypt has only 6.4 percent of Egyptian children below the normal school age passed through ECCE programmes; Botswana (14.5 percent), Malawi (26 percent), Kenya (12.8 percent), Namibia (8 percent). On the other hand, data on the countries of other developing regions such as Brazil recorded above 50 percent. Information on North America and Europe show that they are on the verge of meeting the EFA demand that the majority of their children under the school age benefit from one form of ECCE or another before starting the compulsory level of primary education. For example, the report on access shows that the percentage of children in primary schools who attended any form of organised ECCE programme in Croatia is 83.4; Mexico, 76.0; Netherlands, 98.0; Poland, 50.6; and United Kingdom, 95.0.

The progress made towards the realisation of EFA number one and six goals (expanding ECCE programmes and making sure that the programs provided are of high quality to aid the all round development of the child) has been remarkable only in some of countries reviewed. The data from EFA 2000 assessment reports show that irrespective of the fact that African countries participated in the EFA meetings and accepted the goals as very important, the countries (e.g. Mozambique, Botswana, Namibia, Uganda), in practice, still find it difficult to fund this level of education. Funding and establishment of ECCE programmes in these countries are still left in the hands of private individuals, non-governmental organisations, and community efforts, as well as in the hands of donor agencies. Their governments' major duties are still at the level of providing support to individuals who are interested in establishing ECCE centres, defining the overall aims, monitoring its implementation, defining criteria and

norms for opening, running and closure of pre-school institutions through the appropriate ministries, preparation of teachers, assisting in the development of appropriate curricular, pedagogy and learning materials, among others. However, in some countries, such as Egypt and Malawi, the governments are in sole control of the provision and funding of this level of education while in others such as Tanzania and Kenya, those that share in the responsibility of provision and funding include government, individuals, non-governmental organisations, community-based organisations and donor agencies.

On the other hand, the situation appears to be different in more developed countries such as the U.K., U.S.A., the Netherlands, Japan, Croatia, Poland, and India ECCE programmes are funded by the central government, with central assistance (e.g. funding) given to private individuals and voluntary organisations for running pre-school education centres and financial support provided to families through the social welfare system. Some countries have also gone a step further in initiating projects which are centrally funded like the Sure Start in the U.K. and the Project Head Start in the U.S.A. in order to provide families and children with better access to child care, health and early education.

On the issue of quality (use of qualified teachers, provision of infrastructure), most countries reported that academic qualifications (not specifically in early childhood education) are required for teaching in pre-school programmes while in some of the countries (e.g. Malawi, Uganda and Kenya) a considerable number of care givers and teachers in the programmes do not have any academic qualification. However, in some countries such as the U.K. and the Netherlands, it is mandatory that teachers of children at the pre-school level possess qualifications in early childhood education. The report also revealed that most countries organise in-service training and retraining programmes, workshops and seminars for pre-school teachers so that they will be up to date with the use of modern technology. With regard to the provision of infrastructure, classroom structures in most African countries reviewed are basically in borrowed premises such as churches and town/council halls with the exception of Egypt where it is reported that recent designs of school buildings that provide pre-school classrooms commensurate

with EFA guidelines are provided (El-Din, 2000). Other positive landmarks associated with some countries include establishment of toy manufacturing companies that are geared towards making low-cost toys out of scrap materials in order to overcome the problem of inadequate provision of instructional materials (e.g. in Turkey and China), producing television education programme for pre-school children (e.g. the Sesame Street in U.S.A., the CBBCs in the U.K. and the Tomurcklar in Turkey) and transformation of pre-school education books (e.g. in Egypt). All these investments in this level of education could be based on an understanding of the inherent importance attached to it by different nations.

1.4 Importance of Pre-school Education

Psychologists, educators, researchers and scientists are of the opinion that the importance of ECCE in the all round development of the child cannot be overemphasized. In Nigeria, the conducive and stimulating environment that would aid the all round development of the child is provided more in the school than in the home. This, perhaps, is due to the observation that most Nigerian homes are limited in what they can provide to the child in terms of space, variety of equipment, educational materials and the required experiences. In this respect, early childhood educational institutions are seen as primary supplements to the home since they perform these tasks. It has also been found that children need a lot of different experiences during their formative years (Akinbote, Oduolowu, and Lawal, 2001). These exposures according to them, should involve what they see and what they do leading to what they will eventually know through experience. For instance, available evidence suggest that environmental influences have the greatest effect on a child's cognitive development during the most rapid periods of growth-the first six years of life (Bruce, 1997; Gura, 1996; Tizard and Hughes, 2002; Bloom, 1964). This means that pre-school children have to interact with their environment in order to stimulate their cognitive abilities and skills. In the same light, some educationalists argue that pre-school education experiences help to supplement the informal learning at home (by the group of

experiences a child is exposed to with his peers under a trained adult guidance) until the child is well prepared for the traditional schooling (Todds and Hoffman, 1977; Meadow and Cashdan, 1988).

Children, especially at the pre-school level, like being engaged in one form of play activity or the other. The average child's home in Nigeria may not always satisfy the physical needs of the child to engage in a variety of activities. The pre-school institutions can provide stimulating environments and a variety of play materials for children (e.g. swings, climbing frames/ropes, sandpits, slides, finger paint materials, etc) that are not readily available in most homes. Availability and accessibility of these play facilities to children help them to develop necessary agility very much needed in adult life.

Pre-school institutions also help in introducing Nigerian children to a school-like environment to prepare them for the years of compulsory schooling. As noted by Meadows and Cashdan (1988), the relationships which exist between children and school teachers involve a lot of interactions in joint activity, discussion of shared experiences with the more experienced adult partner, and scaffolding the children's way through the performance and acquisition of complex skills: modelling them, giving appropriate feedback and encouragement, providing opportunities for practice, motivating the child where effort is necessary, showing how the skill is useful or a desired part of growing up in a culture. Researchers see the provision of pre-school education as necessary for laying the foundation to support future learning (The Consultative Group on Early Childhood Care and Development, 1993 cited in UNESCO (1995); UNESCO/UNICEF, 1998). They are of the opinion that the successful education of children during their later years of schooling depends to a great extent, on the kind of nurture given to the children during the pre-school years. In addition, it has been noted that early education could aid in detecting children with learning problems and early intervention could be given to help in correcting such problems before they become serious (Gottschalk, 1975). For instance, Pringle (1992) indicated that very early individual differences in behaviour and cognitive styles could be observed considering

that behaviour and adjustment problems are already apparent among children in infant schools.

According to reports by Zill, McKey, O'Brien, et.al (2003) on the Head Start programme, one of the most researched and evaluated early childhood programmes in the United States of America, children leave the programme ready to learn, children who enter Head Start with the lowest scores in cognitive development show the greatest improvement and make substantial progress in vocabulary, letter recognition, mathematics and writing skills relative the national averages. Numerous other studies on the long-term impact of early childhood programmes also found multiple benefits for low-income children exposed to the programmes. For instance, the study of Barnett's (1995) confirm that children who passed through early childhood education programmes were less likely to be held back in school; less likely to be placed in special education classes; more likely to succeed in school; more likely to graduate and were considered by teachers to be better behaved and better adjusted in school. Research also suggests that involving children early in Head Start educational programmes has significant payoffs. For instance, the US Department of Health and Human Services (2002) found that such programmes (even for children at age three) produce sustained positive impacts on the children's cognitive, language and socio-emotional development.

In the same light, some other research findings have shown that children who had pre-school experiences gained higher scores in identification/ matching of letters of the alphabets and matching objects with their names (Odinko & Iroegbu, 2005) as well as in vocabulary, reading and sentence completion tests (Wadsworth, 1986). There are also indications that such children are much less likely to have been made to repeat a grade (year) in school course, less likely to be prominently labelled as failures and less likely to be seen by themselves and others as people who will not get on well in the school system (Woodhead, 1983, UNESCO, 1995). In addition, available evidence has shown that of a child's general intellectual attainment at age 18, approximately half has been reached at the age of 6 years (Bloom, 1964; Pringle, 1992; UNICEF/FGN, 2001; UNESCO, 1995). These findings reveal that much of intellectual development takes

place during the formative years and that the kind of environment a child is exposed to could be a major determinant of the child's intellectual growth.

On the basis of the social importance of peers, such as the benefits of close and friendly relationships with several adults, Osokoya (2000) and Akinbote, et al., (2001) suggested that young children should not be encouraged to relate with members of their immediate environment only. Exposure of children to early childhood education is thus regarded as very important considering that pre-school environments tend to create avenues for social interaction among children from different, families, religious groups, tribes and tongues. Staying together this way early in life could thus lay a solid foundation for social unity in adult life – a situation that is very much needed in Nigeria. Many studies of pre-school groups (e.g. Maduabum, 2001 and Agusiobo, 2000) have reported that children who see each other at playgroup or nursery tend to become friends and play mates; are able to use their knowledge of other children to get along with them; and tend to share things, co-operate in role play and construction of games. At pre-school environment, children also learn to respect each other's rights and to be law abiding. Therefore, one can argue that this level of education can reduce social and cultural differences among Nigerian young children and allow the children from poor backgrounds to enter the school system on more equal terms with others.

Early childhood education helps to alleviate the working parents' need for custodial care while the parents are at work. With the present day economic growth and development in Nigeria, mothers are fast taking up full-time employment. Obviously, these housewives and mothers cannot at the same time be at home to give maternal care and custodial guidance to their children. The utilization of housemaids, which used to be an accepted substitute, has drastically reduced due to the recently launched Universal Basic Education scheme (Federal Ministry of Education, 1999) in the country (a scheme that made education from pre- school level to junior secondary level free). Therefore, it is apparent that pre-school settings could serve as better alternative locations where children who are not of school- going age could be sent to for custodial care and guidance while their parents are away at work. Quality early childhood education, thus, could be of immense benefit to a national economy. For instance, a report published by

the Economic Opportunity Institute in Seattle, Washington (De Gaulle, 2005) has revealed that employees with inadequate child care are more likely to be late to work, absent or distracted on the job than parents who are confident about their child's care arrangements; employees may be forced to spend work time to handle child care problems and that productive and valued employees who leave their jobs because of child care problems increase hiring and training costs. These result in a high rate of turn over, absenteeism and low productivity, all of which cost employers money. In this light, the report revealed that absenteeism caused by poor quality childcare costs America (De Gaulle, 2005) business more than $3 billion a year.

In addition, with regard to its importance to cognitive development, research on ECCE has shown some remarkable positive results. For instance, Smith and Dickson (1994) found that the amount of cognitively challenging talk that children experience is correlated with the amount of time they talk with adults. In addition, it is generally believed that because so much basic early learning (e.g., language, social-emotional competence) occurs through interactive experiences when children are very young (Kontos and Wilcox-Herzog, 2002), the quality of teacher-child interactions contributes substantially to effects that pre-school education have on children (Bowman, Donovan, & Burns, 2001).

However despite the positive effects associated with exposing children to this level of education, the EFA (UNESCO 2007) report still showed that sub-Saharan African countries are still lagging behind in meeting the EFA mandate for early childhood care and education related matters. The data indicate that pre-primary education in sub-Saharan Africa has registered a steady increase since the 1970s, with a sharp rise between 1999 and 2004 (43.5%). However, this increase did not match the participatory level of children within this age bracket because of population growth. The participatory level according to EFA is still very low with a regional GER of only 12% in 2004 up from about 10% in 1999. The major factor that hinders a wider participation of children in ECCE programme is the cost. This level is still left in the hands of private individuals. As a result children from the poorest backgrounds are still excluded even when research has shown that they are the greatest beneficiaries of such programmes.

Nevertheless, it noted that some encouraging signs are evident. For instance, early childhood is becoming a national priority with quite ambitious targets in the education plans of some countries (Benin, Burkina Faso, Cote d'Ivoire, Democratic Republic of Congo, Mali, the Niger and Senegal), ECCE policies are aligned with other national and sectoral development policies (Ghana, Uganda, Zambia) and policies to target high-level political endorsement (Senegal) (UNESCO, 2007). These findings provide substantial reasons to trigger the interest of anyone who wishes to conduct empirical studies of pre-school education in Nigeria.

1.5 Aims of the Thesis.

The primary aim of the study is to provide a comprehensive description of how teachers/caregivers and pupils interact during instruction in three major subject areas that cut across the national early childhood curriculum in Nigeria: literacy skills which are basically an introduction to reading and writing, numerical skills; and science. The description focused on direction of interaction (who to whom), instructional approaches (teaching methods), classroom contexts (teaching the entire class all the time, use of small groups, and one to one basis), use of language during instruction, types of questions, responses and feedbacks during instruction in Nigerian pre-school settings. The study also examined the extent to which significant group differences exist in the prevailing classroom interaction patterns based on such grouping factors as subject taught, teacher qualification, class size, language of instruction, school location (rural/urban) and school type (public/private).

1.6 Rationale for the Study

In all, four key factors prompted the conduct of this study. The first has to do with the paucity of information on the characteristics and quality of instructions and care provided to young children in Nigerian pre-school institutions. The second factor has to do with the increased concerns of the Nigerian public about the decline in the quality of

educational achievement at the primary level of education. There is therefore a need to spend money as well as research effort on examining the quality of education provided for pre-school children in Nigeria since one of the objectives of pre-school education in the country is to prepare Nigerian children for the primary level of education. The third hinges on the need to ascertain the major language used during instruction at this level of education as well as the extent to which pre-school children are being taught in the languages of their immediate environments during classroom interaction as stipulated by the Nigerian National Policy on Education for this level of education. The fourth reason stems from the growing evidence from educators and psychologists as well as researchers that educational experiences during the pre-school years can have positive impacts on later schooling. It is thus considered necessary to examine if the foundation stones laid for children in Nigeria at the pre-school formative years are strong enough to be built upon during the subsequent levels of education.

1.7 Significance and Professional Relevance

The present study is considered significant because its results could provide an empirical basis for reviewing and updating the curriculum contents of caregiver preparation and continuing education programmes with a view to producing caregivers who can channel most aspect of the lesson time towards productive child-centred activities. Also, it will provide pre-school teachers with information about how to interact with the child in the language of the immediate community as well as in English language (the official language of the school). The results of the study could justify the need to train more caregivers with a view to increasing caregiver-child ratio in pre-school institutions in Nigeria. It could also provide an empirical basis for developing a more effective practical technique on how to improve teaching and learning methods for pre-school children in Nigeria in order to ensure that ECCE programmes in the country are of sufficiently high quality to contribute to the country's future educational development. The results of the study could also be important additions to existing literature base on (ECCE) considering that the literature base is associated with paucity

of information on the characteristics and quality of instruction and care provided to young children in Nigerian pre-school institutions.

1.8 Chapter summary

This chapter focused on a review of literature on views shared by different countries, individuals and global organisations on why pre-school education is considered important. It also presented some UNESCO Reports on how countries have fared in ECCE Provision. In addition, it also outlined the aims, which the present Thesis is set to achieve, the rationale behind embarking on the Study as well as its Significance and professional Relevance. The next chapter presents literature review on pre-school education Nigerian context. However, issues pertaining to providing quality pre-school education is discussed in chapter 3.

Chapter 2.

Pre-primary Education in Nigeria

2.1 Introduction

Having discussed global views on the need to give children early intervention during their formative years and having emphasized the recognition this is receiving all over the world in the first chapter, it will have become apparent that little mention of pre-school activities in Nigeria was made. This chapter therefore will focus attention on Early Childhood Care and Education provision in the Nigerian context. Discussion will focus on how children at this age level grow up in three major Nigerian traditional societies: Hausa, Ibo, and Yoruba, as well as discussion on how formal preschool education in Nigeria evolved. Other important issues that will be discussed in this chapter include the Nigerian government's view of this level of education in terms of policy and practice. In addition, the chapter will discuss the Nigerian government objectives for encouraging this level of education; types of pre-school programmes available in Nigeria and the extent to which the Nigerian government is committed to meeting the EFA number one goal which centres upon "expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children" (UNESCO, 2005: 28) However, before proceeding to the major discussion of this chapter, it would be appropriate to give brief information on the country under study.

2.2 A Brief Profile of Nigeria.

The Federal Republic of Nigeria is one of the countries located in Sub-Saharan Africa. Located at the Western part of the continent, Nigeria is surrounded in the North by Niger Republic, East by Chad and Cameroon, West by Benin Republic and in the south by the Gulf of Guinea. Nigeria is a multi-lingual and multi-cultural/ethnic country. Nigeria has more than 250 ethnic groups (Wikipedia, 2006), with varying languages and customs, creating a country of rich ethnic diversity. The largest ethnic groups are the

Hausa-Fulani, Yoruba, Igbo (Ibo), Ijaw, Kanuri, Ibibio and Tiv. There are a total of 250 dialects spoken in Nigeria, which correspond with the estimated number of ethnic groups in Nigeria. To facilitate cultural and linguistic unity, after the Amalgamation of Northern and Southern Nigeria in 1914, by Lord Lugard, English was chosen as the official language. The major languages spoken in Nigeria are Hausa, Igbo and Yoruba. Three major religious groups exist in the country: Muslim, Christian and indigenous beliefs (these last two are very numerous and varied).

Prior to the nations independence in 1960, Nigeria was a federation of three regions based on the three major ethnic/language groups: the Northern, the Southern and the Eastern regions. The 'Hausas' dominated the Northern region, the 'Ibos', the Eastern region and the 'Yorubas', the Western region. However, presently, Nigeria is a federation with 36 States and a Federal Capital Territory, Abuja. These states have been created over the years. In 1967, the regions were replaced by 12 states; in 1976, 7 new states were created, making 19 altogether; the Federal Capital Territory (now called Abuja) was established also. In 1987 two new states were established, followed by another 10 in 1991, bringing the total to 31. The latest change, in 1996, resulted in the present number of 36 states. Nigeria currently operates three tiers of Government: the Federal, State and Local Governments. The administrative positions in the country are handled by a democratically elected President at the Federal level and Governors and Chairmen at the State and Local Government levels respectively. Ministerial positions are given to qualified candidates on appointment by the President. Nigeria has several ministries of which the education ministry is one. Nigeria runs a 6-3–3-4 system of Education presently but hopes to replace it by September 2006 with the 9-3-4 of which the first nine years is compulsory under which the pre-school education belongs.

Nigeria is regarded as one of the most populous countries in the world (UNESCO, 2007). The population of Nigeria as at 1998 was estimated at 108.2 million of which, according to the Federal Ministry of Education, (Olorunfunmi, 2000) 36 percent live in the urban areas while 64 percent are rural dwellers. The population of children below 6 years in Nigeria in 1999 is recorded as 22,395,119. The projected population of children for the year 2004 is estimated at 25,748,536. In 1984, there were

about 414 government-registered pre-schools in Nigeria to cater for this population. However, this figure rose gradually from 900 schools by 1986 to over 12,000 by 1996. As a result of inadequate institutions to encourage access, only about 4.7% or 11 million children enrolled at any day care/nursery school. Data from the Multiple Indicator Cluster Survey (MICS), a survey carried out nationwide by the Federal Office of Statistics (FGN/UNICEF, 2001) indicate that almost one in five Nigerian children dies before reaching the age of five. The main causes of mortality and morbidity among children in Nigeria include malaria, diarrhoeal diseases, AIDS, water-borne diseases, sickle cell, and malnutrition. Data from National Health Management Information System 1999 (FGN/UNICEF, 2001) shows that 30 percent of death of Nigerian children under five years are caused by malaria, 22 percent from Vaccine Preventable Disease (VPD), 19 percent by diarrhoea, and 16 percent acute respiratory infection (ARI) all of which can be prevented (FGN/UNICEF, 2001: 4).

A situation and policy analysis of Basic Education, published in 1993 (FGN/UNICEF/UNESCO, 1993), showed that about 80 percent of pre-school institutions were owned by private business, communities and religious organizations. Nonetheless, it would seem that at the moment, only a small minority of Nigerian children receive any pre-primary education. The MICS data (FGN/UNICEF, 2001) show that nationally, only 18 percent of Nigerian children aged 3 to 5 years were attending some form of organized early childhood education programme. The data also show little difference in attendance between boys (18 percent) and girls (19 percent), location (rural 37 percent and urban 12 percent). In terms of geographical locations, while 41 percent of Nigerian children in the South West and 39 percent in the South East have access to any form of preschool education, only 4 percent and 3 percent of children in the North West and North East have access respectively.

Furthermore, the recent monitoring report from EFA (UNESCO, 2007) showed that child non-survival rate for the under-fives is still very high. On average, 176 of every 1000 children born in Nigeria in recent years will not reach age 5. This is well above the 86 per 1000 live births recorded worldwide. The report also indicated that 40 percent of children under the age of 5 in Nigeria surfer from moderate or severe stunting

growth, which has negative correlation with school performance (UNESCO, 2007). The poverty level according to UNESCO (2007) is very high with more than 78 percent of the population surviving on less than $2 a day. Urban and rural living disparities were also recorded as being too wide apart. UNESCO, however, indicated that there is a link between poverty rate and provision of quality education at all levels, which in turn affected the literacy level in Nigeria.

The adult literacy rate was 47.3 per cent female and 67.3 per cent male (Olorunfunmi, 2000). Educating of Nigerian children in the regions could be carried out in three under major types: the traditional, the Western and the Islamic types of education. However, only two most influential types of education in Nigeria will be discussed in this work namely the traditional and the Western types of education since these types of education are the most widely used across all the three regions in the country.

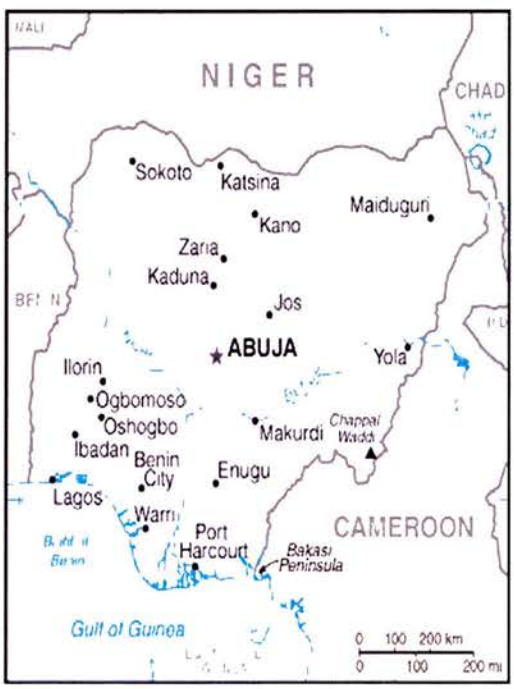

Fig. 2.1: Map of Nigeria showing some of the 36 states
Source: Wikipedia, the free encyclopaedia.

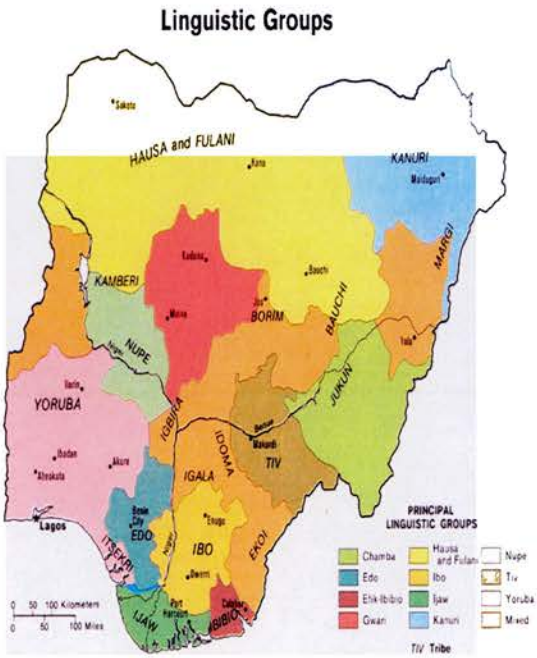

Fig2.2:: Map of Nigeria showing the linguistic groups.

2.3 Pre-school Education in Nigerian Traditional Societies

Pre-school education in traditional Nigerian societies can trace its origin to the beginning of human existence in these societies. This is true to the extent that every society has ways of formally and informally transmitting cultures and values to the young generation. Children are formally taught the words appropriate for greetings at different periods of the day, for different types of work, how to gesticulate while exchanging greetings with an elder. For instance while the male child in the Yoruba environment is taught how to postulate on the ground and remain in that position until the adult asks the child to get up, the Hausa male child is taught how to bend with one knee and crutch[2] with the right arm, the Ibo child is taught how to prostrate and remain in that position until the elder touches the child's back.

However, in all the three societies, girls are taught how to kneel and bow while greeting an elder. Girls are also taught proper sitting positions as soon as they can sit without support. The obligation to welcome as well as give presents to guests when they arrive at one's home, is inculcated in both the male and female child as soon as they can talk and move around the compound. This is encouraged by teaching them the proper words to use and encouraging them to always go for the Kola plate or wine keg to entertain the guest in their home. This informal training begins as early as two years or later depending on the child's level of development. Children are also taught during the evenings at the fire side by their parents, or in a group by a relative, during moonlight, the origins of the clan, village and town, tribe legend, geographical features of their environment (e.g. names of trees, hills, mountains, rivers, animals, birds, insects) through stories. Riddles and proverbs are also taught and used to test children's understanding of the world around them. The informal nature of the education stems from the fact that there are no rules laid down or regulations to follow while educating the young ones.

Nigeria is a country with diversified cultures, tribes, religious inclinations, geographical locations and occupations. These to a great extent influence the aspirations

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[2] Right hand closed and held up on the knee for support.

of parents on what children should learn, instructional materials to be used and the methods of educating the young ones. As a result instructional content tends to differ from one ethnic group to another. Hence in the traditional Nigerian communities children are exposed to training that is geared towards the transmission of the cultural heritage of the child's fore-fathers starting from a very tender age. This, was stressed by Castle (1966) when he discussed growing up in East Africa that African customary education aims at:

> *Conserving the cultural heritage of the nuclear family, clan and tribe, to adapt children to their physical environment and teach them how to use it, to explain to them their own future and that of their community depended on the perpetuation and understanding of their tribal institutions, on laws, language and values they inherited from the past (p. 39).*

Blair, Jones and Simpson (Illiya, 2000) also emphasized this by saying that 'each culture has a typical personality- a particular pattern of motives, goals, ideals and values, which are characteristic and distinctive of that culture' (Illiya, 2000: 36). Hence, the culture in which a child grows up, the physical features that characterize the environment prescribes, to a great extent, how the child will be trained, and which social, emotional, physical and intellectual developmental patterns he/she will be exposed to. For instance, if a child's environment is characterized by mountains, planes, rivers or tropical forest, these features determine the nature of education the child receives to enable it to survive the local dangers and also to reap the benefits of that environment. Furthermore, the skills for which a child's ancestors are noted (e.g. great hunters, fishermen, herdsmen, potters, carvers, drummers, soothsayers, or native doctors) form the curriculum content to which, their young ones would be exposed. This is to enable the young ones to excel and also perpetuate the occupation of which their ancestors are known.

However, so many similarities tend to exist in terms of aims of such education as well as the methods used. In the Nigerian traditional society, education, no matter at what level or the environment in which the individual is receiving the training, is characterized according to Fafunwa (1974) by its "functional and interwoven nature". Functional in the sense that its aim is to induct the growing child into the ways of life of his people, to enable him to function effectively in his given environment from an early

age and also to prepare the child for future survival as an adult. The interwoven nature indicates that education in the traditional Nigerian societies is not as compartmentalized as in the Western system of education. It combined physical training with character building (e.g. teaching a girl child how to sit properly with both legs stretched in forward in order to form a good body posture and to avoid indecent exposure of the body), manual activity with intellectual training (e.g. the playing of 'Ayo' in Yoruba, 'ncho' in Hausa, 'okwe' in Igbo' game during which time children are taught how to manipulate the objects used as teaching materials with their hands in order to outwit their opponent which requires some intellectual training in number co-ordination) as well as physical training with emotional and social training (e.g. ability to accept defeats during wrestling, racing, acrobatic display, riddles and proverbs). This signifies that Nigerian traditional education is geared towards aiding the all round development of the child. Also the teachers, and instructional materials used, are all drawn from the immediate environment.

Other similarities tend to exist in the area of what the child is to be exposed to and why the child should receive such exposures. These are usually dictated by the needs of the particular environment in which the child is born. Education in traditional Nigerian societies according to (Fafunwa, 1974) is generally geared towards:

> *Introducing young ones to the 'beliefs (e.g. religion and rituals,) and moral values systems of their people, their occupational techniques, social duties of their fore fathers, and a preparation for adulthood'. The children are therefore made to learn skills that will help them to cope successfully in their environment (p. 15).*

In fact, parents expect their children to show evidence of these traits as early as four years old, believing that a child who will be successful in life should show signs of having acquired some of the expected behaviours of his people. For instance, in the Yoruba ethnic group, which dominated the Western region of the country, an educated, or well trained/ well brought up child, as noted by Orebanjo, (2002) is:

> *One who is well behaved, artistic, honest, diligent, intelligent (mostly in the use of words, proverbs, idioms, use of discretion in problem solving situations, able to interpret or take instructions from elders, etc), diplomatic*

and religious – ability to observe the taboos associated with different deities (p. 10 - 17).

Majasan's study of Yoruba education revealed that the two major objectives of Yoruba education are character training and exposing the children to religious education (Orebanjo, 2002). Commenting on religion, Majasan emphasized that:

> *The whole personal life of a Yoruba from birth to death is regulated and controlled by his religion which is closely associated with every detail of his life, personal, social and political. Religion is so important in Yoruba society that it has been made the main objective of Yoruba education and most of the other objectives of education are pursued through it – philosophy, oratory, psychology, art including music and dancing and morality. Religion has being made the unifying ideal by bringing up children to have a religious attitude to life (Orebanjo, 2002: 11).*

This view corroborates that of Idowu (Orebanjo, 2002) who asserts that:

> *"Religion of the Yoruba permeates their life so much that it expresses itself in multifarious ways, it forms the themes of songs, makes topics and finds vehicles in myth, folktales, proverbs and sayings and it is the basis of philosophy" (Orebanjo, 2002: 11)*

Based on this premise, every effort is made by Yoruba parents, grand parents, siblings and extended family relations to give their young ones, from their early years, a full and necessary training in religion to aid in their character formation as early as possible.

On the other hand, Illiya (2000) carried out a study on child rearing practices in the northern part of the country. The results of the study revealed that children from the northern region of the country are trained to be more:

> *Group oriented and interdependent in their relationship with others, passive among grown ups but self assertive among peers, independent, self-efficacy because of the competitive nature of work performance among peers, and aggressive because of the nomadic life the child would face latter in life as an adult (p.34).*

Some of the child rearing practices in the northern part of Nigeria according to Illiya include:

> *Instilling courage in the child as soon as the child is born, teaching the children to be each others keeper, sharing of joys and sorrows, encouraging*

> *the child to stand his/her ground in time of confrontation, encouragement to excel (Illiya, 2000: 35).*

Codes of behaviours that are instilled in the child as early as possible according to the result of the study include:

> *Not to talk when adults are talking, not to expect an explanation when being scolded, how to greet an adult first whenever the child meets an adult, how to receive things from adults with two outstretched hand or at least with the right but not the left hand (Illiya, 2000: 36).*

However, in the eastern part of Nigeria, community life is propagated from the early years. The child is taught above all that he cannot live alone, that group living is much better and has more advantages than living a solitary life. Thus a popular saying in Ibo land that 'it is more difficult to break broomsticks[3] when held together than when single'. Children are also made to understand that the group, which made their life possible, expects them to conform to the services and defense of the land. Children are also taught how to chew their words before speaking especially when talking with or to an adult, respect for elders and family unity and to participate in common task in the community. According to Uka (1966) in the Eastern Nigerian communities, children are trained to be obedient, industrious, be their brother's keeper, conform to the laws of the land and how not to argue with adults even when their views could be right. Children are taught to respect the elders in the whole clan as well as the village where they belong.

All these inductions into the ways of life of the people in Nigerian traditional societies tend to arise from impulse or response to suggestions from others rather than from planning or laid down rules and regulations. Adults tend to use a variety of methods while educating the young ones in these societies.

[3] Broomsticks are made from palm fronds and are used for sweeping the ground when held together.

2.3.1 Instructional Techniques for Pre-schoolers in Traditional Nigerian Societies

The education of the child in Nigerian traditional societies begins from infancy just like their counterparts in different parts of the world. However, in Nigerian traditional societies, certain members of the family take primary responsibility for educating the young ones more than others. Mothers, because of the responsibility bestowed on them by nature tended to be responsible for the upbringing of young ones from birth to about two. For instance, from birth she breast feeds the child whenever it is hungry, carries the infant on her back while going for a walk or carrying out household duties, sings a lullaby to the child when he/she cries and sleeps with the child at night. This mother and child relationship continues until the child is weaned. During this period, mothers in all Nigerian traditional societies train their children in toileting. They teach the child how to eat and socialise. They provide greetings appropriate for each time of the day, how to keep the body clean and how to respect elders. These behaviours are learnt, usually through play. The teaching method was very practical and spontaneous. Imitation, repetition, observation, demonstration and explanations are often used. Children are made to practice whatever they are taught immediately under the watchful eyes of their mothers. However, by the time the child reaches the age of three, during which the child is able to move about the immediate environment, educating the child in the right behaviour expected of him/her becomes the responsibility of all adults living in the child's immediate environment (clan and the entire village). To this Fafunwa, (1982) noted that:

> *Between the ages of 4 and 6 and sometimes earlier, in some families, the grandparents, uncles and aunts become involved in the education of the child. They send him on small errands, tell him stories, teach him obedience and respect for elders (a very important aspect of Nigerian education), code of behaviour and the family history or the ethnic group (p. 12).*

This signifies that the responsibility of bringing up a child rests on the shoulders of all adults in the child's immediate environment. The adults would always participate in

providing him with a wide range of stimulating interactions that positively nurture the child's development. Ellis (FGN/UNICEF, 2001) also remarked:

> *All children are in a sense everybody's children or at least a concern of a great number.... and there is much less stress upon the individual mother's role in the socialisation of the child. (P. 137)*

The child's siblings, uncles and aunts, grandparents as well as neighbours help in educating the child on how to survive in his community. They cooperate in providing the child with a wide range of stimulations that will positively nurture the child's intellectual, emotional, physical and social developments. The teaching methods used are diversified and the things taught integrated. For instance, according to Fafunwa (1982) at this stage in development, children:

> *Learn by doing, that is to say, children and adolescents are engaged in participatory education through ceremonies, rituals, imitations, recitation, and demonstration. They are involved in practical farming, fishing, weaving, cooking, carving, knitting, hunting, black smiting, Children are allowed to engage in different kinds of plays to develop their latent physical ability and to explore their immediate environment. Language as well as intellectual skills are taught through the use of songs, story telling and retelling, proverbs, riddles and tongue-twisters. Children learn about nature through observation of the immediate environment with elders during which names of trees, birds, animals, plants and flowers are mentioned. The study of local history and legends of the ancestors, are taught through stories during moonlight tales. Recreational subjects included wrestling, dancing, drumming, acrobatic display and racing (p. 9).*

Other methods used in educating children identified by Osanyin (2002) includes role playing, memory games, opening wisdom boxes, survival games, poems, ceremonial songs, imitation games, among others.

Language development is encouraged by adults through telling children stories which usually takes place during the moonlight[4] nights after dinner and asking children to re-tell such stories, teaching them songs, rhymes, and tongue twisters. Children learn through repetition of the new words mentioned by the teacher. These teachings are

[4] Moonlight nights are nights when the moon shines. Story telling during such nights is common in the dry season which is usually resting period for rural dwellers.

usually performed by relations who are good at story telling and children would always gather in the relations' compounds every night when the moon light was up to listen and learn from him/her. Language development of Nigerian children is also motivated by the presence of many children around the growing child. Nigerian children start to receive training in the language of their immediate environment as soon as they begin to talk but this tends to be intensified at the age of two. The nature of family settings, especially in terms of the extended family system and ways in which neighbours live very closely together makes it possible for the growing child to have more than enough adults around him/her to talk with and learn from. All these adults tend to provide the child with social stimulation. This exposes the child to the language of the immediate environment.

Physical development is encouraged by sending the young ones on errands, encouraging them to wrestle and race with peers, climb dwarf walls and trees, imitate some dancing steps from adults. Children's social and emotional well-being are developed by encouraging the children to visit friends and relations in the absence of the parents. Children are encouraged to share things (toys, snacks) with age mates, play with other children away from home from as soon as the child begins to walk and talk to a reasonable extent. Various games are also provided to encourage intellectual development. As noted by Uka, (1966):

> *Learning and application of number concepts are introduced to Nigerian children through native games called 'Ekak' in Ibibio, 'Ayo' in the West, 'Okwe' in the East and 'Dara'in the North. This game is common in Nigerian communities (both urban and rural) but is mostly played in the rural areas. It is a game of wit, engenders a sense of obedience to established procedures and encourages the spirit of give-and-take (p. 63).*

These games are still played today not only by children but adults too. Children are also trained in numerical skills through the use of local materials like dry seeds, cowries, money, their personal belongings as well as other objects (Orebanjo, 2002).

Play activities are carried out on individual basis when children are still very young (often as soon as the child begins to crawl and move about within the home. At this stage they are provided with toys to play with. During this time, they play with imaginary peers, soliloquizing with themselves. But as the child grows older and is able

to walk about in his/her neighbourhood, the child is encouraged to visit and play with other children. A child who finds it difficult to accommodate peers during social visits is usually cautioned or ridiculed by the adults around. Group play is also encouraged. During play, children tend to perform some adult activities such as cooking, grinding corn like their mothers, acting mum and dad, native doctors, market women, hunters, town criers, among others. Gender roles are also reflected during the children's play activities. One interesting thing about the use of play among Nigerian children is the fact that adults are very often available to supervise their play and in this way direct and correct some misconceptions children may have about certain roles played by adults.

Gender roles are reflected during instructional delivery. The female child is trained how to cook, take care of the baby (with her home made doll), do the dishes, sweep the floor, peel yams and coco yams, weave baskets/mats with grasses, wash clothes, wrap up food, and how to set and rekindle the fire while cooking by the mother. The male child is trained in more strenuous duties such as carving, farming, how to take care of the livestock, hunting by their fathers. All these activities are performed by imitation and practice by the children. For instance, mothers would always allow the girl child to join her while she prepares the evening meal by giving the girl child sized cooking utensils to use while she performs the task under the watchful eyes of the mother. For instance the child could be given a small knife to help in peeling the yams, or be asked to grind the soup condiments with a small pestle and mortar. The girl child is also allowed to help the mother while she does the dishes, the laundry, sweeps the compound, and the child is always encouraged to perform the task with the mother watching and offering corrections there and then. The fathers also introduce their male children to farming activities by buying small hoes for the boys and so teach them how to hold it, position legs to avoid accidents in the farmlands that are within the compound. Boys are also allowed to practice how to hunt with wooden bows, arrows and spears and shields made from banana or cocoyam leaves.

With regard to the use of punishment when educating the young ones during their early years, Uka's (1966) work on child rearing practices in Nigerian traditional societies revealed that mothers especially do not use severe punishments during training

of children in their early years. Mothers tend to allow maturation and learning to control the rate and length of training. Thus, the Hausa, Ibo as well as Yoruba mothers never punish their children if they fail to learn automatically. However, he noted that punishment in form of 'mild scolding or reprimand' (Ibid: 51) is used when there is a serious lapse after training.

2.3.2 Children's Interaction with Adults in Nigerian Traditional Societies

In most developed countries of the world, children are encouraged to ask their parents questions on any issue that is of interest to them. This practice according to Siann and Ugwuegbu, (1988) helps the child to "assimilate new experiences and absorb them into his/her ever-expanding cognitive network" (p.14). However, in the Nigerian traditional environment the situation appears to be different. This was revealed by the findings of a number of educational researchers. For instance, Vernon (Siann and Ugwuegbu, 1988) observed that:

> *Children in many traditional Nigerian societies are discouraged from asking adults too many questions and are not encouraged to experiment too actively in activities that are not regarded as exclusive for adults. (p. 14)*

This was also corroborated by Hake, (Siann and Ugwuegbu 1988) in his summary of child-rearing practices in northern Nigeria thus:

> *In the northern Nigerian family, restrictions are also placed upon children's conversations with their parents. When the respondents were asked whether they were allowed to join their parents in conversations nearly 60 percent of the sample answered negatively... These restrictions suggest the attitude of northern Nigerian parents toward the correct method of raising children. In the traditional family, children are taught to respect and sometimes fear adults, especially those in authority. Learning respect for elders must take place primarily in the home. So the development of humility is an important developmental task for the northern Nigerian child. Because of this wide spread belief, it is only natural that Nigerian parents feel that "children should be seen but not heard. (p. 14).*

Growing up in Nigerian culture, a study conducted by Uka (1966) which serves as a pioneer study (and the only national study to date) on physical and behavioural growth and development of Nigerian children revealed that with regard to sibling/parent

interaction with children in Nigerian culture, a few parents showed sympathetic and encouraging attitudes towards children's curiosity but most families evade discussing certain issues (e.g. sex related issues) with young children. According to the responses given by the respondent who were all parents, they usually told the children that such questions are forbidden. One famous example used by Uka was that which has to do with conception and the impending arrival of a baby. Uka's study revealed that answers to this type of question were given without detailed explanations. According to him, in some cases children were given such answers as "babies come from God", "babies come from the hospital or maternity centre", or that "father brings the new baby". (Uka, 1966: 65).

Furthermore, Maduabum (2001) described childhood education practices with regard to encouraging curiosity by adults in eastern Nigeria thus:

> *The eastern Nigerian child from a very traditional home grows up in an atmosphere where children should be seen and not heard for the adults know best. The adults authority is accepted to be always right, has to be right, can never be wrong (p. 325).*

These views and observations from researchers in traditional education in Nigeria traditional societies reveal that traditional education in Nigerian traditional societies has its advantages and disadvantages alike. Communication wise, children are to be 'seen and heard' (Uka, 1966: 60) and are also viewed as humans who are not capable of doing much on their own without the help of an adult however the goals of the education, if properly inculcated, would help the growing child live a fulfilled life. In the area of independence, children are made to perform most activities under the watchful eyes of an adult. They are expected to be solely dependent on the adult world. This to a reasonable extent runs contrary to what western education aims at inculcating in the children who passed through it at this age level.

The implication of this type of teaching-learning processes in the traditional Nigerian society is that it provides the type of education that would enable its children to be self-reliant which would aid their effective and meaningful contribution to the society, which they would live in. This is because it is geared towards preparation of children for life, tends to help the child to realise himself, relate to others in an

atmosphere of mutual understanding and promotes self-reliance and economic efficiency. This is because children are encouraged to learn by doing. This could be seen by considering what is the practice in different regions in Nigeria. At homes and in the farms children are taught the skills of the society in which they live and the behaviours expected of its members. Through this the values of each society is transmitted. Indeed, it may have made education more directly relevant to the society in which the child was growing up. That is to say, traditional education in Nigerian societies was intended to reinforce the social ethics existing in the particular tribe, and to prepare children born into such society to live and serve the society effectively with the acquired skills, attitudes and values.

However, this type of training has its own disadvantage. For instance, training children not to air their views and be only good listeners might not augur well with development of self-esteem in Nigerian children. Nigerian children might grow into adults who might not summon courage to discuss issues concerning the wellbeing of the society. They might grow up into good followers and not good decision takers. This is because they have not learned to take pride in taking decisions or discussing freely with adults without inhibitions. Nevertheless, this might be one of the reasons why inculcating the spirit of inquiry was included as one of the objectives of establishing pre-school level of education in Nigeria.

2.4 Evolution of Pre-school Education in the Nigerian Societies

According to Nigerian educational historians (Osokoya, 1989; Fafunwa, 1974; Ukeje and Aisiku, 1982; Ozigi and Ocho, 1981) pre-school education in Nigeria as in the Western school system is a recent institution, which developed in the 19th century. It is on record (Osokoya, 1989; Fafunwa, 1974; Ukeje and Aisiku, 1982; Ozigi and Ocho, 1981) that this type of child rearing practice came into existence in Nigeria through the influence of the colonial masters who came into Nigeria with their families for trade and evangelism (both Christianity and Islam). Hence, the establishment of pre-schools as well as primary institutions for their children. Secondly, to successfully deal with the

'natives' demanded that the new converts should be exposed to the white man's education, which led to their being sent to primary school as well as Koranic schools where they were taught the rudiments of letters and Arabic to enable them to read and interpret the Bible as well as the Koran respectively. Some were also sent abroad to further their education in order to make them more useful to the masters. On return, after their exposure to western education, many were able to pickup administrative jobs with their wives in different government parastatals. This affected their lifestyles and as a result they emulated their masters in sending their children to pre-school institutions.

Added to this, is rapid urbanization, which has caused many families to drift to the city there by making the responsibility of bringing up children resting entirely on the nuclear family unlike the practice in the traditional societies. The increase in industrialisation and employment facilities in Nigeria, especially a few years after the independence (in 1960), and the oil boom in the 1970s, also caused the standard of living, the taste and cultural value system of many Nigerians to change. They developed an interest in sending their children to pre-school institutions as a status symbol. Later, the harsh economic situation, especially since the collapse of the oil boom in late 1970s placed severe financial stress on families. This resulted in an increase in women whose duties were mainly that of child upbringing and taking care of the home while the husband went into the labour force in order to help boost the finances of their families. Another important factor was the liberalisation of education by the government through the launching of the Universal Primary Education (U.P.E) Scheme, which made it possible for every child to go to school without school fees. This made it difficult therefore for the more affluent families to engage children of school going age as baby sitters and servants to look after their pre-schoolers when they were away at work. In consequence, many parents started realizing the need for sending their children to institutions where they could be taken care of until their mothers return from work and also learn in preparation for entering primary school. This led to a high demand for pre-school services.

With the increase in demand for the services of pre-school institutions, the supply fell much below the demand hence exorbitant fees were charged which

discouraged the less well off and less educated parents from sending their children to such institutions while they went about their daily business. To meet the demands of parents in poorer communities two types of pre-primary institutions evolved, namely the "superior" and the "inferior" types (FGN/UNICEF, 2001, Abidoye, 1998). The Superior types are located in purpose-built facilities (e.g. those which exist on campuses of colleges of education and universities to serve as demonstration schools as well as to cater for the children of the employees while their parents are at work). These are usually of a high standard but charge high fees and so are accessible mainly to children of the Elite. On the other hand, the "inferior" type usually called the informal day-care centres usually situated in poorer areas of the cities (e.g. in market places, in churches, and in private homes) where they operate in improvised and overcrowded shelters/houses with neither sufficient materials nor the professional staff needed to provide appropriate stimulation for the young children. The Nigerian government's perception over the years of this level of education was that tax payers money should not be used in the provision of such services. The provision and running of these institutions were therefore left in the hands of private and co-operate bodies who are interested. However, this view has changed in recent times.

2.5 The Nigerian Government's Policy Towards Pre-school Education

The formal education of Nigerian pre-school children aged 3 to 5 was first mentioned in 1969 (Osokoya, 1989) in the Nigerian National Curriculum Conference. It was given full recognition, but the government chose to encourage private individuals/organisations to be responsible for its provision. The government also failed to give definitive guidelines on the establishment, promotion, and supervision of nursery education through the educational ordinances, edicts and laws and as a result it was not included in the nation's educational policy. However, it appeared in the nation's educational document in 1977. Be that as it may, there were indications (Osokoya, 2000; Ukeje and Aisiku, 1982; Ozigi and Ocho, 1981) that prior to the inclusion of this level of education in the Nigerian policy on education, pre-school institutions have been in

existence in some cities and towns in Nigeria, being organized by individuals as well as organisations. However, the opinion of the Nigerian government on this level of education has changed. This change appears to be based on the nation's national goals on education (Federal Republic of Nigeria, 2004), which is geared towards:

> *Creating an enabling environment for the Nigerian child to thrive and develop to the fullest potential as well as the national goal and aspiration of building a land full of bright opportunities for all citizens (section 1: 3e);*

and on the philosophy of education which is based on the belief that:

> *Every Nigerian child shall have a right to equal educational opportunities irrespective of any real or imagined disabilities and provision of equal access to educational opportunities to all Nigerian inside and outside the formal school system (sect. 1: 4c &5c) (P. 6 -7).*

Others reasons include the resolutions made at the Convention on the Right of the Child (United Nations, 1989), the World Summit for Children and EFA, Global Monitoring Goals (UNESCO, 2000) to which Nigeria is a signatory.

In this Policy document of 1977, which was revised in 1981, 1985, 1998 pre-school education was defined as "the education given in educational institution to children aged 3 to 5 plus prior to their entering the primary school"(Federal Republic of Nigeria, FRN 1977 revised 1998, sec. 2 (11). A critical analysis of this definition shows that, pre-school education was neither for Nigerian children below the age of 3 nor for those between 6 to 8 years old as was stipulated by UNESCO in 2000. Secondly, this definition also implied that any ECCE programme which does not take place in the school like environment for children at this age level was not regarded as pre-school education and was also not a prominent component of the national education system. However, in 2004, this document was reviewed and a new definition emerged. In particular, in this new document, this level of education is referred to as "the education given in an educational institution to children prior to their entering the primary school. It includes the crèche, the nursery and the kindergarten " (FRN, 2004, section 2: Article 11). This now caters for Nigerian children from birth until they are ready to be admitted into the primary level of education.

The new definition of ECCE shows the level of Nigerian commitment to the realisation of Education For All Goal number One, which is hinged on 'expansion and improving comprehensive early childhood care and education especially for the most vulnerable and disadvantaged children, hence the inclusion of care and support of Nigerian children from birth to 5 in an educational institution. This level of education is also viewed as a "foundation stone and is considered indispensable to future or life-long education by the government" (Olorunfumi, 2000, p. 7). The policy document of the Universal Basic Education also prescribed that this level of education must be free, universal, compulsory, functional and qualitative (Obanya, 2000). To accomplish the free, universal and compulsory component of the policy on this level of education, the government has now included it in the on-going Universal Basic Education and has promised to provide appropriate types of opportunities for this level to be realistic, educate parents so that they can realise that they have the obligation to ensure that their children make use of the such great opportunities, and that sanctions will be imposed on persons, societies, or institutions that prevent children at this age bracket from benefiting.

As a result, in Nigeria presently, basic education comprises all types of formal as well as non-formal education organised in both public and private educational institutions for Nigerian children from birth until the age of 15 (Olorunfumi, 2000). This covers the level of education in Nigeria from the pre-school programmes (day care, play group, crèche, for children aged 0 to 3, kindergarten/nursery for those aged 3 to 5), primary education, the first three years of secondary education and basic and functional literacy for out of school age children of nomads and migrant fishermen. Although the Nigerian Government is now directly involved in the establishment of pre-school institutions, it is also has with the responsibility to address:

> *The provision and distribution of policy guidelines for the establishment and management of pre-primary institutions, production and development of appropriate National Curriculum and textbooks in Nigerian Languages, approval of relevant supplementary reading materials and teachers/instructors' manual, supervision and control of quality of such institutions, as well as provision and approval of appropriate certification of*

work done and training received (Federal Republic of Nigeria, FRN, 1977; 2004; section 2: article 12, p. 11).

The Federal Government of Nigeria has listed some aims and objectives, which the programmes aim to achieve.

2.6 Objectives of Pre-school Education in Nigeria

The Federal Government of Nigeria deemed it fit to include ECCE in the National Policy on Education document in 1977 (Federal Republic of Nigeria, FRN 1977 revised in 1981 and 1998, 2004 respectively). The major objectives for which this level of education was incorporated in the policy document are to:

> *Effect a smooth transition from the home to the school; prepare the Nigerian child for the primary level of education; provide adequate care and supervision for the children while their parents are at work (on the farms, in the markets, offices, etc); inculcate social norms in the child; inculcate in the child, the spirit of enquiry and creativity through the exploration of nature, the environment, art, music and playing with toys, etc; develop a sense of co-operation and team spirit; learning good habits, especially good health habits; and teaching the rudiments of numbers, letters, colours, shapes, forms, etc, through play (p. 11, section 13 a-e).*

Measures taken to ensure that these objectives are achieved by children who passed through pre-school programmes includes making sure that pre-school education services are provided away from the children's home to enable the child to get used to being away from home and learn how to relate to other people who are not part of the child's immediate family; the inclusion of topics (in the national curriculum for early childhood education) that could lead to the inculcation of behaviour in the Nigerian children that would help them adapt easily to school related activities when normal schooling begins . Such topics include:

> *Prewriting patterns (scribbling, making horizontal/vertical lines, strokes, curves, tracing and copying of letters and numbers); identification of letters of the alphabet, (upper and lower case); Picture reading; Recognition, pronunciation and tracing of letters and words; associating pictures with letters/words; developing basic vocabulary- actions of people in the home,*

> *objects in the school/home, colours, names of people; short story reading; listening to and learning of song, rhythms, stories; exposing them to numerical activities such as recognition of number symbols 1-100, odd and even numbers, counting of numbers, simple measurements of lengths, heights, volumes, days of the week; animals and birds around us, things that make us grow, my body, living and non-living things, illness, cleanliness, simple health habits; social habits like playing with other children, behaviours expected of children at home/school, growing up to be a responsible person among others (Awoniyi, Baba, Ala and Maduewesi, 1988; p.31-92).*

This signifies that perhaps, if the organisers of ECCE programs in Nigeria, structure the programme of activities for children at this age level towards achieving the set out aims and objectives, that any Nigerian children who pass through the pre-school programme should be able to exhibit such behaviour as being emotionally prepared for normal schooling in terms of adjusting to another environment out side the child's home. Further, the children could be able to express themselves clearly, recite rhymes, retell stories, make-up their own stories and be able to provide answers to questions within their competence when asked. In addition, the children should also be able to use writing tools and materials correctly, identify letters of the alphabet in both small and capital forms, show interest in looking at picture books and narrating what they see, differentiate and identify pictures, shapes, colours and words within their competence. They are also expected to count freely up to each child's level of ability as well as be able to recognise number symbols from 1 to 100. Nigerian children who passed through this level of education are expected to be able to identify concrete objects in the home and school environments, match different objects with their names and read simple stories, adjust to social habits of the society including obedience, kindness, honesty and fair play, learn table manners, know how to use the toilet, and know what to do when taken ill before normal schooling begins at age six.

Furthermore, according to the policy document (FRN, 1977; 2004), to achieve these objectives, the Federal Government of Nigeria has decided to do the following:

> *Establish pre-primary sections in existing public schools and encourage both community/private efforts in the provision of pre-primary education; make provisions in teacher education programmes for specialisation in early*

> *childhood education; ensure that the medium of instruction is principally the mother-tongue or the language of the immediate community; and to this end will develop the orthography of many Nigerian languages, produce textbooks in Nigerian languages; ensure that the main method of teaching at this level shall be through play and that the curriculum of teacher education is oriented to achieve this; regulate and control the operation of pre-primary education. To this end, the government recommended that the teacher-pupil ratio shall be 1:25; set up avenues for monitoring minimum standards for early childcare centres in the country, ensure full participation of government, communities and teacher associations in the running and maintenance of early childhood education facilities as well as ensure that the staff of pre-primary institutions are adequately trained and that essential equipment are provided (p. 11-12).*

In order words, the objective of ECCE programs in Nigeria as stated in the policy document is geared towards ensuring the all-round development of Nigerian children. This covers the cognitive domain by inculcating the spirit of inquiry and creativity through the exploration of the nature, environment, art, music, teach the rudiments of numbers, letters, colours, shapes, forms and to prepare the child for primary level of education. Others include social-emotional and psychomotor development. The socio-emotional development is aimed at effecting a smooth transition of Nigerian children from home to school, provide adequate care and supervision when the parents are away, inculcate social norms, teaching cooperation and team spirit and teaching them good habits especially health habits. The psychomotor is geared towards ensuring that the children develop their finger muscle through the introduction of pre-writing exercises. The document also indicates that the government policy on education at this level is expected to help in bringing up Nigerian children in such a way as to ensure that they grow up into adults who would contribute meaningfully to growth and development of their fatherland. It will therefore be worthwhile to examine how Nigerian government has fared in the provision of pre-school education programmes.

2.7 Situation analysis of ECCE provisions in Nigeria: meeting up with EFA's mandate

Nigeria is a signatory to the agreement reached in all the influential conferences held in relation to issues pertaining ECCE. In order to adhere to the rules and goals, which these educational bodies were out to achieve, a number of developments have taken place. Notable among them are expanding as well as making ECCE comprehensive in Nigeria. Thus, the government's desire to make early childhood education an integral part of the on going Universal Basic Education. It has ratified the rights of the child, and established the inauguration of a National Child Right Implementation Committee. The Federal Government's participation in the provision of ECCE programmes include going for assistance to international agencies such the WHO and UNICEF and agreeing to work in collaboration with them to lay a solid foundation for Nigerian children in the key areas of health, basic education, nutrition, and providing for children in difficult circumstances. Other donor agencies which have contributed significantly to the improvement of Nigerian children development in their early years includes the UNDP/UNESCO, the World Bank, and the activities of the Bernard van Leer Nigerian Education Trust.

Significant progress appears to have been made in the policy area. For instance, in order for the government to meet the demand of EFA in its number one goal which centres on 'expanding and improving comprehensive early childhood care and education, especially for the vulnerable and disadvantaged children' (UNESCO, 2005: P. 28), has perhaps led to its inclusion in Nigeria's National Policy on Education. In the area of expansion, the Federal Government of Nigeria has included from birth to 3 years as opposed to from 3-5 years. As a result, ECCE programs for Nigerian children begins from birth until the child is 5 plus. To make it comprehensive, the government inaugurated the Integrated Early Childhood Care and Education project under the National Educational Research and Development Council NERDC early childhood Unit in 2002.

Since after the inauguration of the Integration of Early Childhood Development Approach (IECD) by the Federal Government of Nigeria, ECCE in Nigeria has changed from merely focusing on education of the Nigerian children from three to five years to a multi-sectoral approach thereby incorporating health, nutrition, care, stimulation, protection and participation of the Nigerian child from birth to five years (NERDC, 2004). Under this approach, the health, growth and development (mental, emotional, social, intellectual) of children are viewed as being mutually related. The IECD is aimed at using multi-disciplinary and cross-sectoral intervention methods in promoting good outcomes in early childhood programmes in Nigeria. It also provides support for families and caregivers who provide the primary care to young children aged 0 – 3 years, the age level which is now considered crucial to aiding a Nigerian child's subsequent physical, mental, emotional and social development. The most significant innovation of this approach is the fact that it agrees with UNESCO's view of 'learning beginning at birth'.

In order to achieve the outlined aims, the following has being listed by the NERDC as the intended strategies to be used in realizing the set out aims. They include:

> *Empowering household/caregivers to enable them provide appropriate care for children aged 0–3 years in their homes; establish community based centres for 0 – 3 year olds as well as community/school linked centres for 3–5 year olds; institutionalisation of appropriate training for professional caregivers to manage ECCDE centres; creation of a network of stakeholders for regulating and ensuring quality in different aspects of ECCE centres and organization of regular monitoring and evaluation exercise" (NERDC, 2004. p.4).*

Furthermore, minimum standards were also prescribed for the implementation of the IECD in Nigeria by the NERDC in the following areas: types of ECCE centres to be opened, location, ownership, requirements for starting a centre, actions that could lead to closure of a centre, nature of the classroom building, classroom environment, seating arrangement, infrastructure, instructional materials, daily programmes, human resources/personnel, basic qualification for teachers, among others.

As to the types of ECCE centres to be opened, three types were approved. They include day care/crèche for 0–2 year olds, pre-nursery/play group for children aged 3–4 years and nursery/kindergarten for children aged 3–5 years. These may exist together or independently, may also be home based, centre based or mobile. With regards to school location, it prescribed that such a school must be located in a place that is acceptable to the community (e.g. in peoples' homes, community buildings such as civic centres, churches, mosques and existing schools or purposeful built structures). It must be sited within walking distance from home, must be within a safe and secure environment free from chemical and other hazards as well as excessive noise. It is however, also prescribed for private, community or government ownership. Before one is allowed to establish a pre-school centre, the person will be mandated to familiarize him/herself with the requirements of establishing a quality ECCE centre from the relevant department. He/she must apply, must be screened by designated authority and must obtain a license to open. The closure of a centre according to the document will be based on persistent failure by the owner to meet with the core standards particularly those relating to issues on safety, of health and child abuse.

The prescribed minimum standard for school building states that the structures must not pose any danger to the children, must be roofed, and well illuminated to enable children to see clearly. With regard to the nature of the classroom to be used, information from the document shows that enough space with at least 16 square meters for 20 – 25 children should be provided. The design should be such that would allow for free movement, well ventilated with at least two doors. They prescribed that the sitting arrangements should not be rigid-like in a formal school setting, but flexible, and allow for play and easy interaction amongst children. They also recommended that corners for science, health and nutrition, drama, shopping, resting and reading, should be put in place.

Furthermore, with regard to infrastructure[5], the document prescribed for child-sized furniture to be provided (one seat per child and a round table per four children). Others include the provision of mats, locally made beds, mattresses covered with mackintosh and bed sheets for children to use when tired, blackboards (moveable or fixed), cupboards, shelves big enough to be used as storage facility for 25 children, teacher's table and chair, display table or shelf and a wall clock. Instructional materials must be put in place before a license is issued to the will be proprietor/proprietress.

With regard to human resources, the document emphasized that there should be one caregiver and a helper for every 20–25 children aged 0–3 years whereas a teacher and one helper should be provided for 30–35 children aged 3–5 years. The basic qualification requirement for caregivers who will be in charge of 0–3 year olds to be any one with basic literacy and aged not less than 21 years. It was indicated in the document that teachers of 3–5 year olds will be preferably holders of the National Certificate for Education (NCE), retired nurses, qualified teachers, other educated retirees or anyone with at least senior secondary school certificate and proficiency certificates, and not less than 21 years old. Classroom helpers should preferably have primary six or basic literacy certificate and aged not less than 21. The document also stated that the government at all levels of involvement should include that of licensing, assessment, supervision/monitoring to ensure quality control, training of suitably qualified personnel, provision of infrastructure, personnel, and gender-fair instructional materials for government/community owned centres.

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[5] The materials that must be provided as recommended by the Federal Government include: copies of government approved curriculum, a set of teacher's guides, time table, chalk and blackboard, slates, cardboards, exercise books for teachers' lesson notes, a radio per class, variety of charts and colourful posters, flash cards as many as possible to go round the pupils, a dozen of Lego building blocks per five children, five sets counters/abacus per class, a set of pencils, crayons, colouring paints, brushes and drawing books per child, pupils' reading and writing materials, musical instruments such as flutes, drums, whistles as well as other local musical instrument.

2.7.1 Measurable Progresses Made Towards Achieving EFA Goals

According to Olorunfunmi's (2000) report on EFA assessment, the Federal Government in co-operation with UNICEF and funded by the Bernard van Leer Foundation instituted a project on Early Childhood Care Development Education (ECCE) in ten states in the country. The project started in 1991. The project goals are to:

> *Afford children access to early childhood education through informal, low-cost, community-based childcare; Train Para-professional corps of pre-school workers, and ensure a system of on-going support for the relevant activity; Improve the mothers' knowledge of nutritional practices and their relation to the physical intellectual and social development of the child; Develop positive community attitudes towards children in terms of increased freedom based on the child's rights, needs and likes, as well as improved parent-child interaction and reinforcement of creative behaviour (p. 16).*

The output objectives of the project in ten UNICEF – assisted States for 1991 – 1995 country programme of co-operation were the following:

> *Set up 920 low-cost community basis ECCE centres; Provide early stimulation through non-formal learning opportunities to 92,000 children aged between 3 and 5 years; Support and promote health and nutrition services to 50,000 children aged under two years; Train 5,000 child care provide and 700 trainers and supervisors in improved ECCE techniques and practices; Orient 2,000 personnel from existing day care centres and 208 supervisors using ECCE curriculum (Olorunfunmi (2000); Oguntosin, 1998; p. 16).*

Since the beginning of the programme in 1991, and including 1996 activities, a total of 2,045 new facilities were established in the 10 states of the project, catering for a total of 174,748 children.

Also for the period 1997 – 2001, the FGN/UNICEF Co-operation Agreement in Basic Education has for ECCE the following objectives, which includes increasing accessibility of childcare and pre-school education for the majority of pre-school children in Nigeria. According to Olorunfunmi's (2000) report, in 1984 there were 414 government-registered nursery schools in Nigeria. This figure rose gradually from 900 schools by 1986 to over 12,000 by 1996. She notes that the expansion of pre-schools is

expected to be even greater with the projected population of 12.71 million pre-school children. Added to this, many private day-care centers and nursery schools are springing up as part of community participation in ECCE. Data from the UNICEF/EPIU project derived from the 1991 National Census and projected into the year 2000 (FME1993 cited in *Olorunfunmi, 2000*) show that there are about 22.7 million children in this sub-sector, only about 4.7% enrolled at any day care/nursery school or crèche. The overall objective of the FGN/UNICEF Co-operation Agreement is to improve the quality of pre-primary education and to increase access to it from the present level of 4.7% in 1992 to 25% by the year 2015.

Other objectives include:

> *Strengthen the role of parents and communities for the development and education of young children at home; cater for the crucial developmental needs of children in the pre-school phase; develop a system based on early child centres to address the wide-needs of women at community level in preparing them for motherhood, improving their child-rearing skills and their understanding of children's growth and developmental needs; promote through the growth of alternative early childhood services employment opportunities for young women, discourage the drift to the city; improve the present care education facilities and, developmental opportunity and needs of children below 6 years of age in disadvantage circumstances living in rural and urban poor areas; support Non-Governmental Organisations (NGOS) and Community Based Organisations (CBOs) to strength the role of parents and community for the development and education of parental education and other ECC initiatives; reinforce the development of creativity and thinking in children; improve the process of transmission of social and cultural skills, their enhancing the child's self image and creativity, among others (Olorunfunmi, 2000: p. 36).*

Further achievements as listed by Olorunfunmi (2000) include training of personnel: 578 trainers and supervisors, 6038 care givers, 30 NGO officials, 48 managers and 165 Para-teachers/instructors were all given training from 1991-1996; development of training materials. The project developed the following Early Child Care Curriculum Guidelines, a book on Child Health and Nutrition in Nigeria and Child Development; a module for training early childhood education teachers and care-givers (NERDC produced a simplified version); development of Pre-school Readers, including translation and

transcriptions of folklore, traditional songs, games etc and toy making. Apart from the development of a book on toy making, titled "Learn As You Play", instructions were given to parents elders and youth in the making of simple educational toys, as well as Widespread Advocacy and Mobilization undertaken at grass-root to enlighten the local community and to boost demand for pre-primary education.

However, the most recent EFA Global Monitoring Report (UNESCO, 2007) regarding countries meeting the number one goal shows that Nigeria is not even close to achieving this target. The EFA development index (EDI) score shows that Nigeria scored less than 40 percent in regard to child participation in ECCE. This is irrespective of the fact that studies in some developing countries in Africa like Kenya, Uganda and Tanzania have shown that there are correlations between child participation in ECCE programmes and primary school enrolment, school achievement, language skills development particularly for disadvantaged children (UNESCO, 2007: 2). The gross enrolment ratio for children aged 4-5 as at 2004 was 15 percent. Also a recent report from the Federal Ministry of Education (FME, 2003cited in UNESCO, 2007) baseline data according to the UNESCO's report, revealed that barely 20 percent of Nigerian children aged 3-5 years were attending some form of organised early childhood programme. This indicates that there has been very little change in pre-school provision for Nigerian children.

2.6 Conclusion.

All the aforementioned activities carried out by the Nigerian Government were designed to raise the standards and improve the quality of pre-school education and to meet the EFA's mandate with regard to expanding and improving the quality of ECCE provision by countries all over the world. What therefore needs to be researched into fully is to find out to what extent these institutions strive in meeting the developmental needs of the Nigerian children kept under their care especially during instruction. How far has the government gone to meeting the implementation of the minimum standard prescribed by its agency the NERDC. It has been shown that this agency has been

established to make sure that Nigerian pre-school education programs are of high quality to provide the needed all round development of Nigerian children who passed through the programs.

The next chapter will therefore look into issues pertaining to quality in the provision of preschool programs in Nigeria with regard to engaging qualified teachers, providing a rich and enabling environment, adequate and meaningful materials for instruction as well as making sure that the teaching method prescribed by the government is adhered to. Views shared by individuals as well as cooperative bodies around the world and within Nigeria concerning this were reviewed.

Chapter 3

Preschool Quality and Its Effects on Teacher-Child Interaction

3.1 Introduction.

The previous chapters focused on global views on why governments should invest in early childhood education, objectives of early childhood education programmes, Education For All Global Monitoring Reports (UNESCO 2000, 2002, 2006, 2007) on how countries have fared on ECCE with regard to achieving the EFA number one goal, as well as pre-school education in Nigeria in the area of policy and practice. As was discussed in chapter two, in the last twenty years, Nigeria has undergone considerable shifts in the perception, role and scope of pre-school education programmes as revealed in the changes made in the Nigerian National Policy on Education from 1977 to 2004. These changes led to an increase in the provision of pre-school facilities by the Federal Government of Nigeria with the help of donor agencies, individuals and community participation. However, it has been argued by King (2004) that provision of educational opportunities in relation to quantity is not enough. What most world educational bodies and individuals clamour for these days is quality education.

Providing quality pre-school education has also being viewed by organizations and world educational bodies as a very important measure to making sure that pre-school educational programmes actually lay solid foundations for the future learning and well being of those who were exposed to them (UNESCO, 2005; Bruce, 1997; Obanya, 2004; NERDC, 2002; NAEYC, 1997; Briefs, 1997; Myers, 1993). Some factors have been identified as quality indicators that could be used as yard sticks for measuring quality in pre-school education programmes. Such key quality indicators include: quality of stimulation given to children during their early years in pre-school settings through teacher-child interaction patterns; language of instruction; instructional approaches;

teacher qualifications; class-sizes; school location and type of school (Bowman, Donovan and Burns, 2001; UNESC, 2005; Myers, 1993; National Association for the Education of Young Children, 1997; Federal Republic of Nigeria, FRN, 2004). These quality indicators have been identified as contributing factors to differences that tend to occur among different early childhood education programmes in the achievement of educational objectives set out for this level of education by different countries. What needs to be looked into therefore is how much quality is being emphasized in established pre-school programmes in Nigeria.

This chapter will therefore review literature on these quality indicators, effects they have on teacher-child interaction in pre-school settings as well as how Nigeria has fared as far as providing quality pre-school education programmes using the EFA framework for Action (UNESCO, 2000) criteria, UNICEF Approach to quality (UNICEF 2000), and views from individual educators. It will become apparent that there may be a difference between documented quality indicators and reality of pre-school education. The research questions which the overall thesis is set to provide answers to will also be presented.

3.2 Preschool Quality Indicators: views of individuals/organizations

Quality, according to its dictionary definition has to do with "degree of excellence" or striving for highest standards" in the provision of a programme or service Longman English Dictionary of culture, 1992). The Global Guidelines for Early Childhood Education and Care (Association for Childhood Education International, 2002) listed the following criteria as the yardstick for measuring quality in pre-school settings. Such factors include:

> *Developmentally stimulating environment that provides opportunities for frequent positive child-child and child-adult interactions; stimulates children to play, explore, and discover the environment; aesthetically pleasing and attractive to the child; has abundant materials that promote problem solving, critical thinking, and creativity for children with different talents and abilities; contains opportunities for the extension of play; has resources from the child's local environment for the child to use, including readily*

> *available natural materials that are displayed and readily accessible to the child; and contains materials for the children to construct their own play, pedagogy methods in which early childhood educators must develop teaching and caring relationship with children, posses a basic understanding of pedagogical principles that provide guidelines for practice, and have expansive repertoire of methods upon which they can draw to recognize the children's own learning strategies and support the learning of every child; and provision of learning materials that are adequate and appropriate to the children's special needs as well as to maintain the integrity of their own culture, such as art, music, rhymes, dance, drama, among others (p. 2).*

In addition, EFA Global Monitoring Report (UNESCO, 2005) also considers the following when measuring quality in early childhood education programs: "quality inputs – percentage of trained teachers; group size; child-staff ratio and teaching-learning materials; process quality - covering all aspect of teaching methods used, (p. 11). The document also stressed that achievement of universal participation in education will be fundamentally dependent upon the quality of education available. For example, how well pupils are taught and how much they learn, can have a crucial impact on how long they stay in school and how regularly they attend. Furthermore, they noted that whether parents send their children to school at all is likely to depend on the judgments they make about the quality of teaching and learning provided and upon whether attending school is worth the time and cost for their children and for themselves. On the other hand, UNICEF's (2000) approach to quality is categorized under five dimensions: the learners, the environment, the context, the process and outcomes, founded on the rights of the whole child and all children, to survival, protection, development and participation.

At the individual level, Obanya (2004), a Nigerian scholar, sees quality education as comprising employing qualified and competent teachers into the system, appropriate provision and use of teaching aids and the pedagogical methods employed by the teachers that bring about the best in the learners. Pigozzi (2004) a UNESCO official, sees quality education as one that:

> *Seeks out learners and assists them to learn using a wide range of modalities, recognizing that learning is linked to the learner's experience,*

> *language and cultural practices, gifts, traits, the external environment, and interest; welcomes the learner and can adapt to meet learning needs; understands the past, is relevant to the present, and has a view to the future; relates to knowledge building and skilful application of all forms knowledge by unique individuals that function both independently and in relation to others; reflects the dynamic nature of culture and languages, the value of the individual in relation to the larger context, and the importance of living in a way that promotes equality in the present and fosters a suitable future. (p. 67).*

She further emphasized that within the learning experience there are several components that affect quality: what the learner brings to his or her learning and to that of a group; the educational content the learner is exposed to; the process of educating the learner, the learning environment, the teachers, planning, management, among others. Villalo'n, Suzuki, Herrera and Mathiesen, 2002) view quality early childhood educational practices in relation to structural characteristics of the environment within which the school is located. These include:

> *Facilities and human resources, characteristics of the educational and care processes in which caregivers and children are involved everyday and educational beliefs, attitudes from caregivers at the centres which occurred as a result of education and care received (p.53).*

Research conducted on the effects of quality pre-school educational programmes on the learning and developmental outcomes of children who were exposed to it prior to normal schooling, using some of the aforementioned quality indicators revealed favourable results. For instance, in a study of Swedish children, Brogberg, Wessels, Lamb and Hwang (1997) found that child-care quality prior to school entry related positively to children's math abilities at 8 years of age whereas verbal ability at age 8 related positively to the amount of centre-based child care received before age $3_{1/2}$. Piesner-Feinberg et al (2001) conducted a longitudinal study in the US on long term effects of child-care quality on children's languages, cognitive and social skills through early elementary school on children aged 4 through 8. The study results revealed that the quality of child-care practices was a significant predictor of children's language ability and better math skills.

The National Institute of Child Health and Human Development Early Child Care Research Network (NICHD, 2000; 2002) in the US conducted a large-scale study on effects of quantity/quality childcare provisions on cognitive and language development of children. The results indicated that quality of childcare provision was a reasonably consistent predictor of children's cognitive and language performance. Follow-up data obtained on children who passed through pre-school programs after intervention ended showed the positive effects of pre-school treatment on intellectual development and academic achievement were maintained through age 12. Other studies of quality early intervention programs for low income children in the US have found some long-term positive effects on children's cognitive development and academic achievement at least through the third or fourth grade and sometimes longer. This is especially the case for indicators of school success such as retention in grade, special education placement, and intellectual functioning (Burchinal, Campbell, Bryant, Wasik, Ramey, 1997; Campbell and Ramey, 1994).

Furthermore, recently, in the U.K, Sylva, Siraj-Blatchford, Taggart, Sammons, Melhuish, Elliot and Totsika (2006) conducted a large-scale study, which explored the relationship between process quality characteristics in 141 English pre-school centres and the progress made by 2857 children between the ages of 3-5 years. Centre quality in these schools was assessed using two structured instruments with items that addressed interaction between caregivers and children, developmental appropriateness of activities and facilities, among others. Using multi-level statistical analyses, the study results revealed that quality of centre-based provision is a significant predictor of children's development at entry to formal schooling, children's cognitive/linguistic progress as well as social development.

Unfortunately, irrespective of the importance attached to this level of education in Nigeria, and its inclusion in educational policy from 1977, (see previous chapter), the governments of Nigeria play no major role in the provision of early childhood education programmes. Instead, the Nigerian government opted to only encourage private efforts in the provision of such educational programmes. It was only recently that the Nigerian government with the help of some donor agencies joined in the provision of these

services to enable the majority of Nigerian children in this age bracket to have access to any form of pre-school education. It was then believed that the non-involvement of the government gave rise to "superior" programmes and the "inferior" ones[6] as well as the unregistered types of pre-school provision in the country and many operating without being inspected (Federal Government of Nigeria/ UNICEF, 2001; Information from the Education officer at the Ministry of Education 2005, Abidoye 1998; Tooley, 2005). This is irrespective of the fact that the Federal Government of Nigeria has indicated in the National Education Policy (FRN, 1977 revised 2004) that it will play a major role towards controlling the quality of such institutions.

With the inclusion of this level of education in all the existing public primary school Universal Basic Education, (UBE, 2000) the issue of access appears not to be a topical problem. However, what appears to be a topical and pressing problem in Nigerian pre-schools (both private and public) is, according to Obanya (2004):

> *The educationally unacceptable environments within which these schools are situated, pedagogic and financial exploitation of parents through the rapid spread of early education programmes, which are of doubtful quality (p. 4).*

There have been very few studies, particularly in the recent years, on the characteristics and quality of the care provided to young children in pre-school settings and the impact of the programs on physical, cognitive, social and emotional development of Nigerian children. A few research studies carried out in Nigeria using some basic quality indicators in the provision of pre-school education programmes in the country revealed inconsistent progress in the development of these institutions for the Nigerian child in the past three decades (Abidoye, 1998; Onuka, 2004; Oduolowu, 2004). This, the research attributed to lack of funds. There are also indications that quality control, which is supposed to be carried out by both the Federal and State Ministries of Education officials, through their various inspectorates and expected to monitor compliance with the established regulations, is rarely practised and, in many parts of the country, is non-existent (FGN/UNICEF/UNESCO, 1993, Oduolowu, 2004).

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[6] For full information on inferior and superior types refer to chapter 2 page 48.

These findings may not be in favour of the Nigerian government's approach to pre-school education while trying to achieve the objectives for this level of education and neither will it augur well in the all round development of Nigerian pre-schoolers. This is because the upbringing of most Nigerian children relies increasingly on the out of home providers of early education and care. There is, therefore a need to ensure that the services provided are actually of high enough quality. Thus, promoting quality in early education should conform to the general guiding principles that care of young children is geared towards - facilitating their all round development in ways that would inculcate in them the urge and disposition to learn in school and other settings (Katz, 1993).

Having given a general overview on what quality a pre-school programme entails, as well as the effects it could have in children learning outcomes, the rest of this chapter will discuss identified quality indicators especially those which the present study set out to explore. Discussions will be under the following headings: pre-school classroom environment as quality indicator, material provision, teacher qualification, pre-school class-size, pre-school classroom context, pre-school teacher-child interaction, instructional delivery approaches, medium of instruction.

3.2.1 Pre-school Learning Environment (indoor): as a Quality Indicator

The learning environment in this study is viewed as the internal conditions of the classroom, which encompasses the amount of space provided, the level of conduciveness of the classroom areas provided, adult-child relationship and the child friendly nature of the classroom setting. According to Okebukola (2000, cited in Oduolowu, 2004), a child friendly school environment is "a place where the learning environment is conducive, the staff are friendly and the health and safety needs of children are adequately met" (p. 22). Sylva, Melhuish, Sammons, Siraj-Blatchford, (1999 cited in Villalon, Suzuki, Herrera and Mathiesen, 2002) defined school environment to include "pedagogical resources and strategies and social interactions between children as well as between adults and children" (p. 53). Bruce (1997) also sees the pre-school environment as the

mechanism through which the pre-school teachers bring the child and different aspects of knowledge together. She stressed that:

> *The environment in which children develop and learn involves people with whom the children interact, the objects or materials they encounter, the places and events experienced, the way the children are helped to develop skills in using the provision, develop competencies and mastery, disposition and attitudes that aid learning (p. 59).*

The National Association for the Education of Young Children (NAEYC 1998), a USA based organization, provides accreditation criteria for the Physical Environment Standard. It sees an appropriate environment for pre-schoolers as one that provides an appropriate and well-maintained indoor and outdoor physical environment. It is suggested that there should be a minimum of 35 square meters of indoor space for each child in the pre-school classroom environment. In addition, indoor equipment materials and furnishing should be made available and in enough quantity for the children and their teachers. The materials, equipment and furnishings should include hand-washing sinks, chairs with a back and seating height that allows the child to sit with his or her feet on the ground; tables at a height that allows a child to sit comfortably, at least one mat or cot for each child who spends more than four hours a day in the program (no child should be allowed to sleep on the floor without using rest equipment), individual space provided for each child's belongings, dramatic play equipment, toys, computers, teaching aids (e.g. alphabet blocks in different colours). They argue that these materials, if well provided, would influence the classroom design, have an impact on the overall planning of physical space and on children's learning.

In the same light, the Global Guidelines for Early Childhood (Association for Childhood Education International, 2002) stipulates that a developmentally stimulating environment for pre-schoolers is one, which has the following features:

> *Aesthetically pleasing and attractive to the child, provides a variety of colours, textures, visual, dimensions, abundance of materials that promote problem solving, critical thinking and creativity for children with different talents and abilities, should have resource from the child's local environment for the child to use, including readily available natural materials, among others (p. 2).*

They also advised that care should be taken to ensure that the resources provided reflect the cultural experiences and traditions of the children and their families. To them, the preschool classroom environment should be organized in such a way as to empower the child to learn on his or her own at any given time by providing opportunities for exploration, play and practicing life skills.

In Nigeria, the government in its prescribed minimum standard recommends that the pre-school environment should be located in a place that is acceptable to the community, within walking distance from home, safe and secure and free from excessive noise. Nevertheless, research findings on the nature of classroom learning environments of Nigerian pre-schools settings leave much to be desired. A Situation and Policy Analysis of Basic Education, published by FGN/UNICEF/UNESCO (1993) revealed major deficiencies in the quantity and quality of many pre-primary school facilities provided. The study also revealed that: 87% of pre-primary classrooms were over crowded; there are too few classrooms in existence and the existing ones were in dilapidated state, needing refurbishing and rebuilding; many of the pre-schools are being operated in unsuitable buildings like rented flats, designed for residential purposes with minimal storage spaces and inadequate provision of furniture. In addition, the results indicated that although the government has provided guidelines for the establishment, organization and management of pre-schools, only about 15 per cent of the institutions sampled in Nigeria applied these guidelines.

Abidoye (1998), in her study of the quality and quantity of pre-school provision in Nigeria also found that 68.18 per cent of the schools sampled operated in non-purposeful structures not constructed to function as schools but originally designed for residential purposes. According to her findings, some of the buildings where the schools are situated were also used for trading, residential, and religious purposes. The study of Onuka (2004) on the investment implications of creating a friendly environment for the Nigerian child also found that none of the private pre-schools used for the study met the required investment level to provide the widely praised standard environment for the

pre-school education in Nigeria. In fact, Igwe (1998) casts a rather disheartening picture of pre-primary schools in Lagos State of Nigeria thus:

> *Mere exploitive and unpleasant environments where children were gradually led to their intellectual deaths as such an early age.... The fees charged were high while the quality of service given in return is nothing to write home about. Some of them admitted over 60 children in substandard classrooms under teachers who have poor educational qualifications. These were usually dropouts from secondary schools with little or no knowledge of the subject they teach. Except in a few cases specialists were rare adults used (p. 25).*

A critical look at the findings of Nigerian researchers on the state of the preschool learning environment in Nigeria shows that pre-school provision appears to be what Obanya, (2004) called "caricaturizing[2]" of the programme. It therefore appears to look like a mere slogan than a reality. This is irrespective of the advantages associated with providing pre-schoolers with quality classroom-learning environment especially one with adequate materials provision materials to maintain learners interest (Varol and Farran, 2006; Bennett, Elliot, and Peters (2005). Quality of pre-school classroom-learning environment and provision of adequate teaching aids have been associated with encouraging teacher-pupil interaction and creating better atmospheres for effective learning (Bruce, 1997; Montessori, 1912).

3.2.2 Material Provision/Utilization as Quality Indicator

Many early childhood researchers and educators believe that material provision at this level of education should be central to the early years environment (Bruce, 1997; Montessori, 1912; Gura, 1996). They argue that it gives pre-school children first-hand experiences. However, they emphasized that it needs to be wide ranging, both indoor and outdoor with natural and manufactured objects. The National Association for the Education of Young Children confirmed the importance of direct first-hand interactive experience in their position statement on developmentally appropriate practices in early childhood programmes (Helm and Gronlund, 2000). At the individual level, early

[2] To make a ridicule or unsuccessful version of the programme

childhood educators, such as Montessori (1912), see material provision in the pre-schoolers' classroom as very important. She also advocated that the materials used for children at this level must be beautiful, colourful and purposeful. To her the classroom environment (which includes materials and equipment) must be carefully organised so that children could easily and effectively use them. She advocated the use of:

> *Didactic materials, provision of child-sized furniture so that children can easily carry them about, provision of attractive pictures, carefully chosen and representing simple scenes in which children would be naturally interested (p.82).*

The role of the teacher, according to Montessori (1912), is to understand the educational values of all the materials provided for use in the classroom and to become sensitive to the right time to use them to present work tasks to learners. Katz (1989) had also viewed material provision thus:

> *The central aim is to give children direct experiences, to allow their initiatives and extend them, to support intrinsic motivation broadly and in depth, and to facilitate the development of dispositions and attitudes which are helpful to learning (cited in Bruce, 1997: p. 59).*

According to Piaget (Henniger 2005) children of the early childhood years from approximately 2 to 7 years of age engage in pre-operational thinking. During this stage, Piaget noted that children learn more through the use of symbols than in abstraction. He also stressed that "hands-on manipulation of materials and real objects provide children at this stage with much information to assimilate and accommodate" (p. 95). Brunner (Henniger 2005) also emphasized the importance of what he calls "discovery learning" during which children learn through active physical manipulation of materials around them. To Brunner, during the early childhood period, children are in " the iconic stage" during which they combine sensory interactions with concrete images to make more sense of the world (p.96).

In the United Kingdom, the Office for Standards in Education (Ofsted 1998) utilize inspectors for monitoring and inspection of the quality learning experiences which children receive in nursery school settings. These inspectors usually comment on the learning resources and accommodation available in the educational setting. They

also consider how well the resources are being used. A typical nursery classroom setting for children aged four and below in the U.K, is divided into different areas to provide opportunity for the following activities painting, model making, drawing, writing, water play, wood work. Occasionally, it may be possible for these activities to take place at the same time (Anderson, Adlam, Coltman, Daniels and Linklater, (2003). They emphasized that the resources provided in these areas are usually kept in low-level storage furniture so as to allow children to choose items they need independently, stored in containers, labelled with pictures and words, so that children can tell what is inside and easily return them after use. They indicated that they try as much as possible to make sure that the selection of the equipment available in an area is changed weekly to "give the children varied experience in each area and to provide for progression in that area" (p. 31). The implication for this type of arrangement is that children can learn at their pace. They can also extend their learning with or without the teachers' help since the materials are always available and within their reach.

Adequate materials provision in the classroom may have significant effects on students' behavioural development (Varol and Farran, 2006). Bennett, Elliot, and Peters (2005) analyzed the characteristics of Kindergarten classrooms and its effects on students' behavioural development and found that the adequacy of classroom resources may improve children's social and behavioural health. Pioneers of early childhood education, including Montessori, Pestalozzi, Froebel, Owen and Dewey, believed that mathematics should be introduced to young children through objects (Wolfe, 2002). Present day pre-school practitioners also agreed that effective mathematics instruction in early years should incorporate use of concrete materials (Bruce, 1997; Varol and Farran, 2006;) They are of the opinion that its use makes learning an engaging and fun activity. Russell (2000) also believed that they enable learners to develop an imaginary picture of numerals in their minds, which leads pupils to increase computational dexterity in the future.

In the area of material provision and use in pre-school settings in Nigeria, research findings indicate that there is paucity of teaching-learning materials. For instance, Abidoye, (1998); Agusiobo, (1998); Ndukwu, (2002) findings revealed

inadequate provision of resources and their utilization in pre-primary classrooms in Nigeria. Abidoye's (1998) findings revealed that, although many school administrators and the class teachers whose classes were observed, indicated in their questionnaires that their classrooms were divided into learning areas with enough materials provided, the information from the observation records showed the opposite. Very few schools were seen to have learning corners in the classrooms. Her results also showed that some of the respondents were unaware of the meaning and significance of learning corners. In some schools, she found that the materials meant for learning areas were seen displayed in the offices of the school administrators. Furthermore, a survey conducted in 10 UNICEF-assisted states[7] in Nigeria revealed that only 30 per cent of young children had access to books of any sort, either written in Nigerian language or in English language (Federal Government of Nigeria, FGN/UNICEF, 2001). Agusiobo's study (2000) also revealed that supplementary readers, primers, teachers' instructional manuals, modules, teaching aids and instructional materials are few and expensive, the educational materials used at this level are not standardized, making assessment difficult and unreliable.

In spite of the fact that the National Council on Education (NCE) has approved a curriculum for nursery schools and guidelines for its application, many of the institutions do not have copies, whereas those who have them could not articulate the curriculum very well because they are not adequately trained in its use (Agusiobo, 2000). It however, shows the importance of employing teachers who are trained in pre-school education related courses for effectively functioning in pre-school classrooms.

3.2.3 Teacher Qualification as Quality Indicator

The Longman dictionary of English Language and Culture (1992) defines qualification as an ability, quality or record of experience that makes a person suitable for a particular job or position. One could be qualified to take up a job if the person has suitable knowledge or qualification for the said job. Shulman (1986) described a

[7] The 10 state assisted by UNICEF were Adamawa, Bauchi, Benue, Cross River, Kaduna, Niger, Ondo, Osun, Oyo and Taraba)

qualified teacher with quality characteristics as one who has the knowledge of the subject matter, knowledge of pedagogy and knowledge of pedagogical content. For Schulman, knowledge of pedagogy and pedagogical content is associated with a teacher's capacity to support children's learning. This includes getting the children involved by providing them with the opportunities to work with concrete objects, allowing the children to make choices, explore things and ideas, experiment and discover things themselves. Hallak (1990) stressed that the quality of any educational system depends on the quality of teachers. In the same light, Ajayi (1989) in his book observed that teacher education is the key to any educational development for without adequately trained teachers, no country can hope to expand the children's intellectual capabilities.

The Independent Education Union of Australia (1997) shares the view that neither years of teachers' experiences with children nor their general level of education are related to the outcomes for children in care. What they regarded as a significant variable which could influence the quality of care provided in pre-school programmes is the level of related training undertaken by the staff. As a result, they advised that early childhood programmes be staffed with adults who are familiar with issues relating to child development and are able to recognize and provide solutions to children's need, plan developmentally appropriate programmes and can completely manage groups of children. In Scotland (Scottish Executive, 2000), the Scottish Office in 1999 sought the opinion of many stakeholders by issuing a consultation paper entitled Regulation of Early Education and Childcare with evaluative items to which responses were sought. The opinions shared by the respondents were used for the regulation of childcare activities in Scotland. The opinions shared suggested that qualified teacher involvement in pre-school education is a crucial component of pre-school quality, and that pre-school providers should ensure that they employ suitably qualified teams of staff, with the required skills.

The analysis of teacher qualification has become a central measure by which educators understand the process of teaching, evaluate teacher competence, measure teacher quality, and bring about fundamental changes in teaching methods (Early, et al

2006; Pianta, et al 2005; Clark-Stewart, et al 2002; Cost, Quality and Outcome Study team, 1995). Pianta, et al (2005) conducted a study in the US, which aimed at explaining the causes of variation in classroom quality using classroom and teacher characteristics. His findings revealed that teachers' education/credentials[8] were significant predictors of classroom quality. A further analysis of the results revealed that teachers with the highest level of education/credentials tended to have higher quality practices than those with lower levels.

A follow-up study of this result was conducted by Early, et al (2006) focusing mainly on teachers' education, major and credentials combined with other identified classroom quality variables (staff-child interaction, using language to develop reasoning skills, interaction among children, and discipline) all regarded as predictors of academic gains. The study revealed that children placed in classes with teachers who have a bachelor's degree gained significantly in mathematics skills, whereas those in the class of teachers with an associate certificate tended to gain basic skills (ability to rhyme, and to name letters, numbers, and colours as well as literacy related skill. Howes (1997), also found higher quality in classrooms with teachers who have bachelor's degree and specialized training in early childhood than in classrooms where the teachers are less qualified. Kontos & Wilcox-Herzog (2002) revealed that a similar relationship exists between interactions and level of training of teachers in childcare centres. In the same light, a follow-up analysis of the U.S.A national day care staffing data conducted by Howes, Whitebook and Philips (1992) indicated that specialized education at college level was important for teachers' competent interactions with infants and toddlers.

Hooks, Scott-little, Marshall and Brown, (2006) study of the South Carolina new initiative to improve the quality of pre-kindergarten and kindergarten classrooms revealed that professional preparation that provides a solid understanding of what and how to teach is essential for teachers to improve and provide quality teaching-learning activities in pre-school classrooms. In addition, the study showed that teachers with

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[8] They measured education credentials at three levels - Bachelor degree or higher early childhood teaching credentials, Associate degree in early childhood and no formal education in early childhood), and teaching experience.

degrees and specialized training do provide higher quality early education experiences for children. These results conform to Abimbade's (1999) findings on Principles and Practice of Educational Technology in Nigeria, which showed that when teachers are well trained, they tend to have better knowledge for improvising and use of teaching aids/materials. It has also been observed that well trained teachers are more likely to maximize the utilization of resources as good teaching depends to some extent on the use of material resources (Udoh, 1999). The findings of Ndukwu (2002) also corroborate the view that the quality of a teacher could significantly influence pupils' intellectual development considering that trained and better-qualified teachers tend to utilize resources more effectively than the untrained ones.

A survey of the available literature indicates that teachers and educators seem to require training in science (knowledge and understanding of the world), mathematics, and IT in particular (David, 1996); questioning techniques (to engage children in debating why and how things happen) practical problem solving and number operation (for example using symbols); associating sounds with patterns and rhymes with syllables, and with words and letters (Ofsted 1998a). Teachers of young children who were exposed to child development courses during training could identify learners under their care who exhibit expressive and receptive language problems through observing the social interactions of learners during instruction. Barnes (1992) has shown that teachers can alleviate children's expressive language problems as they support their opinions, help them to generate solutions for problems, and encourage their use of exploratory talk. This view was also shared by Howard, Shaughnessy, et al (1998), who asserted that trained pre-school teachers could assist their learners with receptive language problems by using gestures or giving visual or tactile cues along with verbal instructions.

These research findings have prompted most countries of the world, (e.g. those from the U.S, Australia and Scotland) which have recorded some success in their early childhood care and education provisions to be very particular about the type of staff employed to work with children in their early years. In these countries, minimum standards are set for staff working with children within these age brackets in terms of

levels of schooling, specialized education and experience required to qualify one for such classroom positions as pre-school teacher, pre-school teacher assistant, nursery nurse, or head teacher. Qualification requirements serve as a means of ensuring that the aims and objectives of clamouring for this level of education are achieved. As a result, the use of appropriate qualification appears to be the ideal means of working towards achieving those goals. In Nigeria however, the basic qualification prescribed by the government for one to qualify to work with pre-school children is:

> *Anyone who with basic literacy and aged not less than 21 could be employed as a caregiver for children aged 0 – 3 years whereas for children aged 3 – 5 years old, holders of National Certificate of Education (NCE – a certificate acquired after completing senior secondary education plus two years in teacher training college), retired nurse, teachers, other educated retirees or anyone with at least senior secondary school certificate and proficiency certificate, and not less than 21 years; while nursery helpers could be employed on the basis of age (not less than 21 years) and preferably one with a primary six/basic literacy certificate (Nigerian National Education Research Development Council,NERDC 2004: 11).*

However, it may be the case that the curriculum content of teacher education at the NCE level does not cover aspects of child development in detail. Teachers who would be employed to work with young children are likely not to be exposed to courses through which they would have acquired the necessary skills and the needed information on how to work with children. The Nigerian government policy makers may justify such minimal qualifications for adults who could work with children from 0–3 years on the premise that pre-school programmes for children at this age level are basically for custody and care, but how do they justify this for those who are between 3–5 years who are there for care, custody and in preparation for the formal schooling. Research findings (Odulowo, 2004; Ndukwu, 2002; Abidoye, 1998) on the type of teachers who teach in the pre-school setting, revealed that most of the schools employed unqualified teachers. It was expected that the volumes of research findings on teacher training and the all round development of children and the importance of quality ECE programmes would have influenced the decision on the policy makers on the level of training teachers to be employed to teach children at this level. In Nigeria, there are pre-school education departments in virtually all the faculties of education in more than a hundred universities

as well as colleges of education. Thousands of prospective students are admitted to specialize in pre-primary education. These students leave university after four years. The turnover is encouraging. The government should therefore include this level of qualification in the prescribed standards. Even when research has shown that the number of courses in child development attended by teachers is significantly more likely to account for higher quality interaction between teachers and young children than number of years that the centre providers have worked in child care (Honig and Hirallal, 1998).

3.2.4 Class Size as Quality Indicator

One of the reasons why the National Association for the Education of Young Children in the US recommends the regulation of adult-child ratio is the assumption that teachers with too many children are unable to have sensitive, responsive interaction with the children in their care (NAEYC, 1998). On logical grounds, Blatchford, Moriarty, Edmonds and Martin (2002) argue that it's likely that the greater the number of children in class, the more time teachers will spend on procedural and domestic matters such as taking the registers, lining children up and putting on coats, and dealing with domestic matters such as toileting, accidents, and conversely the less time teachers will spend on instruction and interacting with individual children. They also argued that teachers could be more sensitive and responsive in their interactions with children when there are fewer children per adult.

In addition, the Student-Teacher Achievement Ratio (STAR) project, conducted in Tennessee (U.S.A) on the relationship between class size and academic attainment of children from kindergarten 1 through k-3 provides evidence that smaller classes (between 13-17 and large classes 22-26) in kindergarten and early grades lead to pupils' higher academic achievement, and that these effects are greater for students who have experienced more years in small classes (Nye, Hedges, & Konstantoloulos, 2000). The practising teachers interviewed believed that large class sizes affect teaching and learning and are particularly aware that larger classes could have an adverse effect on the amount of teacher attention on individual children. Hall and Nuttal (2000) carried

out an exploratory study on class size and pedagogy in England with major focus on how infant teachers of large and small class might respond to class size changes. The study results revealed that infant teachers, regardless of size of class, strive to implement a particular type of pedagogy – one that values differentiation, individual contact, small group work, and that size of class influences the degree to which they are able to operate between their pedagogical philosophy and their practice. The implication of this, based on teacher perceptions is that the number of pupils in a class could affect the quality, the kind of teaching methods used and the extent to which the teachers could bring in what they felt is the best practice for helping the pre-school learn.

In the same light, the research findings in Nigeria ofNdukwu (2002) has shown that the greater the number of children of the same age in the same classroom environment, the greater they draw on teachers' attention and resources, thus making it more difficult for the teacher to provide appropriate nurture and interaction needed by the respective children. Howes, Phillips, and Whitebook (1992) also found that ratios in child care centres directly and indirectly influenced the types of interactions the teachers had with children. Blatchford, Moriarty, Edmonds and Martin (2002) study results on the relationship between class size and teaching in English Infant schools revealed that there was consistent evidence that small classes children were more likely to interact with their teachers, more on one-to-one teaching basis, children were more often the focus of a teacher's attention, and children more often attended to their teachers and became actively involved in interactions with them (i.e., children responding or initiating activities rather than just attending). The result also showed that, individual children in small classes received more interactions with their teachers on task-related activities, as well as of interactions of a social nature, indicating that the interactions were more personalized.

The result from the qualitative version suggested that class size affected the amount of individual attention, the immediacy and responsiveness of teachers to children, the sustained and purposeful nature of interaction between teachers and children, the depth of a teacher's knowledge of children in their classes, and sensitivity to individual children's particular needs. This is an important finding and one that may

be of importance to other researchers in this area. In the Netherlands, De Schipper, Riksen-Walraven and Geurts (2006) carried out an experimental study on the effects of child-caregiver ratio on the quality of child-caregiver interaction in 64 centres. The result indicated that a decrease in child-caregiver ratio from 5:1 to 3:1 with the same caregiver produced significant improvement in the quality of caregiver-child interaction, and that children themselves were found to cooperate significantly better with the caregiver in groups of three as opposed to five.

These research findings on the effects of adult-child ratio on pre-school teachers' ability to maintaining the required adult-child interactions in pre-school classrooms, may have, influenced researchers and educators as well as the governments of some countries, to recommend e.g. USA, 1: 8 for children between the ages of 3 to 5, (Kontos and Wilcox-Herzog, 1997); 1: 10 for children 3 to 7 in Scotland (The Scottish Executive, 2000) 1: 8 in pre-school settings in Nigeria ((Maduewesi, 1999). The Federal Government of Nigeria prescribed that in the "pre-primary schools, there shall not be more than 25 pupils to a teacher" (FRN, 2004). However, research has shown that class size ratios obtained in pre-school settings in Nigeria is so different from that prescribed by the government. Information on the teacher-pupil ratios in Nigerian pre-school settings showed that it ranges from 1:30. (Ndukwu, 2002); and 1 : 48 (Abidoye, 1998). These findings signify that the class size issue should be taken into consideration by organizers of pre-primary education programmes (public and private) because children at this stage need a lot of love and attention from those who take care of them. The ultimate aim should be to tailor such programmes towards meeting the needs of children, rather than expecting children to adjust to the demands of a specific programme (NAEYC, 1986). The effect of class-size on the interaction pattern of pre-school teachers and the children during instructional activities is also one of the important variables, which this thesis aims at investigating with regard to Nigerian pre-school instructional behaviours. A clearer insight would help in providing suggestions and recommendations to the policy makers for better practice. Nevertheless, some factors have been identified as being instrumental to large class. Fundamental among them is

where the school is located (Elley, 1994; Reeves, 2003; Oyebade, 1999).

3.2.5 School Location as Quality Indicator

The location of a school whether urban/rural would most likely make the school acquire different characteristics simply due to the variation among caregivers and the kind of intellectual developmental opportunities offered in the different environment. Rural schools in the US according to Reeves (2003) tend to be smaller, geographically isolated, alternatively staffed and have fewer material resources allocated to them (Roelke, 2003). A typical rural setting in Nigeria is characterized by the following: fewer schools at all levels (pre-primary, primary as well as secondary), no tarred roads, lack of electricity supply, lack of community/school libraries, no pipe borne water, no bill boards, no parks, low per capital income, adult population who are mainly illiterates. The reverse is usually the case in urban locations.

Elley (1994) in the International Association for the Evaluation of Educational Achievement (IEA) study conducted in 32 countries[9] had also identified the effects of school location on resource provision for effective teaching and learning. According to him, schools sited in cities typically have better resources and better qualified teachers. This is because highly qualified teachers prefer to live in cities where more materials are usually available to students. Such advantages enjoyed by urban dwellers, may have typically influenced their higher achievement. In the reading literacy study conducted by International Association for Evaluation of Educational Achievement (IEA) children in cities were found to be more proficient than the children from small villages.

In terms of the number of schools, Elley's (1994) and Oyebade's (1999) study of in Nigeria found fewer nursery schools in rural locations than in the urban. This situation attributed to the economic conditions of rural dwellers, which may not have predisposed them to sending their children to nursery schools even when they exist in their locations.

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[9] Participating Countries: Belgium (French), Botswana, Canada (British Columbia), Cyprus, Denmark, Finland, France, Germany (FRG), Germany (GDR), Greece, Hong Kong, Hungary, Iceland, Indonesia, Ireland, Italy, Netherlands, New Zealand, Nigeria, Norway, Philippines, Portugal, Singapore, Slovenia, Spain, Sweden, Switzerland, Thailand, Trinidad & Tobago, United States, Venezuela, Zimbabwe.

In addition, schools situated in the rural areas are likely to have smaller population, which will in turn affect their income. Thus, less intellectual stimulating teaching-learning materials are likely to be provided by the owners of such schools, which will, in-turn, most likely affect the instructional approaches used by teachers in such locations. It will be an aim of this thesis to explore if this views holds for pre-school in Nigeria.

3.2.6 Instructional delivery methods as quality indicators

To teach means to cause someone to know especially by showing, instructing through the use of rules, examples or experience. It could also mean to impart knowledge or guide someone through the studies of something. The methods to be used to ensure that knowledge is being imparted could depend to a reasonable extent on the age of the learner. Advocates of early childhood education tend to suggest that during the pre-school years children learn through diverse ways and as a result recommend the use of different teaching methods during instructions. Such methods recommended for pre-school teachers use during teaching-learning process include: teacher-child interaction during which the child is actively involved (Vandeyar and Killen, 2006; Wilcox-Herzog and Ward, 2004; Bowman, Donovan, & Burns, 2001; Willson, 1999; Bredekamp, 1997; Curtis, 1997) whereas the Federal Republic of Nigeria, (2004); Tabors (1998), Prah (2003), Brock-Utne, (2005) suggested the use of the language which the child knows best. Learning by doing, inquiry/curiosity and interest, exploration, experiment and discovery, natural active hands on experience, were advocated by Edwards, (2006), Yoon and Onchwari, (2006), Arnone, (2003), Glauert, Heal and Cook, (2003); Helm and Grounlun, (2000); Staley, (1997); Regional Training and Resource Centre, Africa, (1995); Montessori, (1912) as good instructional delivery modes for this level of education.

On the other hand, other researchers such as (Myhill, 2002; Hayes, 1999; Ayers, 1996) suggested the use of whole-class, small group, and one-to-one teaching approaches. However, learning through play is also regarded as a very lucrative method

of instructing pre-schoolers (Froebel, 1782-1852 cited in Henniger, 2005; Van Oers, 2003; Aremu, 2000; Tizard and Huges, 1998; Lerach, 2003; D'Anna and Rogers, 2005). Further, Delpit, (1995) is of the opinion that teacher directed approaches also yields good results whereas learning through story telling, through prints, rhymes and songs were seen as better approach (Akinbote, et al, 2001; Edwards et al, 1998 cited in David and Goouch, 2001; Howes, James, and Ritchie, 2003; Froebel, 1906 cited in Henniger, 2005; Bruce, 1997; NAEYC, 2002; Akinbote, et al. 2001). A critical look at this listing indicates that early childhood practitioners share different views on how best the child in his early stage in development should be taught. It has been suggested that the methods of teaching children should be sensitive to nature of broad subject disciplines in the curriculum such as literacy, numeracy and science (Obanya, 2000; Akinbote, et al, 2001; Bowman et al, 2001). The view, perhaps, also seems to have influenced the contents of teacher training programmes in Nigeria which demand that teacher-trainees be exposed to teaching methodology courses (e.g. language methods, arithmetic methods, science methods, etc). No one method could therefore be assumed to be the best way to facilitate learning. For instance, as noted by Golbeck, (2002) the discrepancy between short-term and long-term outcomes emanating from using some of these teaching-learning methods suggests that there are benefits, and risks, associated with several of children's learning styles. However, Kelin, Hammrich, Bloom and Ragins (2000) in their study of Language Development and Science inquiry on Head Start programmes concluded that:

> *Not all children learn in the same way, and may not learn equally well using only one method. Often, we find that it is best to combine more than one teaching method to help children learn to their maximum potential. To motivate children to explore, understand, analyze, and create, teachers may want to combine both explicit, teacher-directed methods and exploratory, child-centred methods. In this way, students are given basic information from which to begin and to express their curiosity for continued exploration (p. 20).*

This conclusion corroborated the views of Katz (1987) on the use of variety of methods while working with pre-school children. She also asserts that younger children need to be educated more with a variety of teaching methods because the younger the children,

the less likely they are to have been socialized into a standard way of responding to their social environment. Early childhood educators therefore advocate the teaching methods that would encourage learners' active participation as well as improved social interaction within the classroom environment.

3.2.7 Interaction as Quality Instructional Method

Classroom interaction, which could be seen as the communication between teacher and learners in small groups or with the entire class as well as learner - learner, learner-material and teacher-material interactions, has been identified as one of the major key terms in the conduct of classroom lessons (Duffy, Warren and Walsh, 2001; Curtis, 1997). For instance, the National Association for the Education of Young Children's Developmentally Appropriate Practice Guidelines in the USA (Bredekamp & Copple 1997) goes into a great detail regarding teachers' classroom interaction. In the same light, textbooks written for students in teacher-training programmes place a heavy emphasis on effective teacher interactions with children (e.g., Spodek & Saracho 1994; while Willson, 1999; Vandayar & Killen, 2006) documented the importance of children-adult interaction to children's development. This documentary evidence is also corroborated by the views of Kontos and Wilcox-Herzog (1997) who stress that how teachers interact with children could be described as the heart of early childhood education.

Willson, (1999) defined interaction as the face-to-face action which can be either verbal, channelled through written or spoken words, or non-verbal, channelled through touch, proximity, eye-contact, facial expressions, gesturing, etc. (Willson 1999: 7). It could also occur between learners, or within small groups, between teacher and learner, teacher/learners/materials, as well as learner and materials (Curtis, 1997). It could be teacher- or learner initiated. The possible cognitive and social gains as well as the positive learning outcomes resulting in and from such interactions within the classroom community have also been highlighted (Bowman, Donovan and Burns, (2001); Smith and Dickson (1994). For instance, Smith and Dickson (1994) found that the amount of

cognitively challenging talk that children experience is correlated with the amount of time they talk with adults. In addition, it is generally believed that because so much basic early learning (e.g., language, social-emotional competence) occurs through interactive experiences when children are very young (Kontos and Wilcox-Herzog, 2002), the quality of teacher-child interactions contributes substantially to effects that pre-school education have on children (Bowman, Donovan, & Burns, 2001).

Children tend to learn better through actively interacting with their environment (Vandayar and Killen, 2006; Prah, 2003; Brock-Utne, 2005). This view according to them, could be achieved if children are not discouraged from actively exploring the world around them with adults, through talk and action. They argue that discouraging them could make the children not only become irritated and lose interest in school-related work but could also make them fall behind their peers in cognitive development. Researchers have suggested that when teachers are interacting with children at higher levels of involvement, this involvement is positively related to children scoring higher on language development assessment (Wilcox-Herzog and Ward, 2004). Fillmore and Snow (2000) expressed that young children develop their language skills through interactions with more accomplished speakers of the language, such as parents, family members, and teachers, as well as other children. They therefore suggested that early childhood teachers need to talk with children in ways that ensure that their language continues to develop, their vocabulary increases and their grammar becomes more complex. Fu (2004) is of the opinion that knowledge and understanding are constructed through social interaction and that classrooms should be seen as social places where teachers and learners negotiate the curriculum. As a result, teachers are expected to construct their teaching and learning environment in such a way as to give equal opportunities to both parties to participate activity. Guided participation in the activities of children should be the teacher's role, while play and expression of ideas through interactions with adults, peers, and the environment should be the primary business of the children (Fu, Stremmed and Hill, 2002).

The theories of Piaget, Vygotsky and Karmiloff-Smith acknowledge the role of social interaction in cognitive development. The theories tend to see social interaction as

a vehicle through which higher level of cognition is attained (Smith, Cowie and Blades, 2003). However, it would seem that recent researchers on cognitive development place much more emphasis on social interaction as compared to what earlier educators or researchers thought. For instance, the Bowman, Donovan, & Burns (2001) are of the view that cognitive development takes place when a child actively interacts with others and with the environment. Such view is also expressed by Resnick, Pontecorvo and Saljo (1997) when they imply that "talk and social interactions are not just the means by which people learn to think, but also how they engage in thinking...discourse is cognition; and cognition is discourse... One is unimaginable without the other" (ibid 1997: 2). This same view is shared by Light and Littleton (1999) who noted that gone is the notion of cognition as mental reorganization or as the creation of an autonomous thinker who, through reconstructive process of internalization, has acquired the resources and tools of a culture. Rather, cognition is about participation and engagement in shared cultural practices. The views also corroborate the study findings of Brunner (1997) Valsiner (1997) and Light and Littleton (1999) that cognitive development is fundamentally constituted in discourse/social process; and through the use of tools and beautiful objects, toys that could be easily accessible within the child's cultural environment.

Contemporary research also confirms the view that young children (especially children of pre-primary school age) learn most efficiently when they are engaged in interaction rather than in merely receptive or passive activities (Woolfolk and McCune-Wicolinch, 1997; Lybolt and Gottfred, 2004). Thus, teaching methods in pre-school classrooms should sufficiently provide for children's interaction with adults, materials and their surrounding in ways that would help the children make sense of their own experience and environment. As noted in the US, Yoon and Onchwari, (2006); Arnone, (2003), and in Nigeria (Okpala 2002; Akinbote 2003) the children should be exploring, manipulating, questioning, reading, telling stories, singing, observing aspects of their environment worth learning about and recording their findings and observations through talk, paintings and drawings as well as receiving appropriate feedback (Schunk, 2003; Higgins, 2001). Shunk noted that providing appropriate feedback to students in early

stages of learning is usually beneficial because it encourages them to work hard to succeed whereas inappropriate feedback can demoralize learners.

Using the questioning method during teaching-learning processes has also been acknowledged as a very important way of encouraging learner active participation (Cotton, 2004; Elkind, (1999). According to them, questions could be teacher or learner initiated. Cotton (2004) is of the view that in classroom settings, teachers' questions are defined as instructional cues or stimuli that convey to students the content elements to be learned and directions of what they are to do and how they are to do it. Elkind, (1999) on the other hand sees early childhood years as a question asking period but noted that how adults react to these questions could either deter them from asking further questions or accomplish the important goal of encouraging further questioning while providing a sense of being understood. He further stressed that teachers/adults can always turn a child's question around and asks the child what the child thinks (opinion question).

Researchers are of the opinion that questions could come under different levels: low cognitive questions (which call for verbatim recall or recognition of factual information previously presented by the teacher), high cognitive questions (those requiring the learner to mentally manipulate bits of information previously learned to create an answer with logically reasoned evidence); opinion questions (those that allow the learner to express personal ideas, and feelings), and redirected questions (questions are redirected when the first answer given is not satisfactory to the teacher as a result he/she calls on another pupil to answer the same question (Tizard and Hughes, 2002; Okebukola, 1985; Rice, 1977; Winne, 1979; Cotton 2004). It is believed by some researchers that high level questions reveal to the teacher whether or not the learner has truly understood the concept they have been exposed to (Brualdi, 1998) while Ellis (1993) claims that many teachers do rely on low-level cognitive questions in order to avoid a slow-paced lesson, keep learner's attention, and maintain control of the classroom. Researchers however, advised that teachers should endeavour to use a combination of both low and high level questioning techniques as well as determine the needs of the learners in order to know which sort of balance between the two types of

questions needs to be made in order to foster learners understanding and achievement (Brualdi, 1998; Saskatoon, 2004).

Another method advocated for effective teaching - learning processes in pre-school is through play. Play is generally considered by educators (Tizard and Huges, 2002; Aremu, 2000; Lerach, 2003) as one of the most effective ways of helping children to learn during the pre-school years. Freidrich Froebel (cited in Whitebread, 1972) sums up ideas of play and development thus:

> *Play, is the characteristic activity of childhood; it is the highest phase of child development – of human development at this period; for it is self-active representation of the inner – representation of the inner from inner necessity and impulse. Play is the purest, most spiritual activity of man at this stage, and, at the same time, typical of human life as a whole – of the inner hidden natural life in man and all things (p. 274).*

Like Froebel, Montessori saw play as a vehicle through which children learn about real life. Whitebread (1996) stresses this view further that observing children at play shows the reason why it is regarded as a powerful learning medium. He argues that during play children are usually totally engrossed in what they are doing, set their own level of challenge, and that what they are doing is always developmentally appropriate to some extent than tasks set by adults will never be. Maduewesi (1999) and Aremu, (2000) also are of the view that children work out their internal and interpersonal conflicts, gain a sense of autonomy and effectiveness, become motivated to mastery, develop a sense of direction, self trust, self assurance and self worth through play. Bruce (1997) says play is one of the most important means for the development of child-initiated self-directed activity. To her, play encourages the zone of potential development. She also argues that a child always behaves beyond his average age and above his daily behaviour during play activities.

Concerning the importance of play to enhancing learning at the pre-school level, Almon, (2004) Ersoz (2000), Aremu (2000), Maduewesi (1999), are of the view that play can provide opportunities for children to experiment, discover and interact among themselves and with the environment; encourage children to become involved in intense and meaningful development/practice of literacy, numeracy and science skills (Lerach,

2003; Bergen, 2001; Afuwape, 2003); develop social and self-regulatory skills needed for learning complex cognitive activities such as use symbols and symbolic representations and capacities to recall information (Akande, 1998; Howes and Smith, 1995; Ogunsanwo. 2000; Bowman et al, 2001). It would thus seem that research on the relationship between play and cognitive development gives some support to play-based curricula in Early Childhood Care and Education (ECCE) programmes. It is in this light, that Bergen (2001) suggested that educators should resist policies that reduce time for play experiences in pre-school programmes and work towards improving funding for more research on relationship between play and cognitive development in the early childhood years.

It would, seem that the teaching methods to be employed for children should provide for simplicity, challenge, variety and fun. The interactions that arise in the course of the children's activities provide a context for much social and cognitive learning: knowledge, skills, desirable disposition and feelings as emphasized by early childhood educators as well as researchers (Katz, 1993). However, Hayes (1999) had noted that such teacher interaction patterns with children in classroom settings can take place in different context: one-to-one; in a group; and as a whole class.

3.3 Classroom Context and teacher/child Interaction

A teacher may have opportunity of interacting with children on a one-to-one basis during regular monitoring of lesson progress and as he/she provides attention to learning needs of specific children (Ayers, 1996; Goldthorpe, 1998). A one-to-one teacher interaction with children is expected to make the child progress in their learning considering the views of Hayes (1999) that one-to-one interaction provides opportunity for a child to: receive individual help; ask the teacher questions without publicly exposing his or her ignorance; be closely and accurately monitored; and develop a close relationship with the teacher. In spite of this, it would seem that practising teachers tend to spend minimal lesson time in one-to-one interaction with children. For instance, Layzer, Goodson, and Moss (1993) reported that in a study on Head Start Project in

USA, while teachers spent about two-thirds of their time interacting with children in whole-class activities, only 10% of their time was in individual child/teacher interaction. In fact, more than 30% of children across all classrooms observed had no individual interaction with a teacher. This situation, perhaps, made Snow, Burns, & Griffin, (1998) express the opinion that teachers of young children need to know the value of one-to-one, extended, cognitively challenging conversations and how to engage in such communication, even with reluctant talkers. To them, teachers of pre-school children need to know how the lexicon is acquired and what instructional practices support vocabulary acquisition, conduct story reading and other early literacy experiences that promote phonological awareness and prepare children for later success in reading.

Nevertheless, the importance of using the small group teaching approach in children's classrooms (dividing of the class into groups of children) has been emphasized in teaching methodology literature (Biot and Easen, 1994; Lloyd and Beard, 1995). As noted by them, the grouping could be based on children's ability (e.g. during mathematics, language and science lessons), friendship inclinations (e.g. during creative activities such as painting, drawing, etc) or a combination of ability and friendship during collaborative work in other subject areas (e.g. social studies). The approach provides opportunity for practising teachers to enhance collaboration or cooperation among children. Curtis, (1997) also noted that using small group context during teaching-learning activities in early years encourages social interaction among learners as well as building confidence. To him, small group sessions tend to make or force learners to participate actively. It appears to be more stimulating, provocative and exciting. He argued that this could guarantee learning. He however, stressed that the goals of small group teaching should include the acquisition of such skills such as thinking (reasoning, speculating, evaluating, decision-making and problem-solving) as well as sharing (through observations, experience and feelings). Small groups also tend to be helpful for students to develop their understanding of concepts and to acquire or improve strategies and approaches to problem solving. To achieve these higher-order thinking and learning activities promoted by small group teaching, it is helpful for the learners to engage in meaningful communication directed towards a goal or set of goals.

However, whole-class teaching, would require different skills from one-to-one and group work (Ofsted, 1993b; Kutruck, 1994). The teaching approach is considered important because, according to them it is seen as an efficient means of transmitting information to a large number of children simultaneously. There is also evidence (Ofsted, 1998) that frequent use of the whole-class teaching approach is useful in raising standards in literacy and numeracy among children. The use of this approach is also seen as an economical way to enable the teacher with a large class to carry as many pupils along during instruction as possible. The nature of the group could vary. Pupils may be grouped on the basis of ability. Although grouping by ability is being discouraged, however it is still useful in mathematics where the low-ability pupils can be put in the same groups to be given close attention and monitoring by the teacher. In the U.K, interactive whole class teaching is seen as an active teaching model, which promotes high quality dialogue and discussion between teachers and pupils (Hardman, Smith, Wall and Mroz, (2003). Be that as it may, they cautioned that for this approach to be regarded as effective, the medium of instruction should be in the language which pupils know best to enable them to play active part in the class discussion by asking questions, contributing ideas, explaining and demonstrating their thinking. These issues are particularly important in a context of a country with many languages used at home and fewer in school.

3.4 Medium of Instruction and teacher/child interaction

Researchers have argued that the environment in which children develop and learn as well as the choice of language and pedagogical methods adopted by the teacher are important factors that determine the participatory level of the children in any teaching and learning situation (Katz, 1987; Obanya, 2004). This is so viewed, because language is seen as the major tool through which literacy and concepts are internalized especially if it is done in the language, which the learner knows best (Prah, 2003; Brock-Utne, and Holmarsdottir, 2003; Chomsky, 1977; Bambgose, 1976). It thus seems that teacher-learner interaction could be promoted more in situations in which all those

involved (particularly children) have no inhibitions in terms of language used. Therefore, the teaching-learning process involving pre-school children in the first language of the children is likely to reduce the incidence of one sided flow of interaction (teacher to pupil) in pre-school classrooms.

Language acquisition is required for effective interaction in any learning activity and for comprehending curriculum content. This view is based on research evidence that children who listen and speak effectively are able to interact successfully with others and develop effective learning strategies and literacy skills (Tabors, 1998; Prah, 2003; Brock-Utne, 2005). In the same light, the research results of Apps, Mclutyre, and Juliebo (1996) have shown that children who have not sufficiently acquired the language used for instruction often have negative experiences while attempting to use the language, thus creating a fear of speaking in the classroom. Children with such language difficulties are likely to be unable to follow the flow of communication during instructions. As a result, these children tend to resort to only observing, as they are unsure of how to express their views, difficulties or wants to the teacher and for fear of being ridiculed. He noted that, as the children struggle to function in learning tasks and activities within a large group setting, their self-confidence could be put to test during which the children usually display inability to participate in class activities independently (in terms of asking or answering questions individually. This behaviour according to him, can affect the extent to which children could benefit from the teaching and learning activities considering the research report of Desai, (2003). The research finding revealed that children's school achievement has a link with oral language development, which is cultivated mainly in an environment that is linguistically stimulating that is created through the use of language the learners are conversant with. The children, during interaction, tend to learn how to manipulate oral language and experiment with words to convey meaning. These research results corroborate the views of Vygotsky (1978) who maintains that what children learn depends on the people associated with their environment, activities they engage in together, and how they carry out and talk about these activities.

The language which children acquire is to a large extent dependent on the social and cultural environment within which they operate: that is at home, at school and in their community (Prah, 2003; Vandayar and Killen, 2006). It has been emphasized that it is through language that the child interprets the world around him (Kirova and Bhargava, 2002; Brock-Utne and Holmarsdottir, 2003; Desai, 2003). A child therefore is able to bring meaning into what goes on in his environment if he is familiar with the language used. They argued that, if there are disparities in language use among the environments within which the child operates, the child, as a learner, might have difficulty adapting favourably in the new environment (especially that of the school). This is because learning is said to take place only when the individual is able to make meaning out of the information being passed. To this effect, the Federal Government of Nigeria appreciates the importance of language as a means of promoting social interaction and national cohesion and as well as for preserving cultures. As a result, the Federal Government recommended that the medium of instruction for pre-schoolers should be, the mother tongue (L_1) or the language of the immediate environment where the school is located while English language (L_2) is also introduced from the very beginning as a subject (FRN, 2004). To this end, the Federal Government has developed the orthography of the three major Nigerian languages as well as textbooks for this level in Nigerian languages.

Irrespective of the concerns, policies and government agendas for this level of education since 1977 when it was included in the Nigerian National Policy on Education, there have been no empirical studies which focus on characteristic and quality of instruction provided to young children in Nigerian pre-school settings. What seem to be available is research that focused on outcome variables (Haggai, 2000); creating friendly environment for the Nigerian child (Onuka, 2004; Oduolowu, 2004; Ndukwu, 2002; Abidoye, 1998, Igwe, 1998); and a report on the ten states that are jointly sponsored by UNICEF/FGN (1993), among others. In addition, researches on how teachers interact with students during teaching-learning situations in Nigerian school settings seem to be conducted only at the primary and secondary school levels (ESA/UNESCO, 2003; Ogunkola, 1998; Okebukola, 1998; UNESCO, 1998). The

foregoing makes it apparent that successful education of children during their latter years of schooling is likely to depend to a great extent on the foundations laid during the pre-primary years. However, the quality of the foundation laid for children during the pre-primary years appears to depend greatly on the quality of some intervening variables such as classroom interaction patterns that occur between pre-school teachers and pre-schoolers during instruction, the qualifications of the teacher, classroom context within which the teaching-learning activities are taking place, class size, where the school is located, teaching resources available and the medium through which the instruction is being delivered. Thus, providers of such services are therefore required to provide quality preschool learning environment that is conducive enough to inculcate positive disposition in the pre-schoolers towards learning (Kontos and Wilcox-Herzog, 1997).

3.5 Conclusion

What a nation thinks about the education of its young ones tends to influence the guiding principles and the practice of its educational programmes. This assumption stems from the fact that the Nigerian government has continued in recent times to emphasize the importance of pre-primary level of education. The government has taken a bold step to making this level of education in its on going universal basic education program free and compulsory. This is geared towards increasing access. What therefore needs to be looked into is finding out if the existing programs are working towards providing quality pre-school programs to enable the Nigerian education system achieve the objectives for which this level of education aims at. This background, therefore, underscores the need to conduct a study that aimed at evaluating how pre-school teachers and pre-schoolers interact during instruction as well as examine the extent to which such factors as language of instruction, classroom context, class size, location, teacher qualification, gender, availability and use of teaching materials relate to the prevailing classroom interaction patterns in preschool settings in Nigeria. More specifically, the research in this thesis will seek to provide answers to the following research questions:

1. What are the environmental characteristics of pre-school classroom settings in Nigeria in terms of nature, seating arrangement, organisation of daily activities, resource provision, discipline, and language used during instruction?

2a. What are the prevailing classroom interaction patterns of teachers during instruction in Nigerian pre-primary schools?

b. Are there significant differences in the prevailing interaction patterns while teaching the three core subjects in the curriculum: literacy skills, numerical skills and science?

3. Are the prevailing interaction patterns characterized by what types of:
   a. language of instruction;
   b. classroom context (large group, small group, monitoring, transition, etc.);
   c. instructional approaches; and
   d. types of questions, responses, feedbacks?

4. Are there any significant group differences in the prevailing interaction patterns based on:

   a. language of instruction;
b. qualification of the teacher;

   c. class size;

   d. class location (urban/rural); and

   e. school type (public/private) ?

It is suggested that the findings of these research questions will provide a thorough inherent understanding of the current situation of ECCE in Nigeria. The next chapter focuses upon the methods through which data was collected to provide information on the quality and type of interaction patterns that are prevalent between pre-school teachers and the children in Nigerian preschool settings. Emphasis was laid on the design, data collection techniques used, sampling technique and sample, targeted population, instruments used and the methodological challenges encountered.

Chapter 4

Methodology

4.1 Introduction

The previous chapters outlined the broad aims of the thesis and specific issues concerning what individuals, groups and international educational organisations think about early childhood education. Attention has been drawn to views on what a quality pre-school program should entail, and the empirical findings on the effects of exposing children to quality pre-school education. The research questions, to which this study aims at providing answers, were also highlighted. The present chapter focuses on the methodological approaches used in the thesis. Subsequent chapters focus on the research findings.

Detailed discussion on how the data for this thesis was generated are provided in this chapter under the following headings: Design, Target Population, Sampling Procedure and Sample, Instrumentation, Validity and Reliability of the instruments, Data Collection Procedure, Data Reduction Procedure, and Data Analysis Procedure. Data, which provided information used for writing up the qualitative and quantitative results sections were collected using the same technique (observation) but with different methods (structured and unstructured). Data collected were analyzed using different statistical methods (qualitative as well as quantitative). The challenges encountered during the data collection and how they were overcome is also presented.

4.2 Design

This study is of the formative type of educational evaluation, which makes use of the observational approach to generate its data. Formative educational evaluation studies are carried out in ongoing programmmes or activities with the intention of using the feedback to alter or improve the quality of such programs (Scriven 1967 cited in Guba &

Lincoln, 1981; Kerlinger and Lee, 2000; Ritchie, 2003). Conducting evaluation studies in classroom settings is necessary to enable educators to gather information about the quality of aspects of any level of educational program. One important advantage of conducting this type of research is that the researcher is usually left with the option of choosing from different aspects of educational issues worth researching. This can span from studying educational issues relating to policy/practice, materials put in place before such program commenced, the input, process – the teaching-learning activities as well as effects of the program on those exposed to it – the outcome variables.

In this regard, the areas of interest of this study include describing the input variables existing in the pre-schools used in terms of their environmental characteristics, the types of teachers employed to teach at this level of education in Nigeria. Further, some aspects of process variables, which focused on instructional modes (nature of teacher-pupil interaction, class context). An advantage of conducting an evaluation study is that the researcher can triangulate the method during data collection as well as data analysis (Kerlinger and Lee, 2000; Lewis and Ritchie, 2003; Tindall, 1994). The use of triangulation of methods to generate data while conducting research according to researchers offers much promise for increased understanding of the results generated, which in turn helps to improve practice (Greane, Benjamin and Goodyear, 2001). According to these writers the possible gains achieved by mixing methods in evaluation research include: increased validity, more comprehensiveness of findings, and a more insightful understanding of the results.

Different approaches were used for data collection. These include the use of interview schedules, questionnaires, observation, standard tests, field notes, and case studies. Each approach has its unique characteristics that differentiate it from others. However, as far as research is concerned, the determinant factor of the best approach a researcher should use to generate evidence is the nature of the research question(s). Thus, considering the research questions of this thesis, observation methods both structured and unstructured, and questionnaire were regarded as the best approach for generating data. The main features of this design are the use of both structured observational methods to generate data. These features included defining the behaviour

categories of interest prior to commencing, coding of such behaviours in a consistent manner using two valid and reliable instruments. This is because information on three out of the four research questions which this study aimed at providing answers to were generated through the structured instruments.

4.2.1 Observation

Observation technique, which is the systematic watching of events as they occur and collecting information on the events that are of significance to the proposed research questions (Manstead and Semin, 1996) is the major data collection method used in this thesis. This is because of its accuracy in presenting to others the real-world situation of events, experiences, or behaviour under study as they unfold in a particular environment (Patton, 1990:41). Another reason for making it the major data collecting technique is its unique characteristics in providing both qualitative and quantitative interpretations of the data generated. The major advantage of this method over others is that it gives the researcher the opportunity of seeing the behaviours of interest as they occur in the natural setting, thereby enabling the researcher to have first-hand information on the variables under study. Further, it can involve the use of different methods to collect the needed information. For instance, the researcher can use as many as three different methods to generate data such as questionnaire, audio/video tape recordings or, structured instruments (Banister, 1994; Coolican, 2004; Kerlingar and Lee, 2000). Observation method can take a structured or unstructured format. This study made use of both through the use of two valid and reliable observation instruments: Classroom Interaction Sheet (CIS) and Ten Minute Interaction Sheet (TMIS), a video camera and a questionnaire. Incorporating both while observing the classroom behaviours as they occurred was based on the benefits associated with them.

4.2.2 Structured observation

Observational method is considered as structured if the researcher has prepared variables of interest, itemized in an instrument to record the measures as they occurred. It is termed unstructured when the researcher keeps an open mind and records the phenomena as they occur either by taking notes or through audio/video recording. The choice of structured observation to be used in this study is based on the following characteristics: use of a systematic approach to observe defining behaviour categories to be recorded prior to commencing the main observation sessions, sampling behaviours in a consistent manner using one or more sampling device such as video recording, coding on the spot and training of observers in the use of the coding system and good level agreement prior to main data-gathering sessions (inter-observer reliability) (Coolican, 2004); Specific and standardized evaluation criteria in order to minimize extreme variations in the criteria as well as observer inference in the course of collecting evidence (Kerlinger and Lee, 2000); High inter-observer and intra-observer reliability in collecting and interpreting information on interaction patterns (Li and Lautenschlager, 1997); and high adaptability for collecting evidence for classroom interaction process analysis with a view to describing and assessing quality of teaching strategies (Simpson and Tuson, 2003).

Other important characteristics of structured observation are the use of numbers (quantification) as well as graphs, charts and tables in summarizing its data results into a manageable size and thus allowing a reader to grasp the information it conveys at a glance. However, it is not without disadvantages.

4.2.3 Non-Structured Observation

Some of the inadequacies of the quantitative method (Coolican 2004) such as its highly structured nature, narrow information provision, and low realism led to some researchers developing an interest in the use of non-structured method. Such researchers (Parker, 1994; Miles and Huberman, 1994; Ritchie, 2003; Pope, and Mays, 1995) have

come to realize that not all studies can be quantified. These researchers argue that there are areas of research where quantitative approaches cannot adequately capture the appropriate information. For instance, Miles and Huberman (1994) like many who favoured qualitative research methods believe that the use of methods other than quantitative methods such as questionnaire and structured instruments like perhaps surveys alone may not provide all the appropriate information needed. Their view is that:

> *Pre-designed and structured instruments blind the researcher to the site. If the most important phenomena or underlying constructs at work in the field are not in the instruments, they will be overlooked or misrepresented (p.35).*

This shows that using structured instruments only, might lead to the investigator not picking up many illuminating and important variables during the course of the data collection exercise. Non-structured methods, which would give a vivid description of what the observer saw in a real life situation with the respondents, could therefore serve as a way of expanding the information gathered. To achieve this, electronic video recording was used to capture the classroom activities during the teaching of the three subjects observed. This was chosen to enable the researcher to generate a qualitative information of the data results.

Qualitative research has some advantages over others. These include the use of direct observation in real-world settings and the ability of the researcher to observe live interactions between people and events. In addition, it is naturalistic as it takes place in the real world where the event or behaviour being observed occurred. This means that data collection process will be less structured than by the use of quantitative methods. Further, the level is higher in this method than in quantitative. For instance, the researcher developing a high level of rapport with the participant could lead to him/her taking part in the activity under investigation. It is also descriptive in nature in the sense that the results could be described in such a way that the reader who was not at the scene might be able to picture the whole event as it occurred.

These characteristics were considered very important in producing valid, comparable and generalizable evaluation results across the different pre-primary school

settings involved in the study. In addition, practising teachers and teacher-trainees in Nigeria tend to be more positively disposed towards the use of structured observation in providing feedback to facilitate the quality of interaction patterns associated with their lessons (Okpala, 2001). This is so viewed because the result of the study specifically indicated that the recorded tapes when played back to be viewed by both practising teachers and teacher trainees, during instruction to review practice teaching activities, findings enable them to alter the teaching methods during subsequent practice teaching observation exercise. This disposition augurs well for the study considering that its results could provide, among other things, empirical bases for designing and implementing counselling, training and retraining programmes aimed at improving the quality of classroom interaction patterns of pre-school teachers in Nigeria. Be that as it may, use of observation method to collect evidence in a research process is not without some challenges.

4.2.4 Observer Effects

Using observation method as a data collection device in a study of this nature requires that the observer be present in classrooms with the subjects to be observed. This action is not only an intrusion into the privacy of other peoples' work life, but also raised the question of whether the very presence of the observer in the classroom environment had serious distorting effects on what was observed. This could lead to the teachers and pupils exhibiting unnatural and untypical behavioural patterns due to the presence of the observer (Tizard and Hughes, 2002; Kerlinger and Lee, 2000). However, most researchers who are experienced at conducting observational studies with children, for instance, Tizard and Hughes (2002), believe that the effect of the observer is minimal. Their experience in nursery had revealed that after an initial acclimatization period, young children, usually under-fives, tend to ignore the observer.

In consequence, the investigator sought ways to reduce the possible impact of the fore-listed source of methodological challenges. To suppress the effect of the observer, the implementation of the study required the observer to pay prior visits to the teachers

and pupils in their classroom settings. Such visits enabled the observer to get acclimatized with the teachers and children before the real observation days. The visits prior to the actual observation days also allowed the teachers and the pupils to get used to the observer and thus pay minimal attention to her presence during the actual lesson observations. In addition, because of the structure of the daily timetable, subjects observed appeared at different times of the day. Thus within the interval during which time another subject which is not included in the study plan is being taught, the observer assisted the teachers in doing such things as sharpening of the children's pencils, distributing their writing materials as well as assisting the children to open the right page to write on. This also helped in reducing the observer's effect. However, Kerlinger and Lee (2002) had noted that the effect of an observer's presence on the object of observation should not be a severe one for an initiated (trained) observer who is expected to be unobtrusive and not to give the person being observed the feeling that judgements are being made. In the same light, Babbie (1995) indicated that a good protection to the observer effect is provided if the observer is knowledgeable and sensitive to the problems his/her presence can create. All these were carefully taken care due to the researcher's professional experience.

4.3 Defined Target Population/Subject Areas of Interest

The target population for this study comprised Nigerian pre-school children aged four to five years old, residing in any of the three selected states of the country and currently enrolled in pre-school institutions (Nursery 2 class which is where the age group falls). In addition, the subject areas to be observed during instruction include introduction to literacy, numeracy and science skills. These three subjects were focused upon because they are the major subjects that cut across the curriculum of preschool education in Nigeria and because of their importance in aiding learning in other subject areas. Further, to function effectively in the 21st century, Nigerian children need good exposure to high quality literacy, numeracy and science related activities.

4.4 Sampling Procedure

4.4.1 Strata and Selection of States

The country, which is made up of 36 states, was stratified along the three major regions: Eastern, Western and Northern. Each of the regions has special characteristics[10] as depicted by the socio-political history, geographical location, cultural orientation, educational development, linguistic propensity and religious background (Obanya and Okpala 1984; Bajah, Onocha and Okpala 1985). Purposive sampling was used to select a state from each region. This is because the states chosen for this study were those that depicted the special characteristics of each region. These states are the oldest existing state from each region. The states selected from each of the 3 regions are Enugu, Oyo, and Kaduna states for the Eastern, Western and Northern regions respectively.

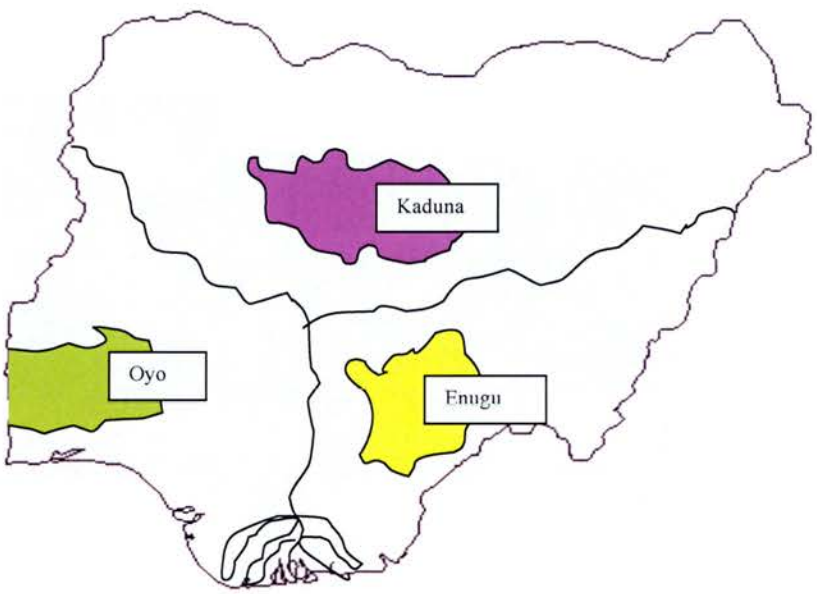

Figure 4.1: Map of Nigeria showing the states used for the study

[10] For more information on this refer to chapter two

4.4.2 Selection of Schools and Classes/Teachers

The 3 states were stratified on the basis of the Local Government Areas (LGA). The 3 states are made up of 81 LGAs (Enugu 21, Kaduna 27 and Oyo 33 LGAs respectively). Simple random sampling was used to select 6 LGAs from each state.

The schools and classes/teachers were selected as follows:

- Four pre-schools were selected from each of the 6 LGAs in this order: 2 schools from urban locations (1 private and 1 public), and 2 from rural locations (1 private and 1 public). The rationale behind this was to ensure equal representation in terms urban and rural schools as well as ownership of schools (private those owned by individuals/Non-Governmental Organisation and public- those owned by the government). As a whole, a total of 24 pre-school institutions were selected from each state. In each selected school, a nursery-two class was randomly picked (or the only nursery-two class existing in such school was selected) to participate in the study.
- The teachers and the pre-schoolers in the classes selected constituted the participants observed in the study.

Tables 4.1, 4.2 and 4.3 below show the distribution of schools selected.

Table 4.1: Sampling Framework of schools in State A

S/N	School Characteristics					
	Public	Private	Rural	Urban	Christian	Moslem
1	√			√		
2	√			√		
3		√	√		√	
4	√			√		
5	√		√		√	
6		√		√		
7	√		√			
8	√		√			
9		√		√	√	
10	√		√			
11	√		√			
12		√		√		
13		√		√		
14		√		√		
15		√		√	√	
16		√		√		
17		√		√		
18	√		√			
19	√		√			
20	√		√			
21	√		√			
22		√	√		√	
23		√		√		
24		√	√			

Table 4.2: Sampling Framework of schools in State B

S/N	School Characteristics					
	Public	Private	Rural	Urban	Christian	Moslem
1		√		√		
2		√		√	√	
3		√		√		
4	√			√		
5		√		√	√	
6		√		√		
7	√			√		
8	√			√		
9	√			√		√
10	√		√			√
11	√		√			
12	√		√			
13	√		√			
14		√	√			
15	√		√			
16		√	√			
17		√	√			
18	√		√			
19		√		√		√
20	√		√			√
21	√			√		
22	√		√			√
23		√		√		
24	√		√			

Table 4.3: Sampling Framework of schools in State C

S/N	School Characteristics					
	Public	Private	Rural	Urban	Christian	Moslem
1		√		√	√	
2	√			√		
3		√		√		
4	√			√		
5		√		√		
6		√		√	√	
7		√		√		
8		√		√		
9	√			√	√	
10	√		√			
11	√		√			
12		√	√		√	
13	√		√			
14	√		√			
15	√		√			
16	√		√			
17		√	√			√
18		√	√			
19		√		√		
20		√		√		
21		√		√		
22	√		√			
23	√		√			
24	√		√			√

Total number of schools observed 72 pre-schools (24 each from the 3 states)

Mode of selection = 12 urban (6 public/ 6 private)
12 rural (6 public/ 6 private)
Total = 18 from each category to ensure equal representation.

A vivid description of the number and characteristics of the schools visited

Preschool institutions in Nigeria in this thesis came under two major categories: ownership (private/public) and location (urban and rural). Private pre-schools are those owned by individuals, religious organisations, co-operative bodies whereas public pre-schools are those owned by the government (Federal, State and Local). With regard to location, pre-school in Nigeria are either sited in the cities (urban) or in the villages/towns (rural communities). Despite these characteristics, there appear to be an overlap. For instance, a pre-school may have the tendency to fall under two or more different categories at the same time – private pre-school owned by a religious

organization and located in either a rural or urban area as shown in Table 4.1. Bearing these characteristics in mind, care was taken to ensure that each category was represented.

The sample size as a whole consisted of 72 pre-school institutions randomly selected from public, private as well as in urban and rural location. More specifically, 24 pre-schools were selected from each of the 3 states (12 from public and 12 from privately owned schools). Among the 12 pre-schools selected from public owned schools, 6 were selected from urban location while the remaining 6 were from the rural areas. 18 pre-schools were selected from each category to ensure equal representation. The schools owned by any of the religious bodies (Christian/Moslem) are either privately owned or are handed over to the government as a community owned schools. Most of these are located in the rural areas. However, care was taken to ensure that such schools were reflected.

4.4.3 Sample

In all, the sample size consisted of 2859 pupils aged 4 to 5 years as well as 93 teachers from 72 pre-primary institutions/classrooms in both private and public pre-schools as well as urban and rural locations across the three major old regions in the country. Public and private as well as urban/rural schools were used in order to reflect ownership/location. This can also provide information related to Research Question 3, which concerned differences in the nature of interaction patterns between teacher and pre-schoolers in these institutions. A discrepancy exists between the number of teachers observed and the schools used (93 teachers instead of 72). This was because some of the pre-school classrooms observed had two teachers attached to them with lessons being conducted in turns. All efforts to make a single teacher handle the three lessons were vehemently refused by the teachers. When the teachers were interviewed after the lessons on why they insisted that each must participate, it was deduced from their responses that none wanted to feel inferior or less competent to the other.

4.4.4 Sample Size Justification

The sample is limited to 72 because of the following reasons:

- *Programme Time Frame*: The duration of the research activities is 3 years (6 semesters). The sponsors had earlier indicated to the awardees that their funding would not exceed the stipulated time frame.
- *Fieldwork Cost*: The study, which is a national one, is self-sponsored. The Commonwealth Scholarship Commission, which is the sponsor of my programme, does not sponsor fieldwork activities. Funding assistance was also sought from the host university, The University of Edinburgh, as well as my employers the University of Ibadan, Nigeria but without success. The researcher, therefore, had to limit the sample size to the number she could cope with.

4.5 Instruments for Data Collection.

As the study is focused on the description of classroom interaction patterns in varied pre-school settings in Nigeria, the investigator collected evidence on the relevant variables through the use of observational technique. More specifically, the researcher collected evidence on the relevant variables through the use of the following observation instruments: the Classroom Interaction Sheet (CIS) and the Ten Minute Interaction (TMI) and video coverage. In addition, a questionnaire was used minimally to collect data on teacher qualification.

4.5.1Classroom Interaction Sheet (CIS)

The CIS is an adaptation of the Classroom Activity Sheet developed by Yoloye (1978) for observing classroom interaction patterns. The behaviour categories of the CIS were adapted from categories used in Yoloye's (1978) Classroom Interaction Sheet (CIS). The CIS was designed to evaluate the African Primary Science Project (APSP).

The evaluation was aimed at determining the level of attainment of APSP objectives, monitoring the teachers' behaviour patterns in the classroom and finding out if the students learn science through discovery. It is a category system observation instrument and thus provides information on the frequency and sequence of classroom behaviours. However, for the purpose of the level of education (pre-primary) at which the present study is targeted, it had to be modified to suit the instructional approaches identified for this level.

The CIS consists of three sections: A, B and C. Section A solicited information on date and number of observation, class observed, state, school number, location and type, teacher gender, subject taught, duration of lesson and class size and management. Section B solicited information on five main behaviour categories that are placed besides columns of cells:

- Individual Pupil Learning Activity (observing, writing, questioning, etc);
- Pupil Group Learning Activity (observing, writing, questioning, etc);
- Teacher Prompting Learning (questioning, aiding the slow learner, etc);
- Teacher Not Facilitating Learning (teacher doing most of the talking without encouraging the pupils to participate, punishing, distracting attention, etc);
- Confusion (noise, aimlessly wandering, etc).

The observer coded the major occurring behaviour in the column cell of only one main behaviour category after each interval of 10 seconds.

The section C solicited information on the language of instruction: Nigerian language(s) and English language. Information on this variable (language of instruction is considered important because the Federal Government of Nigeria specifically laid emphasis on the medium of instruction at this level of education (the use of language of the immediate environment where the school is located). The CIS is attached as Appendix 1.

4.5.2 Ten-Minute Interaction Instrument (TMI)

The TMI is adapted from the Five Minute Interaction (FMI) developed by the Centre for Educational Research Stanford University, U.S.A. (Bourke, Hildyard and Anderson, 1989) The TMI was developed to collect data for the International Association for the Evaluation of Educational Achievement (IEA) classroom environment study at the primary levels of education in eight countries[11]. The study aimed at describing the similarities and differences in the nature of teaching in classrooms in many countries. The results were also used to identify those teaching behaviours that were associated with greater student achievement. It was originally designed to gather information on the teacher-pupil activities during instruction at the primary level of education. However, since the present study is at a different level of education with considerable difference in the teaching-methods, it was therefore restructured to suit teaching-learning activities at the pre-school level.

The TMI consists of two sections: A and B. Section A solicits information on date of observation, duration (time) of observation, state and school numbers, while section B solicits information on six categories of classroom "context", five categories of "who to whom"(i.e.; who is talking to whom), five categories of "what" (i.e. the nature of the interaction) and a "qualifier"(i.e. emphasis). The categories of classroom "context" consist of Large group (L), Small group (S), Monitoring (M), Transition (T), Private (P) and Non-involved (N) while those of "Who-to-Whom" consist of "Teacher to Group", "Teacher to Pupil", "Group to Teacher", "Pupil to Teacher", and "Teacher to Other". However, the categories of "what" consist of:

- instruction (teaches/explains, teaches with materials, teaches non-verbal, gives examples, cues, directives, probes);
- questions (high level, low level, opinion, redirect);
- response (writes, reads, counts, spells, short response (Yes/No responses), extended response, don't know, statement);
- feedback (positive, negative, repeats answer, gives answer, silence, effectiveness of teaching); and
- management of non-academic (discipline, procedure, can't hear, social).

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[11] For full information on the countries, refer to chapter three, pg. 74

The observer recorded each interaction between the teacher and the pupils on a separate line indicating the specific "context", "who to whom", and "what". The "context" was only coded whenever it changed during the ten minutes while the "qualifier" was only coded when it was needed to further describe the interaction. In Nigeria, both, the CIS and the TMI have been used in previous research to collect valid and reliable observation information at the primary and secondary school levels (Yoloye, 1978; Onocha and Okpala, 1990; Okpala and Onocha, 1988; Ogunkola, 1998; Sodipo, 2003). The TMI is attached as Appendix 2.

4.5.3 The Video Camera

Electronic video recording was used to capture the classroom activities during the teaching of the three subjects observed. This was chosen because of its advantage of giving the researcher the opportunity to generate qualitative data. However, the use of video camera is not without some challenges but care was taken to overcome the disadvantages. Such challenges posed by the use of video camera includes that equipment might be obstructive and might therefore be difficult to move around and secondly might serve as a form of distraction to the pupils. To overcome these, care was taken to the choice of camera used. To overcome this, a compact video camcorder, which is very small and occupied relatively small space, was chosen. Secondly, it was considered very important to visit each school twice with the camera mounted on the tripod stand on both days. Placing it in the class on the first day was to enable the children to get used to it before the major recording the next time. It was also considered very important to arrive at each class early before the normal lesson began to get a good vantage position for the camera and a good spot to sit while using the structured instruments. The third problem associated with the use of camera as a data collection device is the time it consumes during data analysis. However care was taken to allot enough time to this section of the study in order to enable the researcher to get detailed information on the data collected.

4.5.4 Questionnaire

In addition a questionnaire was used minimally, in the sense that it was used to generate information just on teacher qualifications. This was chosen because the teachers might find it embarrassing if one asked them verbally through interview. Thus, the respondents were allowed to respond to that without interference. The copy of the questionnaire is attached as Appendix 3.

4.6 Validity and Reliability of Instruments

The CIS and the TMI have been used in previous researches to collect valid and reliable observation information at the primary and secondary school levels in Nigeria (Yoloye, 1978; Onocha and Okpala, 1989; Ogunkola, 1998; Sodipo, 2003). However, for the purposes of the present study, the CIS and the TMI were modified to suit the interactions that tend to occur between teachers and children within pre-school classrooms. The modified versions were also trial-tested in six pre-school institutions in urban and rural locations in Nigeria in order to generate more current information on their validity and reliability estimates.

4.6.1 Modification of the Instrument

Considering the level of education at which the two instruments were used in the previous studies, there was therefore need for them to be restructured to suit the activities that go on in a typical pre-primary classroom in Nigeria. As a result, the Classroom Interaction Sheet (CIS) and the Ten Minute Interaction Instrument (TMI) were modified to reflect behaviour activities that are exhibited in a typical pre-school classroom setting in Nigeria. The modifications involved: (i) including those activities that were suggested by pre-school advocates e.g. singing, reciting, playing and (ii) coding for teacher interactions towards the entire class, toward a specific group or toward an individual child as was identified by pre-school educators, researchers and

textbook writes (Akinbote, et al, 2001; Myers, 1993;Kutnick and Rogers, 1994). To achieve this, it was important to consult the core curriculum for Nigerian pre-primary schools (meant for ages 3–5). Some suggested teaching methods and activities were therefore included in the instruments. Ideas were borrowed from textbooks, journals and real life observations (Whitebread, 1996; Akinbote, Oduolowu, & Lawal, 2001) on expected classroom activities at this level.

In addition, seven practical sessions where observed in nursery-two classrooms to find out if there were some behaviours that were typical of nursery classes that were not included; also, if there were those included that were not typical of a nursery class activity. It was during these sessions that the researcher was able to identify some behaviours already included in the instruments which were exhibited in pre-school classrooms, showing some ambiguities. Also some frequently occurring behaviours/activities which were typical of pre-school teaching and learning that had not been included. Those that were not applicable to pre-school settings were removed whereas the new ones that depict the classroom behaviours at this level were included. Those included consist of 27 new sub-categories coming under the main 5 categories of CIS. These new sub-categories include were:

- Under Behaviour category 1(– i.e. Teacher Whole-class Activity), ten new sub-categories were added. They include (a) teacher writing on the chalkboard (b) giving directives (c) getting pupils ready for an activity (d) reinforcing response (e) monitoring (f) prompting (g) drawing (h) telling children a story (i) distributing textual materials (j) modelling.
- Under Behaviour Category 2 (i.e. Pupils Group activity), five new sub-categories were added. They are (a) reciting (b) chorus response (c) observing/listening (d) counting (e) identifying.
- Under Behaviour Category 3 (i.e. Individual Pupil Activity) five (5) new sub-categories were added. They include (a) reciting (b) counting (c) copying from the chalkboard (d) identifying (e) demonstrating – which was used to replace manipulating. This is because demonstrating describe better what the teachers did

with these pupils in the classroom during teacher learning activities in terms of trying to explain or show how to do something or how something works.

- Under Behaviour Category 4. (Teacher Not Facilitating Learning), six new sub-categories were added. They are (a) teacher talking non stop (b) pupils asked to shut up and either listen/observe (c) teacher discussing with visitor (d) teacher conversing with another teacher (e) teacher walks out of the classroom (f) distracting attention e.g. telephone rings.
- Under Behaviour Category 5 (i.e. Confusion), only one new category was added (a) two pupils fighting.

Other major alterations were made in terms of removal of some already included items in the instrument. For instance, Pupil learning activity (i.e. Behaviour Category 2) was changed to Pupil Group Activity. The term, learning, was removed because it could not be substantiated whether the pupils have learnt or not since the study would not be administering a test on the pupils after the lesson to find out how much they have learned as a result of being exposed to the lesson. Again, under this category, 5 sub-categories were removed. They include; (a) questioning (b) telling stories (c) writing (d) drawing and (e) painting. The reason for their removal was that these actions could only take place at individual level. In other words, an entire class cannot ask the teacher a question, nor can they all tell a story at the same time. Writing, drawing and painting activities were also considered as actions, which can only occur at the individual pupil level. For instance, when a teacher gives a directive to the entire class to write paint or draw what he/she had on the chalkboard, individual writing materials (exercise book and pencils) were distributed and each pupil did those activities in their respective exercise books. In all, five (5) original sub-behaviour categories were removed from the Pupil Group Activity level but were retained at the Individual Pupil Activity level.

In the Ten Minutes Interaction Instrument, the "nature/what" category, which is made up of six sub-categories (instruction, question, response, feedback, management and qualifier), had some subcategories included. The six sub-categories, which initially

comprised of twenty-six distinct coding categories, were increased to thirty. The four new ones added were as follows:

- Under 'instruction", only one distinct coding category was added-"prompting". Prompting was considered important because based on the pilot testing exercises, it was observed that the teachers often used this method to encourage pupils to speak. The teachers exhibited this behaviour either by asking them to repeat a word after a teacher or a teacher demonstrating to a child how to write by holding a child's hand.
- Under the sub-category "response", five new distinct coding categories were included (reads, writes, counts, spells and identifies). This was to make the kind of response given more specific.
- Under the sub-category "feed-back', "grading" of pupil's works was included.

In all, the CIS and the TMI, have 55 and 48 distinct sub-categories respectively.

4.6.2 Validating the Instruments

Before departure into the field, the Classroom Interaction Sheet (CIS) and the Ten Minute Interaction (TMI) were given to some teachers at the University of Edinburgh Staff Nursery School for scrutiny. They were asked to indicate by marking an 'X' on the sub-behaviour category items which do not frequently occur in a typical nursery classroom setting and also to itemize the behaviours which usually do occur but were not included in both instruments. The teachers specified some of the behaviour categories included in the instrument (CIS only), which are not exhibited during teaching and learning in pre-school classrooms. These behaviours include;

- reinforcing correct responses (under behaviour category 1, i.e. Teacher Whole Class Activity);
- punishing, using negative reinforcement, not reinforcing correct response (under Behaviour category 4, i.e. Teacher not Facilitating Learning); and
- children wandering aimlessly, and class disorganized (Under Behavioural Category 5 i.e. confusion).

However, final decisions were not taken on the suggestions made by these teachers. This was because the target population was neither United Kingdom preschoolers nor was the study meant for Preschool learning environment in the United Kingdom.

Based on this premise, the instruments were given for scrutiny to four practicing teachers of pre-school children in Nigerian nursery schools, two lecturers in the department of Teacher Education (early childhood unit), and two senior research fellows in the Institute of Education at the University of Ibadan. They were asked to check the listed sub-behaviour categories and then mark an 'X' on any that do not fit into a pre-school teaching and learning setting; secondly, to itemize those behaviours which do occur during teaching and learning but were not included. They were also requested to indicate if the items included were ambiguous and lastly to cross check if the listed items in both instruments correspond with the construct - interaction (teaching and learning activities) in a typical pre-school classroom setting. The respondents returned the instruments acknowledging that those activities do take place during teaching and learning and that the items were not ambiguous. However, the practicing teachers emphasized that the frequency at which each behaviour category occurs depends on the subject taught.

Summary of the contents of the TMI and CIS dimensions reflecting the nature of interaction are shown in Tables 4.4 and 4.5.

Table 4.4: Summary of the contents of the modified version of the CIS Major and Sub-behaviour Categories.

Major Behavior Category	Sub-Behavior Categories
1. Teacher Whole Class Activity	Writing on the chalkboard, Demonstrating with materials, Explaining, Questioning, Giving Directives, Getting children to do different activity, Reinforcing correct response, Monitoring, Prompting/simulating, Working with groups, Modeling, Drawing on the chalkboard, Story Telling, Distributing textual materials, Provides answer.
2. Pupil -Group Activity	Reciting, Chorus response, Exploring, Demonstrating, Observing, Reading, Counting, Singing, Role-playing, Structured play, Identifying.
3. Individual Pupil Activity	Exploring, Reciting, Demonstrating, Observing, Questioning, Reading, Counting, Telling a story, Singing, Writing, Drawing, Identifying, Painting, Free-flow play, Role-playing, Copying from the chalkboard.
4. Teacher not Facilitating Learning	Monologue (i.e. teacher talking non-stop), Pupils asked to shut up/stop moving around, Punishing, Using negative reinforcement, Not reinforcing correct response, Demonstrating without materials, Teacher discussing with a visitor, Conversing with another teacher, Leaves the class unannounced, Distracts attention (e.g. cell phone rings, etc), Teacher grading work.
5. Confusion	Class disorganized, Children wandering aimlessly, Pupils fighting,

Table 4.5: Summary of the contents of the modified version of the TMI by nature, dimension and Observational categories.

Nature	Dimension	Observational categories
1. Context		Large group, Small group, Monitoring, Transition, Private, Non-involved
2. Who-to-whom		Teacher to group, Teacher to pupil, Group to teacher, Pupil to teacher, Teacher to other, Pupil to group.
3. What	Instruction	Teaches/explains, Teaches with materials, Teaches non-verbal, Gives examples, Cues (structuring thinking), Directives, Prompting.
	Question	Probe, High-level question, Recall question, and Opinion question, Redirect.
	Response	Writes, Reads, Counts, Spells, Yes/ No response, Recite, Extended response, Identifies, Respondent says "Don't Know", Statement, Silence
	Feedback	Acknowledgement of Correct Answer, Teacher says Answer is Wrong, Teacher repeats answer, Teacher gives answer, Teacher reinforces response, Teacher grades work, and Physical punishment, Effectiveness Questioning.
	Management/ Non Academic	Discipline, Procedural, Social Interaction, Observer Could Not Hear Interaction
Qualifier		Emphasis

4.6.3 Establishing the Reliability Values of The Instruments

Generally it is problematic establishing the reliability of observational measures, for two reasons: the behaviour of the person being observed may change from time to time; and the perception of the observer may fluctuate thereby introducing bias in the measurements (Kerlinger and Lee, 2000). To reduce these problems, intra-observer and inter-observer reliability are usually determined for observational data. Intra-observer refers to the consistency of observational data obtained by an observer from repeated

observation of the same behaviours over a period of time. On the other hand, inter-observer reliability refers to the consistency of observational data obtained by more than one observer. These two approaches required rigorous training sessions organized for the observers.

However, for the purpose of this study, the inter-rater observer reliability was used to establish the reliability estimate of the instruments used. The researcher and one other observer trained with the modified CIS and TMI before estimating the inter-rater reliability. The training was done in stages. Stage one started with some discussion on the categories, followed by memorization of the categories by the observers and lastly observing and coding classroom behaviours in already prepared videotapes. The second stage of the training had to do with visiting pre-primary classroom settings with the instrument to have real life observations. Each observation was recorded. After each real life observation, practice was also done with the tapes. This gave us the opportunity of viewing and stopping the tape to discuss each category classification. The preliminary stages of the training revealed that classroom observation involves as Flanders (1970) noted, some judgments that are not as objective, automatic and as easy as thought.

It was also needed to establish ground rules, which served as a guiding principle to ensure consistency when choices occurred. The rules include agreeing on the speed and number of tallies expected for each instrument. For instance, in the CIS, it was agreed that no rater should have more than six tallies per minute (a tally is therefore expected to be coded after every ten seconds). Therefore, a total of sixty strokes are expected at the end of every ten minutes. However, in the TMI, observers should record the interactions, which occurred in the classroom at least every five seconds, or each time the nature of interaction changed. Thus, a maximum of seventy-two coding tallies were expected for each of the dimensions (context, direction, what, and qualifier) during the ten-minute period for TMI. Thus, a total number of two hundred and eighty-eight tallies were coded for each ten-minute period during which the TMI was used.

The third stage was the trial testing of the two instruments in real life classrooms. Observations were conducted in four pre-school classrooms (nursery 2) in private, public, rural and urban locations. These schools used were not part of the study sample.

During this exercise, 4 observations each were conducted in 3 subject areas, Mathematics, English, and Science. In all, the two observers conducted 12 observations each. After each trial-testing exercise, the data were analyzed with a view to estimating the reliability level of the observations. The observers discussed the discrepancies found such that subsequently; they would interpret the behaviour categories the same way. The training lasted for two-week days.

The method used for establishing the reliability estimate was the Scott's (1955) coefficient formulae also known as Scott's pie cited in Okpala and Onocha (1995). *Scott's coefficient 'p'*, method, is a popular method for determining the reliability of observational data. Though other means for establishing reliability estimate are bound, they were found less appropriate and less easy to calculate. Therefore, a decision was taken to use one that is as simple and quick to calculate as possible and more appropriate for the purpose of the information wanted. The major benefits for using Scott's "pi" method, as noted by Flanders (1979), are that the method is unaffected by low frequencies, can be adapted to per cent figures, can be estimated more rapidly in the field, and is more sensitive at high levels of reliability. Scott calls this coefficient "pi" and is determined by using this formula:

$$\prod = \frac{Po - Pe}{1 - Pe}$$

where Po is the proportion of the agreement observed and Pe is the proportion of agreement expected by chance (which is found by squaring the proportion of the tallies in each category, summing these over all categories and dividing by 100). Thus, Pe is estimated using the formula:

$$\therefore Pe = \frac{(\%\ of\ A + \%\ of\ B)^2}{100} /2$$

The final trial testing results produced reliability estimates of 90% (Literacy), 92% (Numeracy) and 92% (Science) for the CIS and 88% (Literacy), 91% (Numeracy) and 89% (Science) for the TMI. The summary of the reliability estimates calculated during the twelve observation periods is as shown in Table 4.3.

Table 4.6: Percentage of observers' agreement for the CIS and the TMI.

School No.	Subjects Observed					
	Literacy		Numeracy		Science	
	CIS	TMI	CIS	TMI	CIS	TMI
School 1	77	76	78	83	84	72
School 2	63	75	69	84	72	79
School 3	84	83	78	86	82	84
School 4	93*	88*	94*	90*	94*	91*

* *Figures used for the final reliability estimate*

A critical look at the reliability estimates achieved during the four observations show that errors or discrepancies tend to decrease with increasing practice as well as discussions on the views of the ratters after each observation with the instrument. Samples of how the reliability estimates were calculated are shown in Appendices 4 for the CIS and 5 for the TMI respectively.

4.7 Data Collection Procedure

Observations occurred continually for 30 minutes in three major subject areas (literacy, numeracy and science subjects). Observation of 20 minutes of instructional time was made using the CIS during which the instructional time was classified according to teacher instructional behaviour, teacher non-instructional behaviour and children behaviour. There was also an additional observation, which lasted for ten minutes (using the TMI) during which instructional time was classified in three dimensions (context, direction and nature) to facilitate the coding of teacher-child interaction. For a particular teacher, the observations were focused on lessons in three core subject areas: literacy, numeracy, and science skills. Each observation/lesson in a subject area lasted continuously for 30 minutes and the associated procedure was such that the CIS was used during the first ten minutes, followed by the TMI (for a period of

ten minutes) after which the CIS was again used for the last ten minutes of the lesson. All the lessons observed were recorded.

A questionnaire was used at the end of the observation schedule in each class visited. This was used to elicit information on the teacher's qualification only. To get information on the class size, the class registers were used. As well as head counts of the children present.

4.7.1 Procedure for Coding the Instruments

In using the TMI to record observation, the observer started the recording from the section on "context" (i.e. classroom context) sub-categories. The procedure was to write out the initial for the main occurring sub-category out of the six context sun-categories: Large group 'L', Small group 'S', Monitoring 'M', Private 'P', Transition 'T', and Non-involved 'N'. The next focus was on 'Who-to-whom', and 'What' interactions. They were coded by striking out the appropriate codes for each interaction on successive lines (rows) on the instrument. The mark in the 'Who-to-Whom' section identified Who was talking to Whom (this talk could be from Teacher to group 'TG'; Group to the teacher 'GT'; Teacher to a pupil 'TP'; a pupil to the teacher 'PT'; or teacher to other 'TO' (the other could be a visitor, a teacher from another class, a pupil from another class), whereas the mark in the "What" section described the nature of the interaction (what is being said and this could come inform of an instruction, a question, feedback, response and class-management). The Qualifier 'Emphasis' (Em) was coded in addition to the 'Who-to-Whom' and 'What' codes to further describe the interaction that took place. 'Em' showed that the speaker stressed or emphasized the importance of what was being said, whether through vocal intonation or gesture. 'Em' was also used to qualify 'Te' (Lecture/Explain), 'TeM' (Lecture/Explain-materials), 'TeN' (Teach/Explain-Non-verbal), 'Cu' (Cues), 'St' (Statement), 'Ac' (Acknowledgement) or 'Wr' (Wrong). However, the researcher also had the option of writing out the codes on a form such as shown below. For each turn, each observer was expected to code only one activity of 'context', 'who-to-whom', and 'what' respectively. If however, the observer

was having difficulty with this procedure, and was unable to achieve criterion coding, the person could try writing out the codes on a form such as that shown below. This procedure is an international option (Bourke et al., 1989).

Context	*who-to-whom*	*what*	*Qualifier*
01....(1)	*TG*	*CU*	--------
02....( )	*TG*	*LE*	.....
03....( )	*TG*	*LE*	*EM*
04....( )	*TP*	*LQ*	.....
05....( )	*PT*	*ID*	.....
06....( )	*TP*	*ACP*	*EM*

As for the CIS, the observer is expected to code the major occurring behaviours in the column cells of only one sub behaviour category after each interval of 10 seconds.

4.8 Description of Behaviour Sub-categories for TMI

Context

- *Large group, (L)* was coded when the teacher was interacting with more than eight pupils. This code was also used when the teacher was addressing the entire class.

- *Small Group, (S)* was coded when the teacher was interacting with a group of eight or fewer pupils. The teacher was not directly involved with the rest of the class although he/she might be monitoring or observing them.

- *Monitoring, (M)* was coded when the teacher was moving around the room while pupils were working independently. He/she was checking the work of individual students and offering help when needed.

- *Transition, (T)* was coded when the class was preparing for participation in a task by getting out materials, changing or collecting materials, or moving into groups. The class might be preparing for an academic or a non-academic task. If the teacher was involved with a group other than the entire class, T was coded only if the group with which the teacher was involved in transition.

- *Private Interaction, (P)* was coded when the teacher was interacting with an individual pupil outside a group context. These interactions were usually inaudible to the observer and was coded *Ch* – Can't hear.

- *Non-involved (N)* was coded when the teacher was not involved or interacting with pupils. He/she might be sitting at a table grading work, updating class records, preparing materials, or doing personal tasks.

Who-to-whom

- *Teacher to Group (TG)* coded when the teacher spoke to the entire class or the group with which the teacher is primarily interacting.

- *Teacher to Pupil (TP)* code when the teacher spoke to an individual pupil.
  Pupil to Teacher (PT) coded when a pupil spoke to the teacher. The pupil might have been selected by the teacher, raised his or her hand and been called upon to speak or have called out without being recognised.

- *Group to Teacher (GT)* coded when several pupils responded simultaneously to the teacher's question or prompt. The group might be responding in unison, as in a drill or practice situation.

- *Teacher to other: (TO)* coded when the teacher is interacting with any person other than a pupil in the class observed (e.g. another teacher, visitor, a pupil from another class, phone calls, etc).

What

(a) Instruction

- *Teaches/Explains (Te)* was coded when the teacher was presenting or explaining academic materials. Te was coded only when the other instruction categories did not occur.

- *Teaches with materials: (TeM)* was coded when the materials are being used simultaneously as part of the lesson.

- *Teaches non-verbal: (TEN)* was coded when the teacher communicates information without the use of words (e.g. in writing or by gesture, etc).

- *Gives Examples (Ex)* was coded when the teacher gave an example in the context of the academic explanation.

- *Cues: (Cu)* was coded when the teacher makes statements that structured or organized thinking.

- *Directives (Dr)* was coded when teacher's request on the pupils involved pupils' actions. This might involve giving the pupils guided instructions on how to perform a given task such as doing a problem on the chalkboard either by reading writing or in their workbooks.

- *Prompting (Pr)* was coded when teacher urged pupils to say something, reminded/supplied the right answers/ suggested an idea to the pupils

- *Probes: (Pb)* was coded when teacher repeated a question, rephrased a question or asked a different question.

(b) Question

- *High-level question (Hq)* was coded when teacher's question required thinking (comprehension, application, analysis, synthesis or evaluation).

- *Low-level question (Lq)* was coded when the teacher's question required recall or recognition. Usually, one acceptable answer is implied by the question (e.g. yes/no).

- *Opinion question (Oq)* was coded when the teacher's question allowed pupils to express feelings, personal ideas.

- Redirect (Rd) was coded when a question was not answered satisfactorily and the teacher called on another pupil or group to answer it.

(C) Responses

- *Writes (w)* was coded when a pupil came out to write something on the chalkboard as requested by the teacher.

- *Reads (r)* was coded when a pupil read out what the teacher had written on the chalkboard as was asked by the teacher.

- *Counts (c)* was coded when a pupil counted numbers as requested by the teacher.

- *Spells (s)* was coded when a pupil spells a word written on the chalkboard by the teacher.

- *Response (Re)* was coded when a pupil gives response that did not last for more than 10 seconds.

- *Statements (St)* was coded when a pupil-initiated, task-related statement that was not requested for by the teacher.

(D) Feedback

- *Effectiveness of teaching (Ef)* was coded when the teacher sought feedback about his/her effectiveness in explaining or clarifying something.

- *Silence (Si)* was coded when a pupil kept quite when asked a question.

(E) Class Management

- *Discipline (Di)* was coded corrective statement in response to pupil misbehaviour.
- *Procedure (Pr)* was coded when the teacher provided procedural information (e.g. seating arrangement, how to use learning materials, how to tackle a given task).
- *Can't hear (Ch)* was coded when the observer was unable to hear what is said within a non-academic climate
- Social (So) was coded when the teacher spoke on issues that focus on social interactions or discussed with a visitor.

(F) Qualifier

- *Emphasis (Em)* was coded when the teacher was stressing or emphasizing the importance of what was said by either a pupil or the teacher.

4.9 Data Reduction/Management

To reduce the data to manageable size, the evidence collected with the CIS and TMI were summarized in a format that SPSS can understand whereas those obtained with the video camera were transcribed and reduced under the following headings: classroom environment, organization of activities, seating arrangements, resource provision, class rules, discipline at Schools, teacher – child interactions, language use at the schools, and verbatim reports of the interaction patterns. The choice of this format was based on the views outlined in chapter 3 on what quality pre-schools entails and secondly to ensure that they correspond with the variables coded in the structured instruments. For the CIS and TMI, a codebook was prepared. This involved defining and labelling each variable (i.e. listing all the variables in the questionnaire and assign abbreviations that were used in SPSS) and then assigning numbers to each.

4.10 Data Analysis

Data analysis involved the use of the following statistical procedures: transcription, frequency, percentages, chi-square, analysis of variance (ANOVA), t-test and graphical illustrations. The procedures vis-à-vis the research questions were as follows: for research questions 1: these required detailed description of what was transcribed from the video recordings. The identified pre-school quality indicators discussed in chapter 3 guided the descriptions. For research question 2a and 3: these required frequency, percentages and graphical illustrations whereas research questions 2b and 4: these required one-way analysis of variance (ANOVA), t-test (for independent groups), chi-square and graphical illustrations. The rationale behind using this type of statistical procedures is based on the type of questions asked. For instance, the Research Question 2a and 3 which sought to find the prevailing interaction patterns and the characteristics of the patterns of instruction observed demands such statistical operations like calculating the general frequencies of occurrences of the behaviours observed from all the teachers as well as that of languages used using the subcategories (teacher-whole class activities, Pupils Group activity, Individual Pupil Activity Teacher Not Facilitating Learning and Confusion)

In addition, to provide answers to such questions as: Are there significant differences in the prevailing interaction patterns while teaching the three core subjects in the curriculum: literacy skills, numerical skills and science (research question 1b) and Are there any significant group differences in the prevailing interaction patterns based on language of instruction; qualification of the teacher; class size; class location (urban/rural); and school type (public/private) (research question 3) will require analytical procedure for comparing more than two groups, for comparing two groups and test for relationship. Thus, ANOVA was regarded the best statistical analytical procedure comparing the interaction patterns when more than two subjects are involved (literacy, numeracy and science) and more than two types of class size (low, medium and high). Answers to research question 1b which set out to find out whether the significant group differences in interaction on use of instructional time and direction of

communication) depend on language of instruction: a chi-square statistical test should be used. A t-test statistics is regarded as the best procedure for comparing independent groups to reveal whether there is a statistically significant difference in the interaction patterns for variables that have only two groups (location, school type, teacher qualification).

To find out the general trend, if the direction of communication is distributed across the various location groups (urban/rural), school types (private/public), teacher qualification (those who have obtained the minimum qualification requirements to teach in Nigerian schools/those who do not) chi-square statistics had to be used. This statistical procedure is considered most appropriate because the data /information on direction of communication occurred at the nominal/categorical level. Such a set of data will require a non-parametric measure of group differences in the dependent variable attribute (in case of direction of communication), while the grouping variables for others are also location, school type, teacher qualification respectively.

4.11 Ethical Issues Considered

The ethical issues considered here include the researcher's code of conduct, used to guide and control her level of intrusion into the lives of the respondents. Ethical issues while researching with children in educational settings in Nigeria are not considered even when it appeared in the UN legislation on children, most notably Article 12 of the UN Convention on the rights of the child. This might be based on ways in which Nigerians see and view children's opinions (Maduabum, 2001; Uka, 1966) and also in collaboration with Punch's (2002) view that ways in which researchers see children affect the way they seek and listen to their opinions. Nigerian children grow up in a society where according to Uka, (1966) and Maduabum, (2001) 'children are seen and not heard'. However, the researcher's exposure to a course of study at the University of Edinburgh 'Listening to Children, research and consultations' served as an eye opener on the need to get children involved on matters that concern them. Secondly, in the UK which is where the researcher was based, the United Kingdom Children Act 1989,

upholds consideration of children's views and feelings in procedures affecting them. In addition, the growing literature (Punch, 2002; David, Edwards, Alldred, 2001; Hurley and Underwood, 2002) on ethical issues in research with children drew my attention to this requirement.

More specifically, the ethical issues considered include:

- Informed consent,
- Anonymity, and
- Confidentiality.

4.11.1 Informed Consent

Issues that border on getting informed consent involves acquainting the would be gatekeepers (Punch, 2002) in the information collection sites that one was working on, how one wanted to go about it and when and then sought their approval. Seeking consent required getting permission first from the head of department at the Moray House School of Education, the University of Edinburgh and the Institute of Education, University of Ibadan were I work, covered with a letter of introduction duly signed and stamped to assure the would-be gatekeepers that the information collected was meant for research purposes only. However, the letter from Head of Department at the Edinburgh University was with drawn because during the pilot testing of the instruments, the observer had some bitter experiences which led to it withdrawal. The experience was that 4 of the head teachers whose schools were to be used after reading the letter from the UK felt that I was rich and thus demanded for some money as well as gifts before they could allow me use their school. With the letter, the researcher introduced herself to the gatekeepers and explained the purpose of her visit. This included the nature of the research (title and aims of the research), my target audience and the extent to which the children and their teachers were involved, numbers of schools covered, area of coverage (urban, rural), school type represented (public and private pre-schools), and length of time spent in every school. Copies of the instruments used were also given to them to scrutinize and the method of information collection discussed. At this stage, issues

concerning the use of video tape recording device and taking of their photographs during the observation activities were discussed. Thus, audio/video tapes were only be used if they (parents, teachers and the children) consented to that.

Since the proposal has a national spread, consent was sought through a lot of key stakeholders in the education sector in Nigeria. Considering that the country's system of government has three tiers; the Federal, the State and the Local Government levels, permission was sought along these levels through their respective education departments. At the Federal Government level, the office of the Minister of education was informed through the Universal Basic Education (UBE) Commission; the unit in charge of pre-primary education. When permission was granted at this level, the researcher was allowed to seek the consent of the education office at the State Government level. In each State used, approval was received via the State Primary Education Board (SPEB), the department in charge of education matters for both pre-primary and primary levels. At the Local Government Level, consent was sought through the Local Inspectorate of Education (LIE). When permission was granted, lists of schools registered and approved by them were collected and those used singled out.

In each of the selected schools, permission was sought through the head teacher and the teacher whose class has been selected. The process of seeking permission involved discussing with the head teachers and the class teachers the essence of the research work particularly how the research will help to improve the quality of instructional delivery in their pre-school classrooms in Nigeria. Further explanations were given on the nature of observation in terms of length of time spent and the kind of instruments (the TMI, CIS, and video camera) used. The fieldwork only took place in the selected schools that consented to the details of the data collection procedure. As a result, more than the required number of schools was selected to provide sufficient room for replacement in case some of the selected schools failed to consent to participating in the study. However, care was taken not to tell them of the day when the observation would take place. This is to reduce artificiality (producing very unnatural and untypical interaction patterns).

The consent of parents of the children whose classes were used was obtained through the schools. Letters were written to the parents via the schools, duly signed by the head teacher and the class teacher and delivered by the children. About 94% of the parents allowed their children to participate. It is believed that the vulnerability nature of the children made it impossible for them to give approval on whether to participate or not. The children's consent was sought in a whole class by explaining to children the purpose of the visit and how I intended to carry out the research process. The researcher concluded by letting the children know that it was not mandatory that they take part that whoever wished not to take part could decline. In addition, the children's consent was also sought through their respective parents as well as head teachers and class teachers who served as their gatekeepers, in terms of protecting them from harm and exploitation while in school (Masson, 2002; Punch, 2002).

4.11.2 Anonymity and Confidentiality

It was ensured that respondents were not identified either by location or school type while writing up the report for dissemination. Therefore, explanations were given to the gatekeepers on how the identities of the schools and teachers used were anonymized. Details of how to ensure that the information gathered would be disclosed in such a way as to protect the identities of those who provided it were discussed. For instance, distinctive features such as numbers and letters were used to hide the specific identities of schools and individuals who provided the research information. However, photographs of those who wanted theirs to be taken and displayed were used.

4.12 Methodological Challenges

There are several challenges facing researchers who are concerned with collecting statistical data from pre-school settings regarding instructional delivery through observation. The following three challenges, which were already discussed earlier in this chapter, are examples of difficulties encountered while obtaining

information using the observational method. They include developing the observation instruments for conducting the study and structuring it in such a way as to ensure that classroom behaviours of interest are correctly assigned to categories; the categories are exhaustive and mutually exclusive; the presence of the observer did not affect the objects of the observation (teacher and pupils); and precision and clarity were associated with the variables being measured/observed behaviourally.

There were also issues of fears from the Ministry of Education officials, head teachers, teachers and parents of the children whose classes were observed. For instance, officials might think that the research activities would cause disruption to the routine activities of the participating schools or might find out how much the government is spending on this level of education. The head teachers of the schools might feel that the research study would expose the inadequacies of the school management while the class teachers whose class lessons are to be observed might think that the observations would lead to passing summative judgements on the teaching-learning activities of their classes. The head teachers and the class teachers might also think that the research report could be used by the ministry of education officials as the basis for punishing them for any inadequacies highlighted by the research report. In addition, the head teachers, teachers and parents of the children whose classes were are used could to be concerned with how the research would ensure anonymity and confidentiality of the research information sources. All these alleged fears and concerns made some of the school heads (10% of those initially selected) refuse allowing their school to be used.

Another challenge encountered was how to develop strategies for getting information on the schools that are not registered. During the pilot study, the following additional information was obtained that all the pre-primary institutions in Nigeria are not registered. This was further confirmed by the Ministry of Education official (Director of Schools in Oyo State), who stated that at least 60% of pre-school institutions in Oyo state are not registered. She however advised that this should not feature as a question to be asked of the head teachers of the schools visited as this might make them think that the researcher was a ministry of education official there to monitor them. This could have resulted in them withdrawing the school from the project. As a

result, this was played down since even the government do not have a comprehensive list of those that registered.

4.13 Conclusion

This chapter discussed the methods used in generating evidence for this thesis. The choice of method was guided by the research questions, which is the central purpose of the study. This chapter therefore guided the generating of data used in discussing the interaction patterns prevalent in Nigeria pre-school settings. Details of the discussions on these findings will be presented in the following chapters (5, 6, 7, 8). Qualitative method was used to present data for research question 1, which dealt with the characteristics of Nigerian pre-school environments. The results will be presented in chapter 5. However, the quantitative result chapters are presented in chapters 6, 7, and 8 of this thesis.

Chapter 5

A Qualitative Overview of the Characteristics of Nigerian Preschool Classroom Environments

5.1 Introduction

The last chapter discussed methods used to generate data for the thesis. It also described the challenges encountered during the data collection and how these challenges were addressed. Discussion also focused on the analytical procedures used to reduce the raw data into a concise interpretable form. The nature of the data generated gave rise to the use of different methods of data analysis. These include the SPSS and transcription methods. The SPSS was used for data generated with the structured instruments (CIS and TMI). These produced quantitative results whereas the video coverage of the lessons observed was transcribed and the information generated from the transcription produced the qualitative results. The quantitative results are presented in 3 separate chapters 6, 7 and 8 respectively.

The present chapter will focus on the qualitative results of the thesis. The results provide information on the research question one, concerning the nature and characteristics of Nigeria's preschool classroom settings using the identified preschool program quality indicators discussed in Chapter 3 as a guide.

5.2 Research Question 1: What are the environmental characteristics of preschool classroom settings in Nigeria in terms of nature of Classroom environment, seating arrangements, organisation of daily routines, Resource provision; discipline, Language used during instructions, and Class rules.

5.2.1 Results

This section presents qualitative descriptions of Nigerian pre-schools classroom environments. Seventy-two preschool classrooms were made. To ensure that schools from urban/rural locations as well as public and private schools were equally represented, eighteen preschools from each category participated in the study. Two

hundred and sixteen observations in three subject areas (literacy, numeracy and science lessons) were carried out. The structure used for the transcription was based on the views of pre-school educators on what quality preschool education programmes entail discussed in chapter 3. Such quality indicators include the nature of preschool classroom environment provided, teacher-pupil interaction patterns, language of instruction, organization of activities as well as resource provision and utilization.[12] Other factors such as class rules and discipline were included based on the frequency of occurrence noted during the validation of the instruments. To maintain uniformity, the observed classrooms were also grouped according to general characteristic, commonalities as well as differences existing among them. The descriptions are structured to reflect the quality indicators identified by preschool advocates as well as the researcher's personal experiences.

5.2.2 General overview of the Classroom Environments of the schools visited

It was observed that different characteristics of preschool classroom environments exist. They comprise those with basic classroom structures provided, those with buildings but without the basic furniture and those where neither furniture nor buildings were provided. In schools where structures were provided, they were usually long buildings partitioned into rooms. Most of these rooms were not up to the recommended 35sq. metre per child (NERDC, 2004). The rooms were overcrowded because of the number of children allocated to each classroom space. Most of the schools (both public and private) did not adhere to the recommended 12:1 pupil to teacher ratio by the Nigerian government (Federal Republic of Nigeria, 1977). Thus, because of the number of children struggling for the available space, both teachers, as well as the pupils found it difficult to move around freely. The situation was more common in the private schools. Most of the private owned schools were located in

[12] National Research Council (2001); EFA Global Monitoring Report (2005); Myers (1993); National Association for the Education of Young Children (1997); FRN (2004); Association for Childhood Education International, (2002).

residential homes with little or no adjustment made to the buildings to provide the needed comfort.

The physical environment of the public schools visited in the rural areas left much to be desired. Some schools, though situated in serene environments had no physical structures provided. The children and their teachers took classes under mango trees. The shades from the trees were used as classroom areas. The tree trunks provided support for the chalkboard. Neither seats nor desks were provided for either the teachers or the pupils. The children sat on empty cans, stones and blocks, which each child brought from home.

Figure 5.1: Preschool classroom under the mango tree.

Uncompleted buildings were also used. Such structures were without roofs, windows and doors. Further, no seats or writing desks were provided for either the children or their teachers.

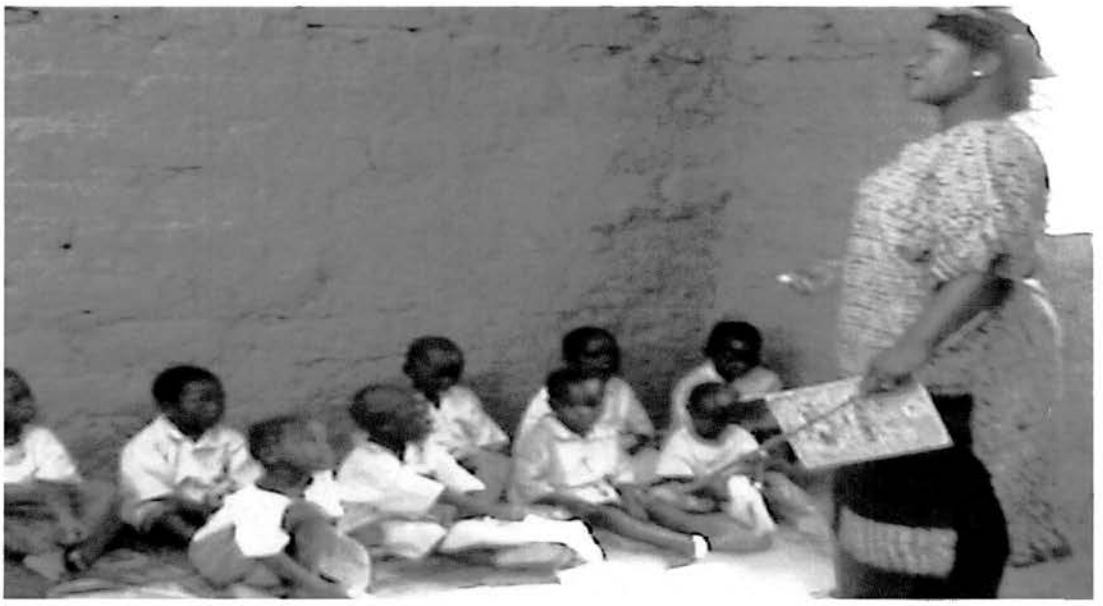

Figure 5.2: Preschoolers receiving instruction in an uncompleted building in Nigeria.

Furthermore, in some preschools observed in both urban and rural areas where physical structures were provided, classroom spaces were inadequate. The number of children allocated and the type of furniture provided were not proportional. While in some preschools, the quantity of furniture (long benches and writing desks usually meant for adults use) was more than enough that classroom space could accommodate. In others there were an insufficient number to go round the children. There were also preschools with physical classroom spaces but not enough seats and desks provided for the pupils and teachers.

Figure 5.3: Some preschoolers seating on bare floor during instruction because of inadequate chairs.

However, it is interesting to note that despite the inadequate provision of essential infrastructure by the Nigerian Government and individual owners of these schools, children who attended them, still showed zeal and interest to learn. They performed their class tasks (writing or copying notes the teacher wrote on the chalkboard) in spite of the discomfort they experienced through sitting on stones/cans/blocks and holding their exercise books in their hand while they used their knees for support (for those who have books) while those who do not have wrote theirs on the ground.

Figure 5.4: Preschool children in a rural area in Nigeria doing their class task on the ground.

By contrast, in urban locations, some pre-school classroom environments were decorated and provided enough space for teachers and children to move around freely. These classrooms also had sufficient number of seats, desks and tables for the teachers and the children with some playthings for the children.

Figure 5.5: Preschool classroom environment with child size furniture and playthings.

In all the schools visited, there were no designated areas in the classrooms for specific activities. For instance, there were no reading areas (with story books of different types with colourful illustrations or tapes/video tapes to accompany the books); writing areas (with pens, pencils of different colures, papers of different colours, sizes and shapes); role-play areas (with costumes to encourage story making or dramatization of any story told) nor science area (with a range of materials to encourage children to ask questions on 'how' about things as well as discover the 'how' of things themselves) .

5.2.3 Resource Provision

In terms of material provision and utilization, all the classes observed, were lacking in supply of instructional materials. This aspect of pre-school organizational demands left much to be desired in Nigeria. During the data collection exercise, it was noted that the teachers observed irrespective of the subject taught, did not in most cases, make use of instructional materials during classes. This tended to affect the participatory level of the children as well as the effectiveness of the lesson taught. For instance, all the numerical skill lessons observed (in such topics as counting of numbers) demanded the use of practical life experiences. Thus, teaching such topics to beginners, to a very great extent, demanded the use of teaching materials with which the children should have had practical counting experience as well as first hand knowledge with everyone being involved. Teachers most often used the children as teaching aids by asking some children to come out while they were counted. The children themselves resorted to using their fingers as counting materials to perform numerical tasks.

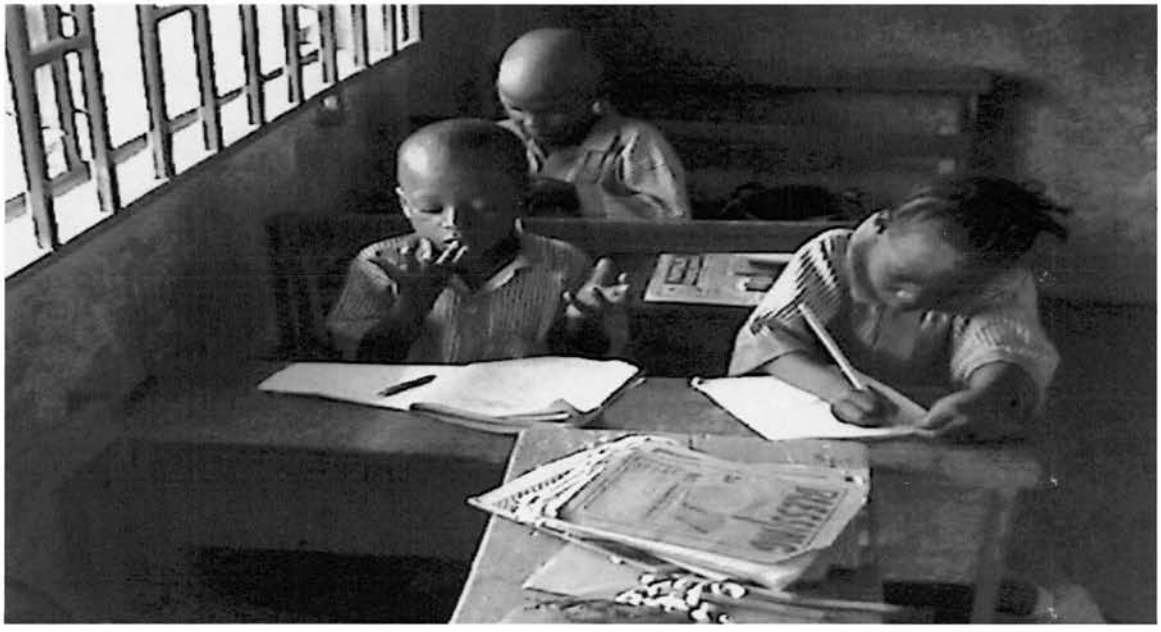

Figure 5.6: Preschooler solving some quantitative problem with their fingers during numerical skill task in a private school.

The practice of using members of the class as the teaching aid and asking only one pupil to come out and do the counting alone while the others watched on or responded in unison might not be best method to have used. The use of whole class response (chorus responses) method could even make it worse. This is because very many pupils in the classrooms are most likely not to have participated in providing the responses during the lessons. The majority of the children who were not called out and who might not have understood what the teacher taught are most likely to hide under the cover of whole-class (chorus) response and as a result go unnoticed. However, the teachers could have used some of the readily available teaching materials in their environments (such as stones, sticks, bottle tops, seeds.) during such lessons. The pre-schoolers themselves would have gladly participated in the provision of these materials if asked to do so by their teachers. This way, the teachers would have had more than enough of these teaching materials to go round the children during numerical skill lessons. Once they are available, teachers could distribute them to the individual children during lessons and then observe them while they do the counting themselves.

The materials provided in most the classrooms observed, especially in those located in urban areas, were a few commercially made charts of letters of the alphabet and numbers, charts for teaching colours and shape identification along with those improvised by the class teachers. Posters with pictures of people depicting different professions (doctors nurses, police officers, lawyers, priests, etc), Nigerian past and present leaders, animals, and birds, among others hung on the walls of the classrooms. Children's drawings and paintings were also displayed on the walls with their names written by the teacher or the children themselves. All the materials available in most cases were very few. Thus, children in most cases did not have the option of choosing items needed and working independently. Resources available in the pre-school classrooms were also not likely to stimulate the interest and learning among children. There were no storage facilities or designated areas for keeping instructional materials within the classroom environments. This might be because such materials were not provided in large quantities. The most common teaching aid provided in all the classrooms observed was the chalkboard. It was on these boards that teachers illustrated

what they taught by either writing them out or drawing objects (where necessary). These drawings and words written on the chalkboard served as concrete symbols of the abstract words used while introducing lessons/topics. In situations where other teaching aids were provided, they were usually kept in the head teachers' office after use for fear of their being destroyed by the children.

Teachers also voiced concern about the unavailability of basic facilities. In some classes, there were two to three teachers handling the day's activities with class sizes, which ranged from seventy-five to ninety-six children. The teachers were given two to three chairs and only one table to share. As a result during assessment of children's work, they did their work standing while the children clustered around them.

Figure 5.7: Teachers standing during grading of pupils' work with some children seating and writing on bare floor because of lack furniture in their classroom.

5.2.4 Seating Arrangements

Generally, in most schools observed, the teachers' tables were positioned at the front (left or right hand side corner) of the classroom depending on where enough space was available. The tables served as storage facilities for the teachers' and pupils' books. The pupils were allocated seats in rows facing the teacher and the chalkboard.

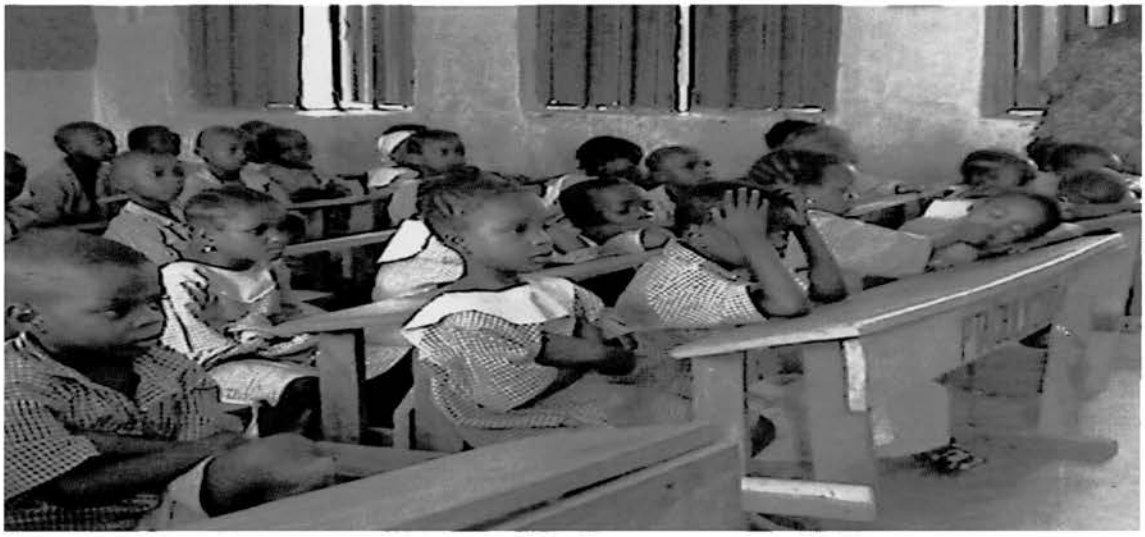

Figure 5.8: Children seating in rows facing the teacher

In some classes (particularly in the northern region and some parts of western region), seats were allocated to pupils on gender basis because of religious beliefs.

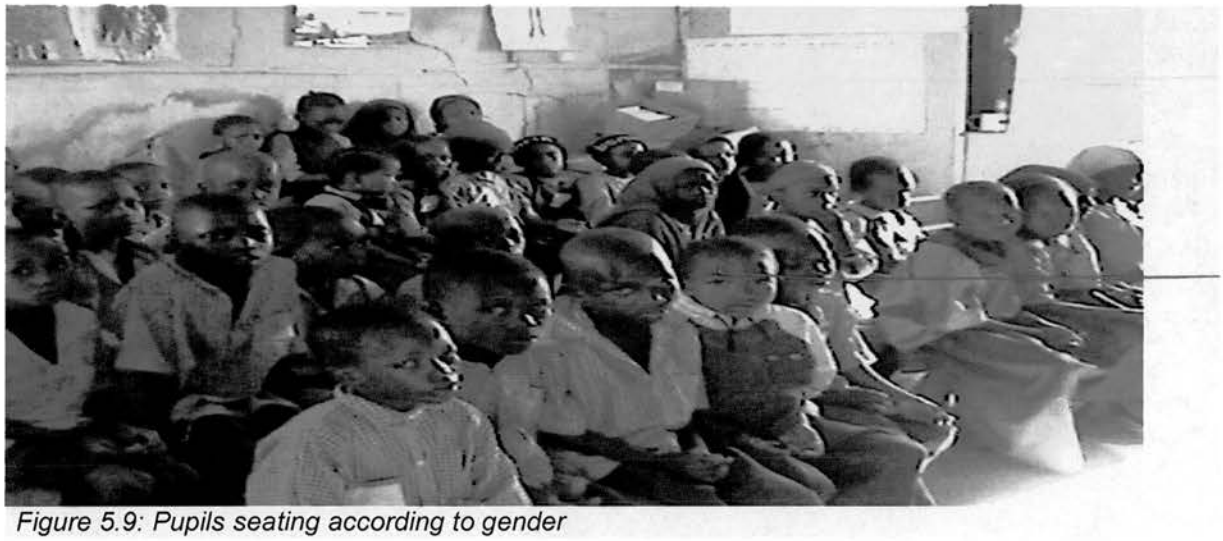

Figure 5.9: Pupils seating according to gender

However, in the eastern and some parts of western regions of Nigeria, such gender separation was non- existent.

There were very few classrooms where seats were arranged in such a way as to encourage or enable children to work in pairs or groups. In some, children were paired (male and female) whereas in very many other classrooms, as many as ten children share a long bench with little or no space in between pupils.

Figure 5.10: classroom environment in a private school in an urban location

This arrangement (seating in rows facing the teacher) was never adjusted or changed during the course of any lesson to give room for group work. Present days preschool classrooms in other parts of the world e.g. Scotland have children sitting round tables in small groups rather than sitting in long benches facing the teacher.

5.2.5 Organization of Activities

It was observed that the pre-school activities in Nigeria were highly structured. All the classes observed ran full day programmes, which lasted for five and half hours starting from eight o'clock in the morning to one-thirty in the afternoon. Each day has timetabled sessions that have a clearly defined beginning and end. The children were

usually not free to choose what they would want to do at any particular time or when they wished. Usually, the mornings were started off with morning assembly after which children retire to wherever served as their classrooms. During the morning assembly or morning devotion as it is referred to in some schools (which usually takes place in an open space), prayers were said and general announcement made. This usually lasted for about twenty-five minutes. Back in their respective classroom areas, the classes observed started the day's activities with roll calls. Morning roll calls in each class enable teachers to know the children that were absent from school that particular day. To find out those who were absent, the teachers called out the names of the pupils to which each child answered either "present uncle" if the teacher is a male "present aunty" if a female or "yes aunty/uncle". However, it was observed that once the name of the child who was absent was called, those present would respond in chorus "absent aunty/uncle". This lasted in most classes for ten minutes or more depending on the class size.

Instructional activities were focused on any of the subject areas in the curriculum as they appeared on the timetable. Recommended schemes of work for each subject area were used in most of the schools visited. A time period, usually thirty-minutes, was allocated to each subject area. However, there were days when some core subjects (literacy and numerical skills) were allocated double periods. Instructional activities in each subject area were limited to the allotted time.

Table 5.1: A sample of a weekly timetable in one of the schools visited.

Time /Day	Monday	Tuesday	Wednesday	Thursday	Friday
8.00 – 8.25	REGISTRATION	AND	MORNING	ASSEMBLY	ASSEMBLY
8.30 – 8.55	News	Games	Music	Numbers	Numbers
8.55 – 9.25	Numbers	Games	Numbers	Numbers	CRS
9.25 – 9.30	SHORT	BREAK	SHORT	BREAK	BREAK
9.30 – 10.00	Music	Numbers	French	Letters	
10.00 – 10.30	Numbers	Numbers	Music	Letters	
10.30 – 11.15	LONG	BREAK	LONG	BREAK	BREAK
11.15 – 11. 40	Phonics	Letters	Letters	Social norms	Elem. Science
11.40 – 12.05	Phonics	Letters	Letters	Elem. Science	Social norms
12.05 – 12.10	SHORT	BREAK	SHORT	BREAK	BREAK
12.10 – 12.40	Health	Library	CRS	Arts	Songs & Rhymes
12.40 – 1.00	Story Telling	Picture Reading	Yoruba	Writing	

Direct instruction to the whole class appeared to be the norm with little or no time for one-to-one interaction. Individualized work was observed to have occurred mainly when pupils were performing class tasks usually set by the teacher. With regards to subject fixtures in most of the classes observed, it was noted that literacy (English language) and numeracy (mathematics) usually featured in the morning hours whereas, science and other subjects were randomly fixed for both afternoon and morning periods. The teachers observed tended to lay much emphasis on reading and writing exercises. These two activities featured prominently in all the lessons observed. These exercises the teachers believed would aid in developing children's reading and writing skills for other levels of education. The activities usually involved the whole-class reading aloud after the teacher, what the teacher wrote on the chalkboard or at times teachers calling on small group of children in rows or individually. A great percentage of the lesson times in all the subjects observed were spent performing these activities. The instructional activities usually ended with the teachers asking the children to copy what was written on the chalkboard, draw or do some tasks in their exercise books. Teachers normally distributed the children's writing materials (exercise books and pencils), opened the correct page where each individual child should write on, as well as explained to the children how to carry out these tasks. They also demonstrated to the children how to go about the class tasks. The following extracts are examples from one of the literacy lessons observed where such reading and writing activities occurred.

The teacher wrote the subject and the topic (letters of the alphabet) and asked the children to read after her.

T- WC[13]: what do I have on the board?
WC – T: 'A'
T – WC: No. I have A to Z. Letters of the alphabet.
WC – T: Silent
T – WC: Say after me letters of the alphabet.
WC – T: alphabet
T – WC: All of you say letters of the alphabet (pointing at the words written on the chalkboard).

[13] T-WC means 'teacher' talking to 'whole-class'; WC-T means 'whole-class' talking to teacher

WC – T: letters of the alphabet.
T – WC: All of you say 'a' (read aloud pointing at each letter) 'b', 'c', 'd'……..
WC – T: repeated after her

After the reading activities, which lasted for about 25 minutes, the teacher, announced that it was time for the children to copy what she wrote on the chalkboard in their workbooks. Directives were also given by the teacher on how to carry out the task.

T – WC: You should copy the capital letters first
WC – T: Observed
T – WC: Then you continue with these ones (in L1[14]) then small letters.
WC – T: Eeh (Meaning 'yes' in L1).
T – WC: Start now! (in L1)
T – WC: You people should write date first, (pointed at the date on the chalkboard) understand?
WC – T: silence
T – WC: Say after me, I shall write date first. (L1)
WC – T: Chorused I shall write date first.

After the directives from the teacher, the children were asked to bring out their writing materials in schools where each child keeps his or hers but in situations were the they were collectively kept by the teacher, the teacher or a child was asked to distribute while the teacher called out their names.

Time allotted to various subjects on daily basis was strictly adhered to. Thus, each teacher tried to finish the topic of the day in the subjects observed. This must have caused their option of going for whole-class activities and direct instruction. In most cases (according to subject fixtures on the time-table) children tend not to have rest periods in between lessons until the break period. There were situations where some children cried and refused to continue with the next lesson. On one of such occasions, one of the pupils when asked why she was crying, told the teacher that she was not allowed to finish the previous lesson before being asked to engage in another one. She therefore told the teacher that for her to join in the current lesson, the teacher should return her exercise book to enable her finish the task of the previous lesson. To this, the teacher agreed, allowed the little girl to finish the previous work (class task) and got it

[14] L1 means language of the children's immediate environment

graded. This made the little girl excited and happy enough to join in the literacy skills lesson.

However, when this episode was discussed with the class teacher after class activities, she laid the blame on the curricular planners and school administrators. She argued that they made the fixtures, which resulted in curriculum overload for the pre-school level. The teacher was of the view that such episodes could arise because of the undue rush which the teachers were subjected to in terms of making sure that they finished what they have on the time-table each day as well as the content demands of the curriculum at the end of the term or year before the children move on to a higher class. The tight schedule of the timetable could also not have made it impossible for the teachers to extend children's learning activities after each lesson.

Playtime was seriously restricted to the time it appeared on the timetable, twice each day. These were labelled as break period (long and short breaks). These periods were used for "eating of snacks" and play by the children. Snack period comes first during the short period whereas playtime was during the long break, which usually lasted for thirty-five minutes. After the long break, academic activities continued until one-thirty p.m. on Mondays through Thursday and 12 pm on Fridays (in the Northern and some areas in Western region) during which the formal classes close officially. They close early officially on Fridays to allow the Muslim faithful to attend Jumat service. In fact there was a time for everything. The teachers' roles were to organize children's daily activities while the children just followed the rules. The teachers organized the lessons, planed the activities to be carried out by the children, taught the lessons and also determined when each child should stop performing the associated tasks. Children were never allowed or given the option of choosing what they would want to do.

5.2.6 Language use at the schools

It was generally observed that all the teachers used English language as the language of instruction. The language of the children's immediate environment was minimally used. English language was widely used by the teachers even when it was clear that the children were not favourably disposed (in terms of understanding) to the language nor could the children communicate fluently in the language. In fact it was noted that the children appeared to be inactive when explanations or instruction were given in English language. For instance, whenever the teachers asked questions to the children in English language, the children were seen to be silent because of their inability to make sense out of what the teachers had said. However, the reverse was usually the case whenever the same questions were asked in the children's first language. Included are some of the effects of language on pupils' participation during instruction.

T – WC: O.K what are non-living thing?
WC – T: Silence
T – WC: Repeated the question again in L2[15]
WC – T: Stared at the teacher
T – WC: Meeh no-living things mmh? (LI meaning you do not know non-living things?)
WC – T: Silence
T – WC: What we mean by non-living thing is something that cannot move from place to place, isn't it
WC – T: silence
T – WC: (in L1) what I mean by non-living things is something that cannot move about, eat, run……. kinji kwoo? (is that clear?)
WC – T: eeh (meaning yes).
T – WC: (in L1) who can tell the things that cannot move
T – WC: hands up with children shouting "aunty me" (in L1)
P - T[16]: Oche (meaning chair)
T – WC: Yes!
2P - T: "Okwute" (meaning stone)
3P-T: "akwukwo" (LI) (meaning book)
4P-T: "Okuko" (L1 meaning chicken)

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[15] L2 means English Language
[16] P = pupil T = teacher (P-T= Pupil to Teacher)

T – WC: (Intercepting in English) Is Chike (name of the boy) correct?
WC – T: silence
T – WC: (In L1) Chike ozatara ya? (meaning did Chike give the correct answer?)

This topic, which the teacher claimed to have been taught before was then repeated thereby taking more than half of the lesson time whereas the topic meant to be taught was talked about minimally. This was because the children appeared to be confused and resorted to silence each time the teacher tried to find out how much they understood the previous lesson using English language. However, it could be seen that as soon as the teacher switched over to the language the children were conversant with, the children responded.

The use of English as the medium of instruction at this level of education runs contrary to what was prescribed by the Federal Government of Nigeria in the National Policy of Education (Federal Republic of Nigeria, 1977 revised 1998 & 2004). In this document, the government indicated that the medium of instruction at the pre-primary level of education should be principally the mother tongue or the language of the immediate community of the children. The government therefore appreciated the importance of language as a means of promoting social interaction. One therefore wonders why the same government has failed to make sure this guideline is being adhered to through its monitoring and evaluation of the schools department. This is because frequent communication breakdowns during instruction within which preschoolers were totally confused and as a result could not make meaning out of what the teachers were saying might not augur well with the nation's educational systems. This could cause the children to not want to proceed in the pursuit of education and as a result could increase the drop out rate as well as under-achievement at the primary level and beyond.

5.2.7 *Class Rules in preschool classrooms in Nigeria*

The key element in the organization of pre-school classes observed was a positive behaviour policy based on children observing rules and taking up responsibilities. Children were encouraged by their teachers to take control and be responsible for some of their behaviours/actions while the teachers ensured that the rules were obeyed as much as possible. Most of the classes observed had its set of rules and responsibilities, which the children were expected to obey. For instance, in most classes, no child left the class without formal permission (either leaving without a card called "exit card" or without letting the teacher know). The card was usually hung on the wall near the blackboard or kept on the teacher's table. The absence of this card indicated that someone was out and as a result, the next person wanting to go out should hold on until the person with the card comes back. In addition, children in some classes were given the responsibility of distributing the writing exercise books to all members of the class before a writing task begins. The child whose duty it was to do it on each day distributed and retrieved the books as well as made sure they were carefully kept away on the teacher's table or in a storage facility if provided. Other responsibilities given to children in some of the preschools included distribution of food/snacks to classmates where such was supplied and retrieving the flasks used for washing by the food vendor as well as taking out groups of children to the toilet/urinary during the short break. Children appeared to enjoy carrying out these functions. However, the teachers usually punished any classmate who disobeyed this arrangement.

5.2.8 Discipline at the schools

Discipline at the preschool classrooms observed was not gentle. Physical punishments were sometimes exerted by the teachers on the children. The surprising thing about this was why these little ones were being punished. Based on the observation carried out in the preschool classrooms, the reasons include a child's inability to read what the teacher wrote on the chalkboard properly, inability by the

child to copy what the teacher had written on the chalkboard into his/her exercise books during class task, as well as children talking with one another in the classroom during instruction, among others. Children appeared to be tensed whenever their teachers brought out the sticks.

Figure 5.11: A child doing her work in fear with teacher monitoring

The use of such reinforcement was opposed by early childhood educators (Montessori, 1912; UNESCO, 2007). This type of reinforcement could instil fear into the minds of these children at this early stage of their life and as a result end up believing that the teaching learning processes in school environment are all about punishment. Children might also end up not wanting to participate actively during lesson in terms of attempting to answer questions for fear of being ridiculed or punished by their teacher should they provide wrong answers.

Derogatory words like 'you will never learn', 'shame on you', 'you do not know anything', as well as actions like flogging were also used by the teachers on the children as disciplinary measures. Included are some examples. This episode took place in a numeracy lesson during which time a pupil was asked by the teacher to come out and read to the whole-class.

T – P: In L1, Class what did he say?
WC – T: Laughed
T – WC: Are we reading 'A, B, C'?
WC – T: Continued laughing.
T – P: Pointed at figure '1' say one!
P – T: "one" (inaudibly)
T – P: Shouted at the boy, open your mouth!
T – P: Pushed the pupil on the head.
P – T: Wiped his tears and read two, ...eight ... got stuck at 'nine'
P – T: Kept pointing at eight.
WC – T: Observed and laughed at him.
T – P: (when will you ever know how to count 1, 2, 3....) pointed as he said, "say nine"!
P – T: Nine.
P – T: However he forgot the next number
T – P: Ehe!
P – T: Pointed at figure ten and kept quiet.

Another teacher during literacy lesson

T – P: Now, let me have the stick.
P – T: Handed the stick to the teacher.
T – P: Ruth, come and read.
P – T: Silent
T – P: I say, come and read (good for nothing girl!)
P – T: silent
T – P: If I meet you there I will flog you very well.
P – T: Stood up reluctantly
WC – T: observed (all eyes now on Ruth).

These types of negative reinforcement measures were prominently used during whole class teaching when a child was unable to provide correct answers to the teacher's questions. The use of such words may end up causing more harm than good in the emotional development of the children on whom such words were used. They may begin to believe that really they can never learn! This belief, if internalized, might affect the children's attitude towards schooling.

Disciplinary measures also included such actions as insisting that children must participate in every class task, to not allowing children to do what was of interest to them at any particular point in time as well as not allowing those who did not complete

a particular class task to go out with others during break periods.

Figure 5.12: Pupils not allowed to go out during break with others because of uncompleted task.

Children were made to follow the rigid class time-table which involved that all the children must focus on the subject on the time table strictly, irrespective of the fact that a child was ready for it or not, go to the play ground when it is time for it, sit down quietly and listen to whatever the teacher had to say, eat their meals only during the allotted time, not to talk or play during instruction and above all do their class tasks as instructed.

The pre-school teachers observed never applied softer forms of control. Rather direct confrontations were used when trying to instil discipline on the preschoolers. Words like 'please could you' were never used by the pre-school teachers observed when making demands from the children. The opinion of the children was never sought when certain decisions were being taken. For instance, phrases like 'would you like to….' or what would you like us to..?' could make the children feel more relaxed and have a sense of belonging in their classroom environment rather than using commands like 'now all of you sit down', look at the board and fold your arms'. This attitude could, rather, bring about tension in the children.

5.2.9 Teacher–child interactions in pre school classrooms in Nigeria

It is interesting to note the amount of teacher-child interactions (at individual level) that go on in preschool settings in Nigeria. The result showed that most communications between the teachers and the preschoolers occurred at the group level during instruction. All the teachers used whole class interaction with minimal small group and one-to-one interaction featuring. The communication flow was usually from the teachers to the preschoolers with the preschoolers mostly at the receiving end. It is also worth to note that the responses from the pupils, either as a whole class or at individual level were mere responses to either the teachers' questions or directive remarks. Pupils never initiated any of the talks recorded on their own nor did the talks emanate from questions asked by the preschoolers.

The talking turns from the children were usually monosyllabic words used in response to teachers' questions, remarks or instructions. It was however noted that interaction between the teachers and preschoolers on one-to-one basis also occurred during whole class instruction, monitoring and grading of pupils' class task. Monitoring is said to be taking place whenever the teachers are found moving around the classroom evaluating how the children are performing a given class task. Grading, however took place whenever the teachers scored what the children had written. During these periods, teachers tended to pay particular attention to those children who were unable to perform the class tasks by giving them extra attention.

Figure 5.13: Teachers monitoring and helping pupils who could not do their work on their own.

Teacher-pupil/small group interaction occurred whenever the teacher directed questions to small group of children on the same row or an individual pupil and the group or pupil responded to the teacher.

Physical punishments were sometimes used on those children who failed to meet up to the teacher's expectations. The surprising thing is that these teachers exerted this type of punishment not minding that there was a visitor in their midst. In addition, the teachers also used positive reinforcement. Prominent among them was asking the whole-class to sing and clap for anyone who got the answers to her questions correct. Children enjoyed that too. They liked it so much that they tended to remind their teachers to ask the others to clap and sing for a colleague who provided correct answers but, due to over sight, the teacher forgot to acknowledge that. Classes were also made lively by the teachers by using songs and rhymes to introduce topics to be treated for the day.

Figure 5.14: Physical punishment being used on preschool children.

However, it was generally observed that the interactions, which occurred between the teachers and the preschoolers at individual level were very brief. This finding was not unexpected when one considers such factors as the adult-child ratio, the structured nature of the daily activities and the unavailability of teaching materials in the preschool classrooms observed. These factors must have affected the instructional delivery mode of these teachers. In Nigeria, the adult-child ratio in preschool classrooms tended to be very high. In term of adult-child ratio, the average class size of the schools visited was 48 children to one teacher. Hence their preferred use of direct instruction as well as whole class teaching to cope with the number of children under their care.

Secondly, another contributing factor might be the structured nature of the daily activities with times allotted and strictly adhered to. Teachers seemed to be more interested in meeting the curriculum demands of the timetable. As a result, it would seem that the teachers had a limited time schedule to engage in a lengthy conversation with the children at individual level. For instance during monitoring or grading, even when teachers had the intentions of spending longer time interacting with one child, her intentions might be frustrated by the demands of other children queuing up for help or attention. Teachers who have a relatively small number of children tended to spend

more time and had longer interactions with them at individual level.

Nevertheless, the frequency of occurrence of very brief interactions in preschool school classrooms in Nigeria therefore raises question about its educational usefulness. This is because this could create a problem for the achievement of one of the objectives of preschool education in Nigeria, which, is the children's language development. The argument is that situations where children merely listened to teachers talk and were not encouraged to lead the talk or engage in activities that would lead to spontaneous longer conversations with either teachers or peers may not augur well with the social and language development of the Nigerian preschoolers. The little contributions made by these preschoolers, that were mere responses to the teachers' questions, were mostly given in form of yes or no responses. In situations where children ought to have been encouraged to make a complete sentence, teachers tended not to be bothered about that. Included are some of the excerpts from the instructional processes observed:

An English lesson: Topic 'picture reading':

T – WC: What picture is this? (pointing at the picture of a chair drawn on the chalkboard).
WC – T: Chair
T – WC: Again
WC – T: Chair!
T – WC: (pointed at the diagram of a bag)
WC – T: bag!

Generally, most of the teachers accepted responses such as the ones provided above. This showed that the preschool teachers observed were focusing on vocabulary possibly at the expense of other aspects of language development. Only very few teachers demanded complete sentences whenever such responses were given. In as much as it was not very easy for teachers to hold long conversations with the children, however, the teachers within the limited time schedule of each lesson could encourage the use of correct sentences. Allowing such incomplete sentence answers at this level might not help in the development of the preschoolers' linguistic skills. These will be needed for the primary level of education and beyond.

Listening to the preschool teacher interactions with the children, it was evident that they

were not only brief, but also adult- dominated. It was evident that the teachers observed tended to keep the interactions going and as a result did most of the talking. Here are some extracts from a science lesson observed:

T- WC: All of you say Science (while wrote on the chalkboard – date, topic and associated words)
WC – T: Observed the teacher.
T – WC: All of say animal around us (pointing at the words and diagrams he had on the chalkboard).
T – WC: Remember that we did this yesterday okwa ezi okwu (mixed L1 and L2 Together. L1 meaning "Am I not right"?).
WC – T: silence
T – WC: Now who can tell us animals at home
WC – T: Silence.
T – WC: Kedu onye ga echetalum umu anu na ebi na uno L1 (meaning who will remind me of the animals that live with us at home).
WC – T: Silence.
T – WC: Started singing in (L1 ole anu na ukwu ino - meaning what animal has four legs)
WC – T: Na ukwu ino (responded in L1 meaning has four legs)
T – WC: Still in L1 mentioned names of animals…ewu (goat), nkita (dog)….
WC – T: Joined in the naming

Who dominated the conversation in preschool setting in Nigeria was analysed from the angle of 'who said what and to whom' (the direction of communication). In direction, emphasis was laid on who initiated the communication. As a result each turn in the communication was categorized according to 'who' initiated the conversation and to 'whom'. For example the initiator of the conversation could be either the "teacher or a child", "what" is being said could come in form of an instruction, a remark, a question, reinforcement, or response to a question, etc whereas the "whom" is the person who the question was addressed to. It was observed that the type of talks that occurred between the teachers and the preschoolers were such that could not sustain a communication for a long period. Simply answering a question or reinforcing a response tended not to keep a conversation going. On average, the children contributed very little in the talking turns (which were not initiated by them but mere responses to the teachers' questions, remarks or directives) while the teacher contributed the majority

of the talking turns. The characteristics of the conversation were question and answer sessions that tended to come up during instructions.

Information from the observation carried out indicated that the conversations between teachers and pupils took the following pattern: teachers introduce the topic, wrote that on the chalkboard with accompanying information (such as words or drawings, followed by instructional delivery (which usually takes the form of explaining, demonstrating, questioning, prompting, and finally asking the children to do some tasks which are usually responding in a chorus form (together as whole-class or small group), copying what the teachers wrote on the chalkboard, drawing or doing some quantitative task, etc. The pupils also merely observed and responded when asked to do so in monosyllabic words.

The information from the data also showed that most of the pre-school teachers' talks were centered on specific subject areas of the curriculum. Creating opportunities for spontaneous expression by the children, which could be used to structure a lesson never existed. Children never had the opportunity to be themselves or relate to things around them the way they had wanted. This could be seen in situations where children were always asked to stop moving around, as well as to stop talking with their friends/neighbours. For instance;

T – WC: Now listen, keep quite.
WC – T: Stared at him
T – WC: I say what? ……. keep quiet!
WC – T: silent

From another teacher:

T – WC: Everybody "look at the board and fold your arms"!
WC – T: silent
T – WC: Now 'everybody stand up and listen"
WC – T: stood up
T – WC: if I hear any noise from anywhere again you will stand till the end of the lesson. …….Did you hear me in (L1)
WC – T: yes aunty.

Talking with class mates and moving around the environment could lead to children asking questions about things that puzzle them in the environment. This could lead to

more elaborate discussions. Pre-school teachers observed viewed children's talking among themselves as 'noise'. Hence the frequent occurrence of such directives as "stop talking", "shut up" and "fold your arms"!

It should be noted that the majority of the conversation among the children occurred mainly when the teachers were either writing or drawing on the chalkboard (actions which occurred mainly after the teachers had announced to the whole class what subject and topic they were about to study). What, however, did not occur to the teachers of these children, was to try to find out what the children were talking about. These children could be discussing among themselves what they were about to do; may be hoping to start off with their teachers on the things that puzzled them relating to their topic of discussion. They might also be engaged in thinking of some sort which was always disrupted by their teachers with the directives that they should not utter a word further but to merely listen, look at the chalkboard, stand up while the lesson went on and, of course, get their arms folded. This could be discouraging since these actions have all the tendencies of affecting the children's attitude and dispositions towards learning.

5.3 Conclusion

The results presented show the environmental characteristics of Nigerian preschool classrooms lacked quality. The impression created by the findings thus shows that there is a wide gap between policy and practice in Nigerian pre-school settings. These inadequacies are unexpected considering the fact that the Nigerian government officials attended most of the global educational conferences where issues pertaining to provision of quality education at all levels were discussed (NERDC, 2004). Secondly, it runs contrary to what was said to have been put in place by the government in lieu to achieving the EFA number one goal (Olorunfunmi, 2000). Most importantly, these types of provisions may not augur well with the development of Nigerian children when one considered the advantages associated with providing preschoolers with quality of the classroom-learning environment prior to their entry into formal schooling. Such

advantages include that children tend to learn more effectively through actively interacting with their environment (Vandayar and Killen, 2006; Prah, 2003); positive relationship to children's mathematics abilities (Broberg, et al, 1997); significant predictor of children's language ability and better math skills (NICHD, 2002; Piesner-Feinberg, et al (2001); significant predictor of children's cognitive/linguistic progress as well as social development (Sylva, et al (2006) among others. The detailed discussion of these findings is presented in chapter nine of this thesis. Better illumination on what might be termed the contributing factors on the practices observed will be delved into more details in chapters 6, 7, and 8 respectively.

These findings draw attention to a wealth of data, which will now be examined in systematic depth. The next chapter provides information on the data results aimed at answering research question two which focused on the prevailing interaction patterns observed as well as what characterized the patterns of interactions observed. Data analysis procedure used to reduce the raw data generated was different from the one used for research question one. Quantitative approaches such as chi-square, analysis of variance (ANOVA) frequency and percentages were used to extract information from the structured instruments also used while generating evidence to provide answers to the research questions.

Chapter 6

Prevailing Interaction Patterns Observed at the Pre-Primary Level of Education in Nigeria

6.1 Introduction

The previous chapter provided qualitative presentation of the data results on the nature of pre-school classrooms environments and the interaction patterns that occurred between the teachers and the pupils during the teaching of literacy skills, numerical skills and science. Specific attention was paid to some factors identified by some early childhood educators as quality indicators of such provision. Such factors included nature of pre-school environment, organization of activities, language of instruction, class rules and discipline. The classroom environments appeared not to be in line with the recommendations of educational bodies and even that of the Nigerian government (UNESCO 2005; FRN, 2004), whole-class teaching, use of physical discipline, the general nature of interaction indicated teacher initiated and direct instruction and the organization class daily activities indicated structured and procedural type.

This chapter presents data on the prevailing interaction patterns of teachers and preschoolers during instructions in classroom settings in Nigeria. It also examines differences in the interaction patterns while teaching the core subjects in the curriculum. The patterns observed were presented using two distinct groupings (use of instructional time and direction of communication). As discussed in the previous chapters, the quest for information on what goes on during instructional delivery activities which emphasize collective participation by teachers and the learners has been the focus of researchers in recent years (Hooks, Scott-little, Marshall and Brown, 2006; Vandell and Wolfe, 2000; Kontos and Wilcox-Herzog, 1997; Tizard and Hughes, 2003; Harper and McCluskey, 2003). This chapter therefore reveals the mode of instructional delivery in preschool classrooms in Nigeria. It also shows the extent to which the prevailing interaction pattern varies while teaching the three core subjects in the curriculum: literacy skills, numeracy skills and science.

6.2 Research Question 2a: What are the prevailing classroom interaction patterns of teachers during instructions (use of instructional time and direction of communication) in Nigerian pre-primary schools; **and b:** Are there significant differences in the prevailing interaction patterns while teaching the three core subjects in the curriculum: literacy skills, numerical skills and science?

Data analysis of this question involved the use of frequency, percentage, (to ascertain the nature of interaction patterns common during the teaching of the three subjects instruction at this level) chi-square, one-way ANOVA, (to find out if significant difference tended to occur while teaching the three subjects observed) and scheffe post-hoc test to find out which of the behaviour categories the differences are emanating from) and graphical illustrations.

6.2.1 Results: Prevailing Interaction Patterns (Use of Instructional Time).

The prevailing interaction patterns during instruction in Nigerian preschool classrooms, in terms of use of instructional time, is as shown in Figure 6.1 while the interaction patterns, in terms of direction of communication, is shown in Figure 6.2.

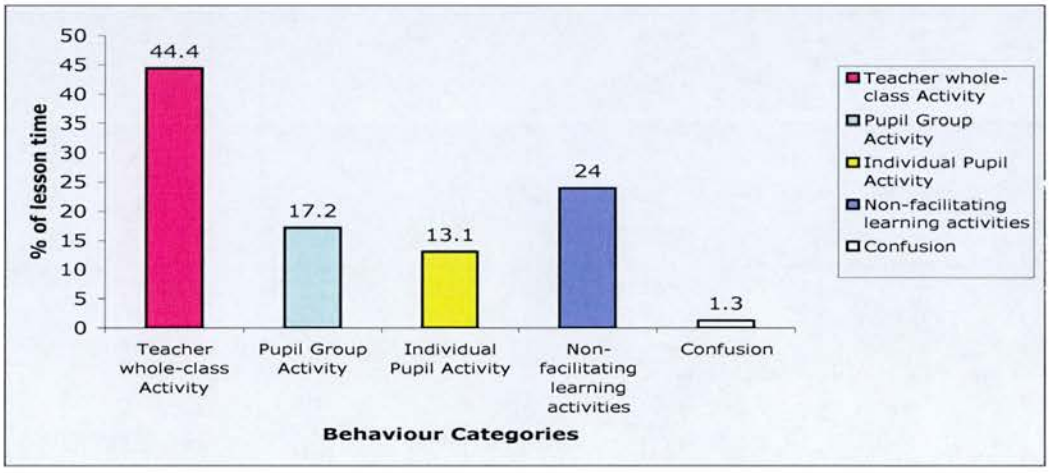

Figure 6.1: Use of Instructional Time in Nigerian Pre-primary School Classrooms

Figure 6.1, reveals that teachers in Nigerian pre-primary classrooms tend to spend a larger percentage of their lesson times (44.4%) interacting (prompting learning) with the whole class (e.g. writing on the chalkboard, explaining, questioning, giving directives,

distributing textual/writing materials.) whereas lower percentage of the lesson time (17.2% and 13.1%) were spent on learning-facilitating activities that centered on groups of pupils (e.g. whole class reciting, giving chorus response, reading, counting, and identifying) and on one-to-one/individual pupil activities (e.g. individual child reading, copying from the chalkboard, reading, counting, writing a given class task with the teacher monitoring respectively). However, a good percentage of the lesson time (24.0%) was spent on teacher/student non- facilitating learning behaviour (e.g. teacher talking most of the times, punishing, grading pupils work, using negative reinforcement, teaching without instructional materials) while the remaining of the lesson time (1.3%) was spent on confusion (e.g. class disorganized, children wandering aimlessly, children fighting).

6.2.2 Prevailing Interaction Patterns (Direction of Communication).

The direction of communication associated with the use of instructional time, as shown in Figure 6.2.

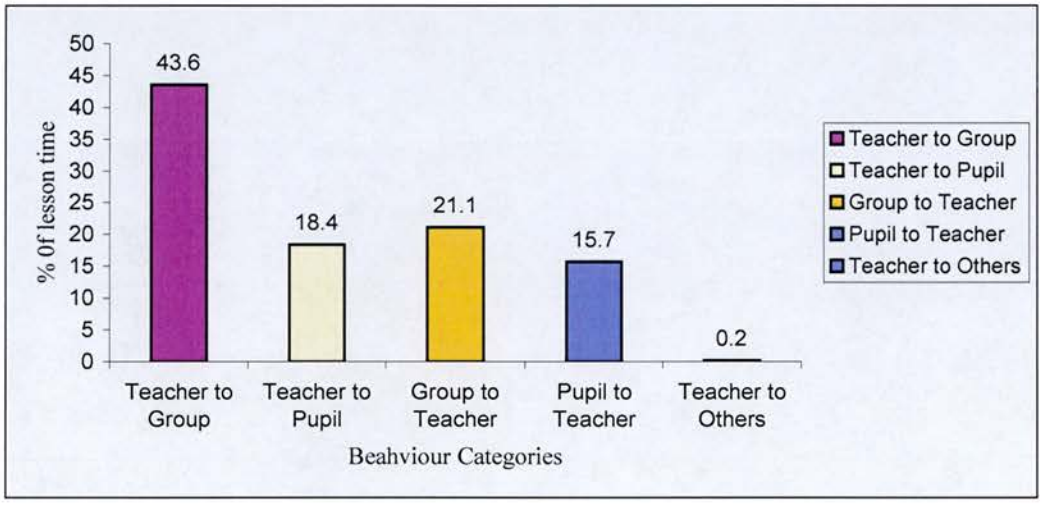

Figure 6.2: Direction of communication that is prevalent in Nigerian preschool classrooms

Figure 6.2, indicates that 62.0% of communications during teaching were directed from teacher to pupils (43.6 % from teacher to group and 18.4% from teacher to individual

pupils). The direction of communication from pupil to teacher accounted for 36.8% (group to teacher, 21.1% and pupil to teacher, 15.7%) of the total communications whereas, less than1.0% of the communications represented teacher communications with others (for instance visitors, teachers and pupils from other classes).

6.2.3 Subject-Based Group Differences in Use of Instructional Time

A one-way Analysis of variance (ANOVA) was conducted to explore the impact of subject taught on the behaviours of the teachers observed, as measured by the CIS. There was three subjects areas: Literacy, numeracy and science. The result shows that significant group differences at $p<.05$ level in the use of instructional time did occur but did not show the behaviour categories from which these differences lie. Thus a post-hoc comparison using scheffe test was conducted to find out where observed differences come from. The scheffe test was considered more appropriate than Tukey's Honestly Significant Difference test (HSD) because it is considered the most cautious method for reducing the researcher's risk of committing Type 1 error (Pallant, 2005). Type 1 error occurs if a researcher thinks that there is a difference between groups, where there is in reality none. The data on differences in the interaction patterns (use of instructional time) while teaching the three core subjects are presented in Table 6.1.

Table 6.1: Summary of Analysis of Variance of Use of Instructional Time by Core Subjects

Behaviour Sub-category	Subject	Mean	SS	Df	MS	F-value
Teacher explaining	Literacy	7.42	554.73	2	277.37	5.22*
	Numeracy	8.33	11312.15	213	53.11	
	Science	11.18	11866.88	215		
Teacher giving directive	Literacy	7.90	227.29	2	113.64	3.98*
	Numeracy	8.75	6086.26	213	28.57	
	Science	6.28	6313.55	215		
Teacher monitoring	Literacy	3.33	227.79	2	113.89	6.39*
	Numeracy	4.04	3798.19	213	17.83	
	Science	1.60	4025.98	215		
Teacher drawing on the chalkboard	Literacy	1.60	192.70	2	96.35	4.80*
	Numeracy	1.29	4271.85	213	20.06	
	Science	3.43	4464.55	215		
Teacher distributing textual materials	Literacy	3.93	288.68	2	114.34	4.17*
	Numeracy	4.67	7369.31	213	34.60	
	Science	1.93	7657.98	215		
Teacher provides answer	Literacy	0.21	11.23	2	5.62	3.63*
	Numeracy	0.36	329.99	213	1.55	
	Science	0.75	341.22	215		
Pupil group (chorus) response	Literacy	6.33	598.04	2	299.02	6.54*
	Numeracy	5.69	9739.28	213	45.72	
	Science	9.50	10337.32	215		
Pupil group counting aloud	Literacy	0.18	475.58	2	237.79	25.97*
	Numeracy	3.26	1950.42	213	9.16	
	Science	0.06	2426.00	215		
Pupil group reading aloud	Literacy	6.47	1110.73	2	555.37	15.02*
	Numeracy	4.18	7878.38	213	36.99	
	Science	0.94	8989.11	215		
Individual pupil reading aloud	Literacy	2.36	140.11	2	70.06	6.06*
	Numeracy	1.33	2463.72	213	11.57	
	Science	0.39	2603.83	215		
Individual pupil counting aloud	Literacy	0.01	37.90	2	18.5	7.55*
	Numeracy	0.96	534.47	213	2.51	
	Science	0.14	572.37	215		
Individual pupil writing	Literacy	7.29	4375.59	2	2187.80	23.59*
	Numeracy	11.83	19757.06	213	92.76	
	Science	0.86	24132.65	215		
Individual pupil drawing	Literacy	1.93	418.12	2	209.06	6.75*
	Numeracy	0.65	6598.92	213	30.98	
	Science	4.03	7017.04	215		

**Significant at the 0.05 level*

Table 6.1 shows that significant group differences (based on one-way ANOVA: $p<0.05$) in the use of instructional time were observed on only 13 (22.8%) of the 57 subcategories. It also shows that the 13 subcategories consist mainly of 6 subcategories under Teacher Whole Class Activity (48.9%), 3 under Pupil Group Activity (25.0%) and 4 under Individual Pupil Activity (23.5%). It would, thus, seem that the observed significant differences in the use of instructional time tend to be associated more with learning- facilitating activities involving whole class/group of pupils than similar activities involving individual pupils. In addition, Table 6.1 shows that the use of instructional time associated with the behaviour sub-categories/activities that do not facilitate learning tend not to be sensitive to classroom delivery involving the three core subjects.

More specifically, the results of further analysis based on scheffe post-hoc comparison test shows that the identified differences in the use of instructional time emanated from the following pairs of core subjects across the significant sub-categories: teacher explaining (literacy versus science with science having higher mean average of 11.18 whereas that of literacy was 7.42 indicating that teachers spent more time explaining during science lesson than in literacy lesson. Differences also occurred in giving directives in (numeracy versus science) with numeracy having higher mean average of 8.75 showing that teachers spent more time giving directives during numeracy lessons than during science (6.28). Significant differences also occurred in the use of monitoring behaviour. This is indicated in literacy versus science with literacy having a higher mean average of 3.33 while science has 1.60 revealing that teachers observed spent more of their instructional time monitoring pupils works during literacy lessons than during science lessons; whereas in numeracy versus science, numeracy had a higher mean average of 4.04 while science has 1.60 showing that they also spent more of the instructional time monitoring during numeracy lessons than during science.

Furthermore, significant differences also emanated from drawing on the chalkboard between numeracy versus science with science having a higher mean average of 3.43 and numeracy 1.29 revealing that teachers observed tended to spend more of their instructional time drawing diagrams on the chalkboard during science

lessons than numeracy. Also the significance difference emanated from the behaviour category distributing textual materials in (numeracy versus science). The differences were such that this behaviour was exhibited more during numeracy (4.67) lessons than during science lessons (1.93). From the behaviour category teacher provides answer in the differences occurred between literacy and science with teacher spending more time providing answers to questions he/she asked during science lessons (0.75) than in literacy lessons (0.21). The *whole-class*/group reading aloud also revealed significant difference while teaching the three subjects. The result shows that the differences were between literacy and science with literacy having a higher mean average (6.47) than science (0.94) and numeracy versus science with numeracy having a higher mean average than science (4.18 and 0.94 respectively). This indicates that the teachers observed spent more of their instructional time in whole-class class activity during which time the pupils were asked to read aloud as a group during literacy lessons, followed by numeracy and then science. The result also shows that the difference that occurred in behaviour category group counting aloud was more between literacy versus numeracy. However the further test indicated that the occurrence was more in numeracy lessons with a higher mean average of 3.26 and literacy (0.18) as well as between numeracy versus science with numeracy having a higher mean average of 3.26 and science 0.06). This showed that the children did more of counting exercise together as a group in numeracy lesson than during literacy and science.

In addition, chorus response also revealed some differences between numeracy versus science with science having a higher mean average (9.50) and numeracy (5.69) as well as between literacy versus science with also science having a higher mean average than literacy (9.50 and 6.33 respectively). The result thus shows that the children responded to the teachers in unison most during science lessons followed by during literacy and then science lessons. Individual pupil drawing also indicated some differences. The differences occurred most between numeracy versus science with science having a higher mean average 4.03 while that of numeracy was 0.65. This showed that children did more drawing activities during science lessons than during numerical lesson. The differences were also shown in individual pupil counting aloud.

However, the Sheffe test revealed that the differences were between literacy versus and numeracy versus science with numeracy showing a higher mean average of 0.96 while science and literacy showed mean average of 0.14 and 0.01 respectively. This showed that individual pupils were engaged more in counting activities during numeracy than during literacy or science lessons. The result also revealed that significant differences emanated from the behaviour category individual pupil writing. The test further revealed that the differences were between literacy versus numeracy lessons with numeracy having a higher mean average than literacy (11.83 and 7.29 respectively). The differences also occurred between numeracy versus science with numeracy also having a higher mean average than science (11.83 and 0.86 respectively). Lastly, individual pupil reading aloud indicated some significant differences between literacy versus science with literacy having a higher mean average of 2.36 than science which showed average mean of 0.39 indicating that pupils did more reading at individual level during literacy lessons that during science lessons.

It would, thus, seem that the cases of observed significant differences in the use of instructional time emanated mostly between science lessons and literacy versus numeracy lessons (84.2%), as against between literacy and numeracy lessons (15.8%). The results also showed that the differences were such that the preschool teachers tend to spend more of the instructional time on learning–facilitating activities during literacy versus numeracy lessons than during science lessons. The result also revealed that teacher not facilitating learning behaviours as well as confusion were at the barest minimum. These differences are illustrated in Figure 6.3 showing instructional behaviour in the three subject areas.

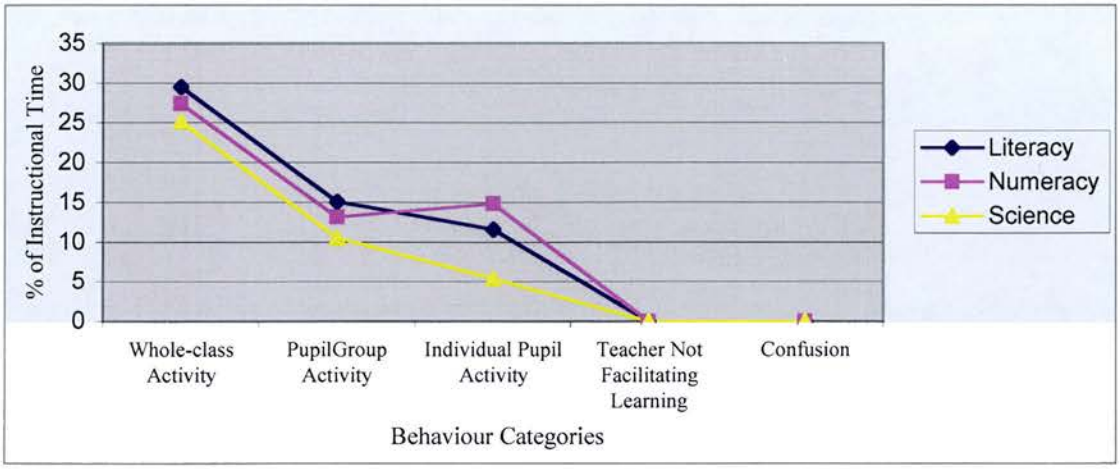

Figure 6.3: Subject-Group Differences in use of Instructional Time Across Behaviour Categories

6.2.4 Subject-Based Group Differences in Direction of Communication

The grouping factor (the core subjects) was classified into three: literacy, numeracy and science. However, the direction of communication was classified into two: one- to- one (Teacher to pupil/Pupil to teacher); and whole class (Teacher to group/Group to teacher). There were significant group differences (based on the core subjects) in the direction of communication. As can be seen in Table 6.2, a greater proportion of teachers, during literacy lessons, tended to be involved in whole class group-directed communication, followed by numeracy and science while a greater proportion of teachers during science and numeracy lessons, tended to be involved in one-to-one directed communication.

Table 6.2: Subject-Based Group Differences in Direction of Communication

Direction of Communication	**Core Subjects**				
	Literacy	**Numeracy**	**Science**	**Total**	χ^2
Teacher to pupil/ Pupil to teacher (One-to-one)	22	33	38	93	6.48*
Teacher to group/ Group to teacher (Group/Whole-class)	70	59	54	183	
Total	92	92	92	276	

**Significant at the 0.05 level (non-directional test; df. =2).*

6.4 Summary of Findings

This analysis revealed that teacher whole-class interaction patterns prevailed during instructions in the Nigerian preschool classrooms observed with teacher-centred activities being dominant. The participatory level of the preschoolers in terms of initiating of activities as well as playing prominent roles during the teaching – learning processes were observed to be relatively too low. The results showed that teachers dominated in initiating the classroom conversation (by explaining, questioning, writing on the chalkboard, giving directives, prompting) whereas chorus responses were more common among the preschoolers observed. These responses also in consonance with what were reported in chapter 5 of this thesis.

The results also indicated that significant differences, based on the core subject under consideration, tend to exist in the prevailing interaction patterns across some of the behaviour subcategories. The group differences, it would seem, were such that for the subcategories, time spent on teacher-centred learning activities (teacher whole class activity), as against pupil-centred learning activity (group/individual) was most for literacy lessons followed by numeracy lessons and science lessons in that order.
Differences did not occurred at the levels of private/public or urban/rural. This might be explicable based on the type of trainings received by the teachers. During post instructional interview, the teachers revealed that they were not actually trained to teach at this level but were deployed from the primary level based on their length of service.

6.5 Discussion.

The pattern of classroom interaction observed in the study, where teacher-centred activity was predominant, and where the communication flow was mainly from the teacher to the whole class with minimal one-to-one (teacher to pupil or pupil to teacher) communication, may not augur well for effective acquisition of literacy skills, numeracy skills, and science skills by Nigerian pre-school children. This is so viewed because research studies on how preschool children learn best indicate that young children construct knowledge through participation with others in activities that foster

experimentation, problem solving and social interaction (Yoon, and Onchwari, 2006; Fu, 2004; Kirova, & Bhargava, 2002; United Nations, 2001a; Vandeyar, & Killen, 2006; Gallas, K. 1995). In addition, Bowman, Donovan and Burns (2001) argue that advance in cognitive abilities is not likely to take place if children are passive receptacle for knowledge delivered by others. Thus, situations whereby the pre-school teachers spent a good percentage of their lesson times on "teacher centered instructional activities" (e.g. giving directives, explaining, providing answers, drawing on the chalkboard as well as in whole-class related activities, among others) may not help in aiding the Nigerian pre-schoolers develop the creativity and independence which are among the objectives of encouraging this level of education in Nigeria (FGN, 2004). Nevertheless, whole class teaching has been classified as a very active teaching model. However, the proponents of this model (Hardman, Smith, Watt and Mroz, 2003) argue that it must be interactive in nature during which learners will be encouraged to play active role by asking questions, contributing ideas, explaining and demonstrating their thinking during instructions. However, the results of the present study did not reveal much signs of preschoolers' active participation during the lessons observed.

The results also indicate that significant differences, based on the core subject under consideration, tend to exist in the prevailing interaction patterns across some of the behaviour subcategories. The differences, it would seem, were such that for the subcategories, time spent on teacher-centred learning activities (teacher whole class activity), as against pupil-centred learning activity (group/individual) was most for literacy lessons followed by numeracy lessons and science lessons in that order. The group differences thus tend to be most apparent during literacy lessons. It has, however, been expressed that the pedagogical demands of the three core subjects in the curriculum tend to differ (Ezeokoli, 2003; Jegede, 2004). In his comments on teaching methods across the curriculum, Obanya (2003) observed that the teaching of science and mathematics (numeracy), unlike literacy, are more activity-oriented with some extra demands on hands-on-experience.

However, the pre-school teachers in Nigeria by their nature (level of educational and professional training, teaching experience,) institutional supports are not sufficiently

equipped to initiate and sustain child-centered, activity-oriented interaction patterns during instructional delivery in classrooms. In this regard, the tendency for the prevailing interaction patterns during instruction in Nigerian pre-primary classrooms to be sensitive to the core subjects in the curriculum (literacy skills, numeracy skills and science) could be explained. More details of the discussions are presented in chapter 9 of this thesis.

6.6 Conclusion

The results reported in this chapter provide empirical evidence for concern that the pre-school education programme in Nigeria may not be achieving its objectives of inculcating in children the spirit of enquiry and creativity through exploration as well as teaching the rudiments of numbers, shapes and forms through play and other types of learner-centred activities. This assumption is based on the views of pre-school advocates (Edwards, 2006; Yoon and Onchwari, 2006; van Oers, 2003; Aremu, 2000 Layzer, Goodson, and Moss, 1993; Snow, Burns, & Griffin, 1998; Akinbote, et al. 2001).

There is therefore a need to review and perhaps, update the curriculum content of teacher preparation and continuing education programmes (in-service and professional support) in both theory and practice of teaching pre-schoolers. The aim is to produce teachers who can channel most aspects of the lesson time towards facilitating learning tasks at both individual and small group levels, with the children at the centre stage of the interaction, without delivering monologues, using negative reinforcement, causing confusion, etc. The subsequent training and retraining programmes should, in addition, be tailored towards equipping the teachers to master how to encourage pupils to initiate activities and participate actively in classroom interactions during instruction. Ensuring that pre-school teachers are given enough training in child development and the associated learning methods has been identified as one of the important measures of preschool quality (UNESCO, 2005, 2007; Abimbade, 1999; Early, Bryant, Pianta, Clifford, Burchinal, Ritchie, Homes, and Barbarian, 20006; Pianta, 2005). It would also seem that the intensity of the expressed needs tend to be greater for effective teaching of

science and numeracy skills than for literacy skills. This corroborate the findings of David (1996; Ofsted 1998a).

The next chapter will look at the characteristics of the prevailing interaction patterns observed. The analysis of the findings with respect to this will focus on language of instruction, classroom context (large group, small group, monitoring, transition, etc.), instructional approaches, and types of questions, responses, feedbacks that dominated during instruction in the subject areas observed.

Chapter 7

Characteristics of the prevailing interaction patterns: Language of instruction, classroom context, and instructional approaches.

7.1 Introduction

Present day early childhood educators, share the view that young children learn most efficiently when they are engaged in interaction rather than being merely receptive or passive during teaching and learning activities (Katz, 1987; Kontos and Wilcox-Herzog, 1997; Vandell and Wolfe, 2000). This view is also corroborated by the results from contemporary research which show that young children (pre-primary and primary school children) tend to learn most efficiently when they are engaged in interaction rather than in merely receptive or passive activities (Woolfolk and McCune-Wicolinch, 1997; Lybolt and Gottfred, 2004). The teacher-learner interactions are said to be promoted more in situations whereby all those involved (particularly children) have no inhibitions in terms of language used (Tabors, 1998; Prah, 2003; Brock-Utne, 2005); classroom context (Myhill, 2002; Hayes, 1999; Ayers, 1996) as well as the instructional approaches used (van Oers, 2003; Aremu, 2000; Tizard and Huges, 1998; Akinbote,et al, 2001; NAEYC, 2002).

This chapter analyses the extent to which Nigerian pre-school providers/teachers are working towards incorporating such factors to ensure that preschool education in Nigeria is of high quality. More specifically the chapter, focused at providing answers to research question three stated thus: Are the prevailing interaction patterns characterized by what language of instruction[17], direction of communication (who to whom), classroom context (large group, small group, monitoring, transition, etc.), instructional approaches and types of questions, responses, feedbacks?

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[17] The Journal of Classroom Interaction has accepted a paper based on part of the analysis presented in this chapter for publication. Title: "Language of Instruction and Classroom Interaction Patterns at the Preschool Level of Education in Nigeria".

7.2. Research question 3: Are the prevailing interaction patterns characterized by what language of instruction, direction of communication (who to whom), classroom context (large group, small group, monitoring, transition, etc.), instructional approaches and types of questions, responses, feedbacks?

Data analysis involved the use of descriptive statistics to identify the language(s) used, calculate the frequency of use of such languages as well as identify the frequency of use of whole-class, small group, and one-to-one during instructional delivery. The instructional approaches used by the teachers observed, types of questions as well as responses observed were also determined through frequency counts and percentages. The findings, with respect to language(s) used were presented in two parts. The first part focused on the prevailing language used by the observed teachers during instruction while the second part of the result presented the extent of use of the language(s) identified.

7.2.1 Results: Prevailing Language of Instruction

During the data collection exercise, the section C of the CIS solicited information on the language of instruction: Nigerian language(s) and English language. Since the data conforms to a nominal scale, data analysis involved the use of frequency and percentage to calculate the language frequently of use of identified languages during instructions. The findings are as shown in Figures 7.1.

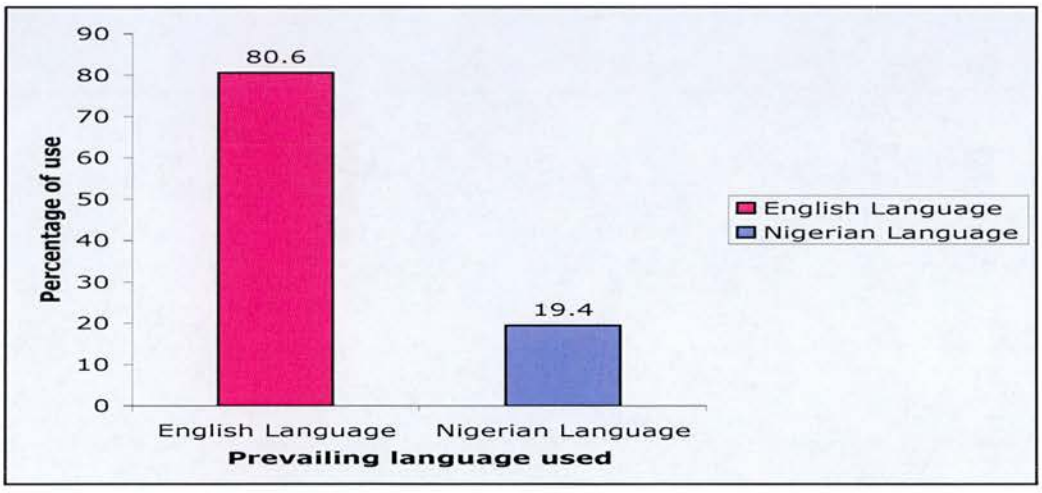

Figure7.1: Prevailing language of instruction in Nigerian preschool classrooms.

Figure 7.1, shows that majority of the preschool teachers (80.6%) used English language as the main language of instruction while only 19.4% of the teachers used Nigerian language (language of the immediate environment where the school is located) as the main language of instruction.

7.2.2 Extent of Use of Nigerian Languages during instruction

Since one needed more information on the how much each language identified was used against the others, it was then measured using ordinal and interval scale. Therefore, to generate information on the extent of use of the languages, items on language identification were placed beside a four-point Likert scale that solicited responses such as Never, Small Extent, Large Extent and All the time. This is to enable one say more accurately which language was used more than the other or the most frequently used. Again, data analysis involved the use of frequency and percentages. The findings are illustrated pictorially in Figures 7.2 and 7.3.

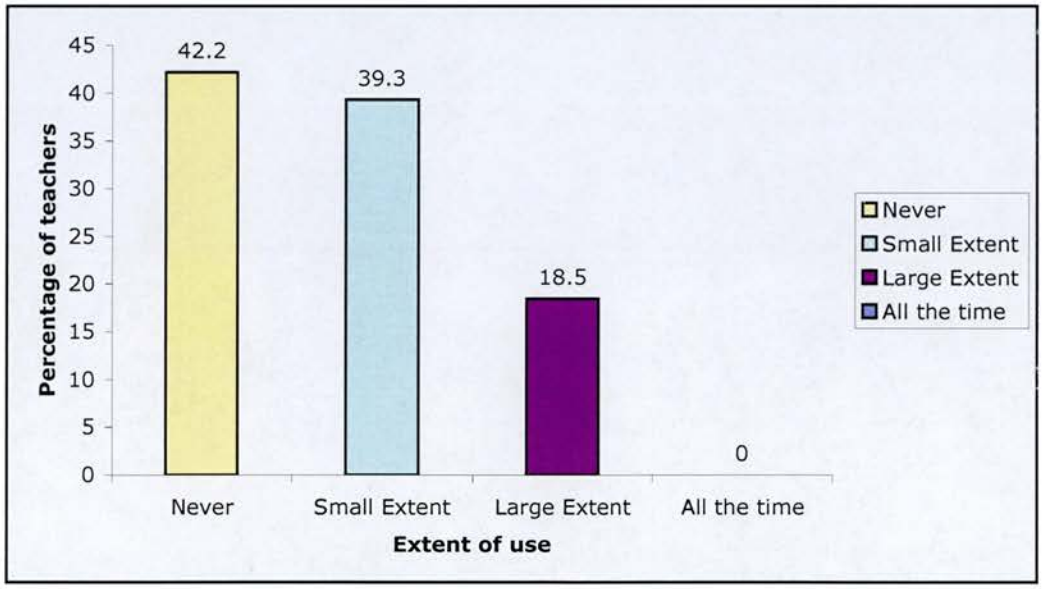

Figure 7.2: Extent of using Nigerian language (of the pupils immediate community) as language of instruction.

As shown in Figure 7.2, most of the teachers (at least 57.8%) tend to use Nigerian language (to a small or large extent) to supplement English language as the main language of instruction whereas 42.2% of the teachers never used Nigerian languages but used only English Language during instruction. It would thus, seem that the prevailing interaction patterns during instruction in Nigerian pre-primary schools is characterized by English language as the main language of instruction. This is also as reflected in Figure 7.3

7.2.3 Extent of Use of English Language during instruction.

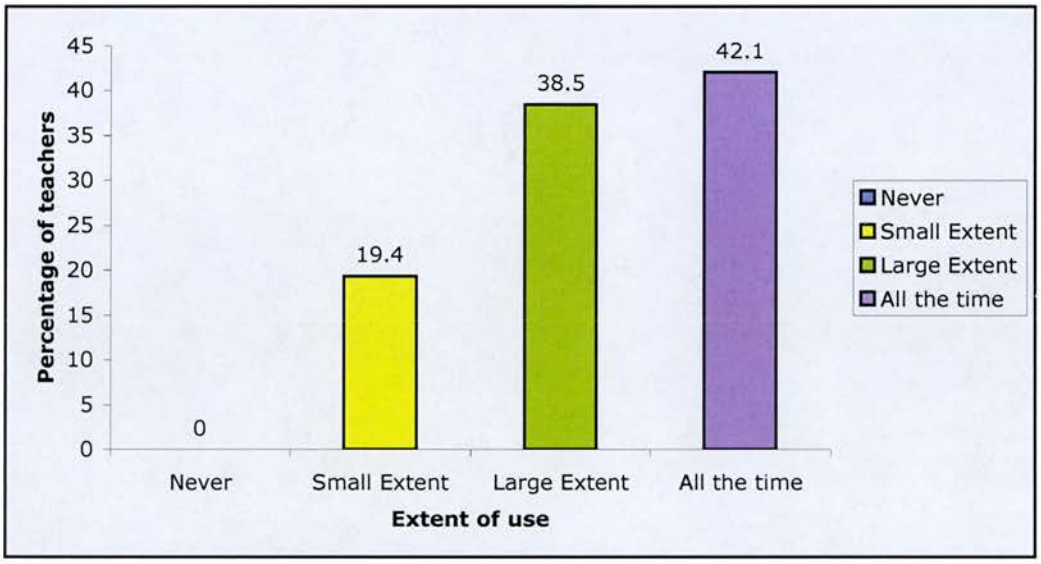

Figure 7.3: Extent of using English language as language of instruction

Figure 7.3 shows that most of the teachers observed (at least 80.6%) tend to use English language (to large extent) as the main language of instruction whereas only 19.4% of the teachers used English languages to a small extent during instruction.

7.3 Classroom Context During Instruction

Information generated on the classroom 'context' focused on the classroom arrangement by preschool teachers during instruction in preschool classroom in Nigeria. Data on this was generated by recording frequency of changes in terms of seating/group arrangements, which tended to occur during instructional delivery by the preschool teachers. For instance, 'context 'depicted such classroom arrangements that involved teaching the whole class, putting the children into groups, monitoring what the children were doing at the group or individual levels, preparing the children to transit to another activity during the course of the teaching-learning activities, among others. To reduce the raw data into manageable and interpretable form, the tallies recorded against each classroom context category were collated to calculate the frequency of occurrence of each context identified and later converted to percentages. The results, which emanated from the analysis is as shown in Figure 7.4.

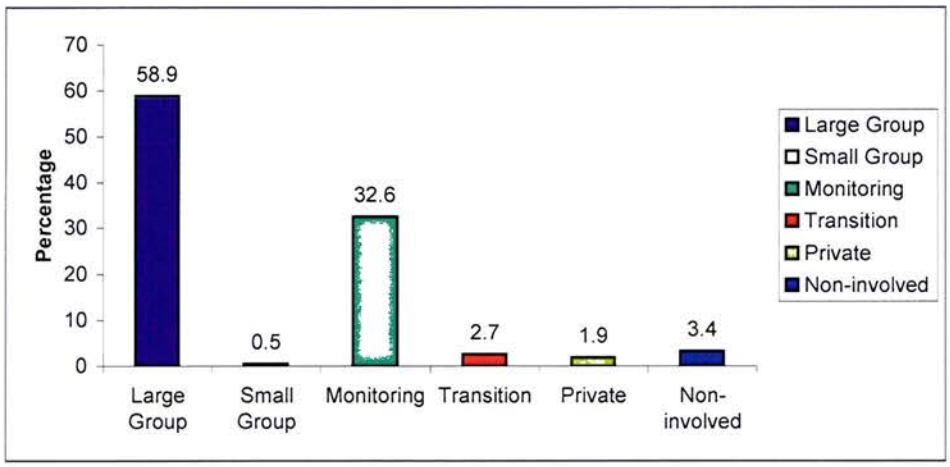

Figure 7.4: Classroom context in Nigerian preschool classrooms

Figure 7.4 shows the classroom context that characterizes the prevailing interaction patterns in Nigerian pre-primary classrooms. As shown in Figure 7.4, 58.9% of the classroom context during teaching was of the large group type (teacher interacting with more than eight pupils or addressing the entire class). This was followed by monitoring, 32.6% (teacher moving round the classroom checking the work and offering help when needed to individual pupils who were working independently). Figure 7.4,

however, shows that contributions from small group (teacher interacting with a group of eight or fewer pupils), transition (class preparing for participation in a task by getting out materials or moving into groups), private (teacher interacting with an individual pupil outside a group context) and non-involved (teacher not interacting with pupils) to the entire classroom context during teaching were very low.

7.4 Instructional Approaches

Data, in this section, provides information on the instructional approaches used by each of the preschool teachers observed in Nigeria during instructional delivery. The behaviours exhibited were recorded as soon as they occurred within the stipulated 10 seconds interval designated for the coding. The approaches identified include teaches/explains, teaching with material, teaching with non verbal cues (for instance writing on the chalkboard), buttressing important points with examples, giving learners cues to help them make meaning of a question, giving learners directives on how to carry out any assignment, prompting responses, teachers probing learners further for a better explanation to a given question. The instructional approaches that characterize the prevailing interaction patterns in Nigerian pre-primary school classrooms are shown in Figure 7.5.

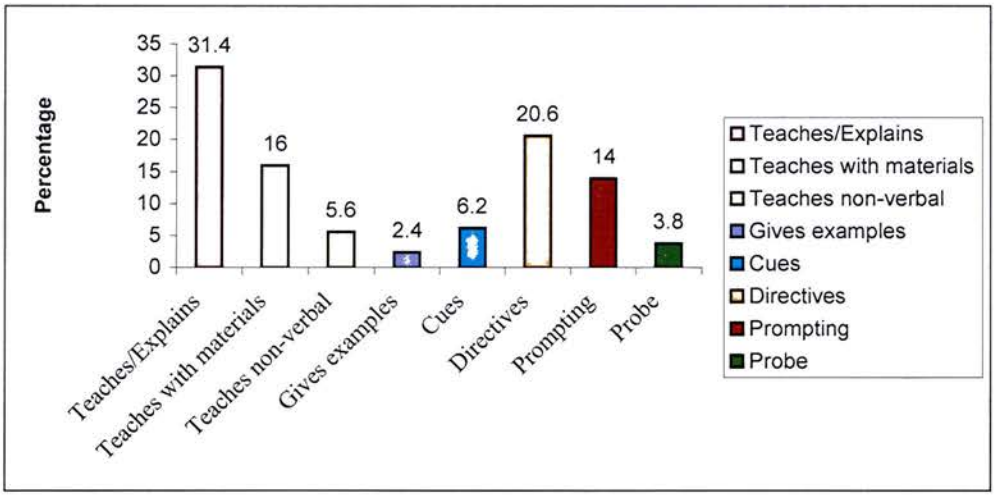

Figure 7.5: Instructional approaches in Nigeria preschool classrooms

As can be seen from the Figure 7.5, the dominant instructional approaches tend to be those that focus on "teaches/explains without materials"(31.4) and giving "directives"(20.6). The Figure, however, acknowledges the occurrence, though less frequently, of other instructional approaches such as "teaches with materials"(16.0), "prompting"(14.0), "cues"(6.2), "teaches non-verbal"(5.6), "probe"(3.8) and "gives example"(2.4).

7.5 Types of Questions Asked During Instruction

Types of questions asked by the preschool teachers during instructions were coded under four main headings (high level, low level, opinion, and redirect questions). Questions which engaged the children in critical thinking, for instance, subjecting the learners to look for another alternative means to providing solution to a posed question, were recoded under high level, whereas those that required mere recall of what the teachers had earlier said or done were coded against low level. However, those recorded under opinion questions are the ones asked by teachers when they sought the views of the learners (which are neither right nor wrong) while a question is recorded as redirect whenever the teacher asked the same question to a second or third pupil based on the unsatisfactory response from the first or second child to whom the questions were addressed to. The types of questions that are associated with the prevailing interaction patterns in Nigerian pre-primary classrooms are shown in Figure 7.6.

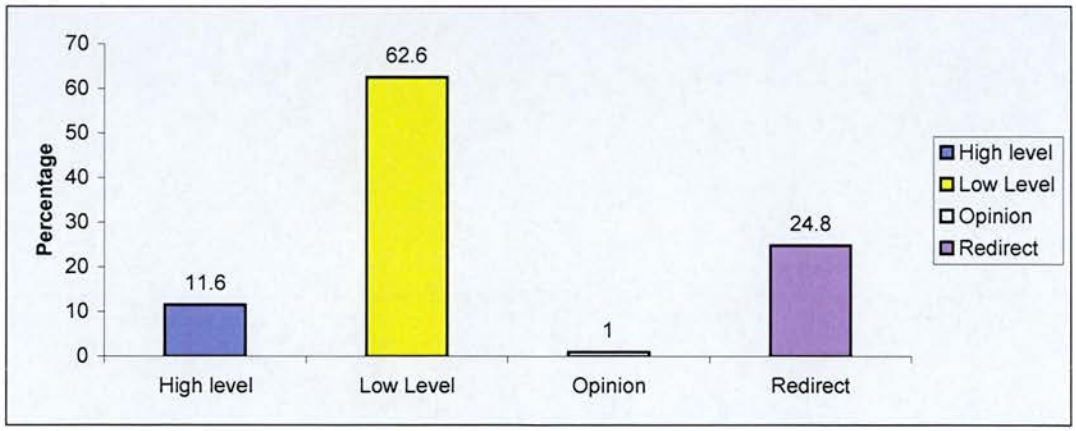

Figure 7.6: Types Questions asked in Nigeria preschool classrooms.

Figure 7.6 reveals that most of the questions (62.6) during instruction were of the low level type. This was followed by redirect (24.8), high level (11.6) and opinion (1.0) types of questions in that order.

7.6 Types of Responses During Instruction

The types of responses from the preschoolers to their teachers' questions were recorded. These different responses were recorded whenever they occurred within the time frame at the appropriate column. The data of the recorded responses involved calculating the frequencies and percentages of occurrence of each type of response. The type of responses that characterize the prevailing interaction patterns in Nigerian pre-primary classrooms is shown in Figure 7.7.

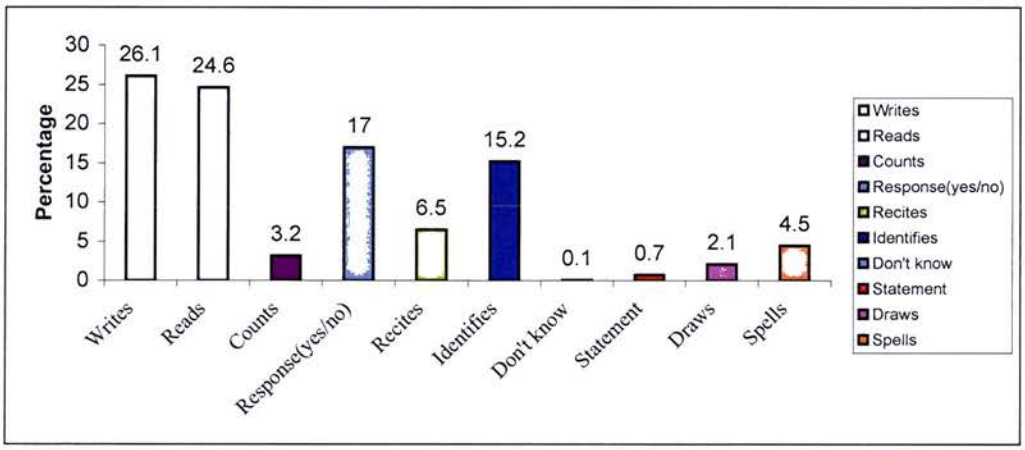

Figure 7.7: Types of response in Nigeria preschool classrooms.

As can be seen from Figure 7.7, the interaction pattern was mainly characterized by children's responses that had to do with writing (26.1%), reading (24.6), saying 'Yes' or 'No' (17.0) and identifying (15.2). Figure 10, however, illustrates, the less frequent, other types of responses such as reciting (6.5), followed by spells (4.5), counts (3.2), draws (2.1), statement (0.7) and don't know (0.1) in that order.

7.7 Types of Feedback from Teachers During Instruction

The teachers also provided feedback to the learners' responses. These were recorded under the following behaviour sub-categories: acknowledge positive/negative, reinforcement (asking the whole class to clap for the pupil or for themselves whenever a correct response was given) punishment (physical punishment e.g. flogging a pupil or a group of pupils for incorrect answers), repeats answers, provides answers (when a pupil is unable to give the correct answer), silence, grading pupils works as well as effective teaching. The behaviours were recorded once they occurred within the ten seconds interval at the appropriate column. The type of feedback that is associated with the prevailing interactions in Nigerian pre-primary classrooms is shown in Figure 7.8.

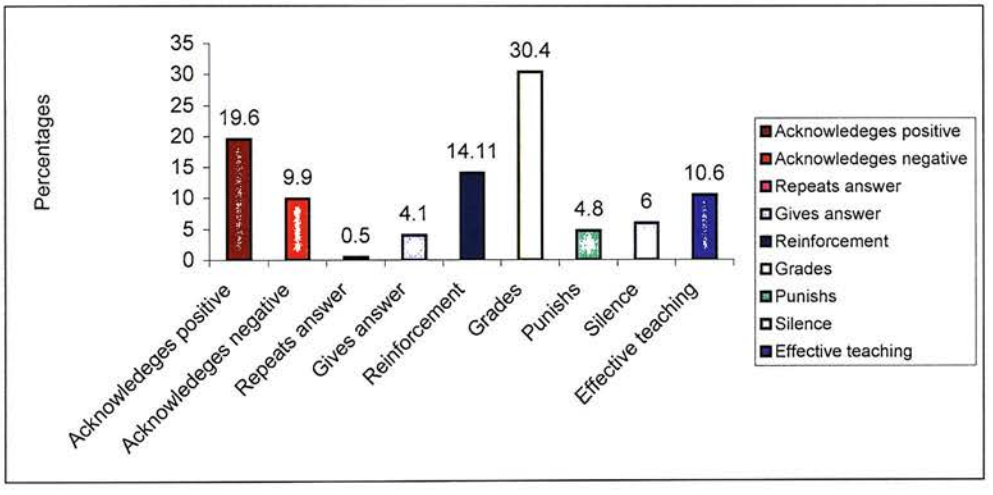

Figure 7.8: Types of feedback in Nigeria preschool classrooms.

As can be seen from Figure 7.8, the interaction pattern was mainly characterized by "provision of grades" (30.4), "acknowledges positive" (19.6) and "reinforcement" (14.1). Other types of feedback that tended to occur, though less frequently, were "effective teaching" (10.6), followed by "acknowledges wrong" (9.9), "silence"(6.0), "punishment"(4.8), "gives answers"(4.1) and "repeats answer" (0.5) in that order.

7.8 Discussion

This chapter analyses the characteristics of the prevailing interaction patterns observed in preschool classrooms in Nigeria. The variables of interest were language of instruction, direction of communication, classroom context, instructional approaches, and types of questions, responses, and feedbacks. The results indicated that the commonly used language by majority of the observed preschool teachers during instructional delivery was English Language whereas very few teachers used the mother tongue of the preschoolers or the language of the immediate environment of the school. Information on the extent of usage of the languages also shows that, a good number of the preschool teachers never used Nigerian language at all during instruction whereas a large proportion of them used both English and the language of the immediate environment of the learners.

This result is unexpected considering the fact that it runs contrary to the Federal Government of Nigeria's recommendation in the section 2(14) of National Policy on Education 1977, revised 1998, 2004 (FRN, 2004) on the medium of instruction to be used at this level of education. The national policy prescribed the use the mother tongue or the language of the immediate environment of the pupils. In the same light, EFA Global Monitoring Report (UNESCO, 2005) had also recommended for Sub-Saharan African countries the use of mother-tongue during instruction in Early Childhood Education programmes in order to ensure that the programmes are of high quality and relevant at this level. In addition, research findings have revealed that more learning gains are associated with the use of language, which both teachers and learners know best (Elkind, 1996; Morrow, 1997, Fillmore & Snow, 2000; Obanya, 2000).

With regards to commonly used classroom context during instructional delivery, the results revealed that the majority of the lesson times were spent within the large group context during which time, teachers interacted with the whole class while the teachers used less than one percent of the lesson time on small group interactions (when the teacher was interacting with a group of eight or fewer pupils). The result also showed that the preschool teachers spent less than two percent of the lesson time interacting with individual pupils outside a group context. In addition, they used a good

percentage of the lesson time on monitoring, which involved the teachers moving around the room while pupils were working independently, checking the work of individual learner and offering help when needed. The results also showed that the teachers spent about three percent of the lesson times on transition which involved preparing the children for participation in a task by getting out materials, changing or collecting materials, or moving the pupils into groups. However, the result indicated that the teachers were also engaged in other activities, which prevented them from being involved in what the learners were doing. Within this period of 'non-involvement', the teacher might be sitting at a table grading work, updating class records, preparing materials, or doing personal tasks.

This finding corroborates that of Layzer, Goodson, and Moss (1993) who reported that in Head Start Project in USA, teachers spent about two-thirds of their time with children in whole-class activities, while only 10% of their time was in individual child/teacher interaction. Their result also revealed further that more than 30% of children across all classrooms observed had no individual interaction with a teacher. However, the result runs contrary to the recommendation of UNESCO, (2007); FGN (2004) for child-centered instructional approach. Furthermore, the importance of using small group teaching approach in children's classrooms (dividing of the class into groups of children) has been emphasized in teaching methodology literature (Biolt and Easen, 1994; Lloyd and Beard, 1995). However, in the U.K, interactive whole class teaching during which the teacher simultaneously deals with all the children in the language which pupils know best in the class, is seen as an active teaching model, which promotes high quality dialogue and discussion between teachers and pupils (Hardman, Smith, Wall and Mroz, (2003).

The results also indicate that the most frequently used instructional approach used by teachers in preschool classrooms in Nigeria was direct teaching or offering explanations to the learners on academic related maters without the use of materials. This was followed by teachers giving learners directives on how to perform a given class task. Such tasks include asking individual pupils to come out and solve a problem on the chalkboard (either by reading/writing) as well as asking them to do a given task in their

respective workbooks. The result also revealed that teachers teaching with materials, prompting responses, giving cues to learners on how to provide the correct answers to a question, teaching non-verbal during which time the teachers communicated information without the use of words (e.g. in writing on the chalkboard or by gesture, etc), probing which involved the teachers in repeating a question, rephrasing a question or asking a different question and giving examples by the teachers during instructional delivery featured prominently. It is therefore worthy to note that the teachers observed did not include the use of play-way method during instructional delivery.

Pre-school advocates have identified teaching pre-schoolers without materials as a non-facilitating instructional method for children at this age level (Montessori, 1912; Bruce, 1997; Edwards, 2003; UNESCO, 2005, 2006). This result is therefore not in consonance with the recommended practice. The use of direct instruction as revealed by the result is also not in line with the recommended practice in the Nigerian National Policy on Education (FRN, 2004) as well as the research reports of Montessori (1912), Aremu (2000), Ogunsanwo (2000) and Lerach (2003) which emphasized the use of play. The report, however, collaborates the findings of Obanya (2004), Abidoye (1998) and Apampa (1998) that common feature of instructional delivery in Nigerian classrooms at this level was through direct teaching approach with inadequate provision and utilization of resources. This result occurred irrespective of the importance of play in the development/practice of literacy, numeracy and science skills in preschoolers (Lerach, 1995; Almon, 2004; Ersoz, (2000); Aremu, (2000); Bowman et al, 2001; Ogunsanwo. 2000; Bergen, 2001; Afuwape, 2003).

On the types of questions asked of children by their teachers that were associated with the prevailing interaction patterns in Nigerian preschool classrooms, the result showed that low-level questions occurred most frequently. These were questions that required recall or recognition of objects, letters or numbers as well as those that required yes/no responses. This was followed by the use of redirect questions, which involved teachers asking another pupil or group to answer the same question if not answered satisfactorily by the first pupil. Unfortunately, questions that required engaging the preschoolers in critical thinking (high level questions) as well as opinion questions were

used less frequently by the teachers. Using these types of questioning method during teaching-learning processes has been acknowledged as a very important way of s encouraging learner active participation (Cotton, 2004; Elkind, 1999; Bloom, 1975; Okebukola, 1985; Cotton 2001; Bourke et al 1989). However, the use of low level questions has been viewed as the most common practice by teacher (Brualdi, 1998) while Ellis (1993) claims that many teachers do rely on low-level cognitive questions in order to avoid a slow-paced lesson, keep learners attention, and maintain control of the classroom. Researchers (Brualdi, 1998; Saskatoon, 2004) however, advised that teachers should endeavour to use a combination of both low and high level questioning technique as well as determine the needs of the learners in order to know which sort of balance between the two types of questions needs to be made in order to foster learners understanding and achievement.

The types of children's responses that occurred frequently during the observed instructional delivery by Nigerian preschoolers included writing (which involved a pupil coming out to replicate what the teacher had written on the chalkboard when asked by the teacher), reading (this involved reading out letters of the alphabets, or words as well as numbers as they were written on the chalkboard by the teacher), giving monosyllabic responses such as yes/no and identifying letters of the alphabet, numbers and objects. Asking children to replicate what a teacher has written according to Bruce (1997) does not encourage creativity. In addition, Bowman et al. (2001); Association for Childhood Education International, (2002); Vandeyar and Killen, (2006); Wilcox-Herzog and Ward, (2002) see engaging children in expressive talks encourages language development, vocabulary increases and more complex grammatical structures. However, the results acknowledge the occurrence, though less frequently, of such responses as reciting, spelling, counting, drawing, silence (which was recorded each time a pupil kept quiet when asked a question), statements and 'I don't know'.

The study result, with regard to the types of feedbacks exhibited, revealed that the teachers spent a good percentage of their lesson time on grading of pupils' class tasks. This was followed by teachers acknowledging positively or negatively to pupils' responses, reinforcing pupils' responses (e.g. asking the whole class to clap for an

individual, group, or for themselves whenever a correct response is given, commending a pupil or group after the response). However negative reinforcement featured which involved the teacher exerting physical punishment on a pupil or a group for not getting an answer correctly, or not following a given directive while carrying out a given class task. The use of this type of reinforcement is frowned at by world educational bodies like UNESCO, (UNESC, 2005); NAEYC, (NAEYC, 1998) as well as individuals (e.g. Montessori, 1912). This practice is seen as the violation of the children's right (CRC, 2001) and as such should not be used in pre-school settings. Other types of feedbacks that also featured were effective teaching (teachers wanting to know the effectiveness of his or her explanation or clarification of something), and gives/repeats answers (teachers providing answers to their questions or repeating the answers provided by a pupil or group of pupils in other to lay more emphasis on the answers given).

7.9. Conclusion

This chapter presented empirical findings on the characteristics of prevailing interaction patterns in pre-primary education in Nigeria. The results revealed that the major language of instruction was English language rather than the language of the pupils' immediate community. Teachers engaged the pre-schoolers more in large group context more than on on-to-one basis. The instructional approach commonly used by the teachers was direct teaching. Play method, which is the recommended instructional approach for children at this age level, was not used by the teachers during instructions in the three-subject area observed. Types of questions asked by the teachers were more of the low level type whereas the responses from the pupils were monosyllabic in nature as well as replication of what the teacher said or wrote. These findings are important because it will serve as an empirical base for the Nigerian government to know that the practicing preschool teachers are far from incorporating the recommended practices into the Nigerian pre-school settings. More detailed discussion is presented in chapter nine of this thesis.

The last section of the results chapters is presented in chapter 8, which is the next. The chapter analyzed the forth research question which aimed at finding out whether class-size, teacher qualification, school location, school type and language of instruction played any significant role in determining the patterns of interactions observed in preschool classrooms in Nigeria.

Chapter 8

Language of instruction, Class size, Teacher qualification, Class location, and School type as determinants of the Observed Interaction Patterns.

8.1 Introduction

The discussions in Chapter Three emphasized several factors considered by preschool advocates (NAEYC, 2002; NERDC, 2002; NAEYC, 1997; Briefs, 1997) as important elements for quality preschool education provision. How Nigerian preschool providers have fared in working towards meeting this requirements were discussed in chapter 7. However, chapter 7 did not provide information on how each variable understudy (language of instruction, class size, teacher qualification, school location and school type) contributed to the patterns of interactions between the pre-school teachers and the pupils, which emerged. Thus, this chapter analyses the extent to which these variables contributed to the interaction pattern, observed in preschool classrooms in Nigeria. The effects, which these variables have in ensuring that quality preschool education is provided, have been adequately documented in other countries as was mentioned in chapter 3 (Blatchford, Moriarty, Edmonds and Martin 2002; De Schipper, Riksen-Walraven and Geurts 2006; Howes, Phillips, and Whitebook 1992; Goffin, 1996; Early, Bryant, Pianta, Clifford, Burchinal, Ritchie, Homes, and Barbarian, 2006; Shlay, Tran, Weinraub, Harman, 2005; Pianta, 2005).

Analyses of the data collected involved the use of non-parametric statistic such as the chi-square and parametric statistic the Analysis of Variance (ANOVA). Non-parametric statistics was considered ideal because the data measured occurred at categorical and ranked scales. They are also said to be useful when one is using small sample (e.g. less than 100) (Pallant, 2005). In addition, chi-square was also considered most appropriate considering that the type of information being sought in research question 4 has to do with measuring of association between variables. Information, which will emerge from this chapter, will through more light on the major determinants

of the patterns of interaction reported in chapter 6. On the other hand, ANOVA was used to find out if group differences did exist in the pattern observed and secondly because one of the variables (extent of use of language) is operating at three levels. In addition, scheffe test was conducted on the ANOVA results where significant differences did occur to find out which sub-categories the differences emanated.

8.2. Research Question 4: Do the prevailing interaction patterns depend on: Language of instruction, Class size, Teacher qualification, Class location, and School type?

This was measured via two factors namely use of instructional time and direction of communication.

8.2.1 Results: Language of Instruction: Group Differences in Prevailing Interaction Patterns (Use of Instructional Time).

The extent to which English language is used during instruction was the grouping factor. This factor was classified into three: small extent, large extent, and all the time. The use of instructional time was also classified into three (time spent on teacher-centred learning activity, pupil-centred learning activity and teacher not facilitating learning activity/confusion). There was significant association between groups (based on the extent of using English Language) in the use of instructional time as shown in Table 8.1.

Table 8.1: Group Differences (Based on Language of Instruction) in Use of Instructional Time

Use of Instructional Time	**Use of English Language in Instruction**				
	Small extent	**Large extent**	**All the time**	**Total**	χ^2
Teacher Prompting Act.	35	20	7	62	10.48*
Pupil Learning Activity	24	9	5	38	
Teacher Not Facilitating Learning and Confusion	5	8	7	20	
Total	64	37	19	120	

**p< 0.05 non-directional test*

As can be seen in Table 8.1, a greater percentage (53%) of teachers who used English language to a small extent during instruction, unlike their counterparts who used it all the time (31%) or to a large extent (16%), tended to spend more time on pupil-centred and teacher-centred learning activities. The implication of this finding is that teachers and their pupils tended to be more at ease with one another more when the language each party is conversant with is used. Pupils' more especially tended to open up and draw the teachers' attention to them than in classrooms where English was predominantly used. The teachers should therefore look inwards and opt for the medium of instruction that would bring about more participation of both parties than one, which does not.

8.2.2 Direction of Communication

The grouping factor (the extent to which English language is used in instruction) was classified into three: small extent; large extent; and all the time. However, the direction of communication was classified into two: one-to-one (Teacher to pupil/Pupil to teacher); and whole class (Teacher to group/Group to teacher). The result is as presented in Table 8.2.

Table 8.2: Group (Based on Language of Instruction) Differences in Direction of Communication.

Direction of Communication	**Use of English Language in Instruction**				
	Small extent	**Large extent**	**All the time**	**Total**	χ^2
Teacher to Pupil/ Pupil to Teacher (One-to-One)	13	8	9	28	**8.29***
Teacher to Group/ Group to Teacher (Whole class)	9	34	21	64	
Total	20	42	30	92	

**p< 0.05 non-directional test*

There was significant group association (based on the extent of using English Language) in the direction of communication. As can be seen in Table 8.2, a smaller percentage (9.7%) of teachers who used English language to a small extent during instruction

tended to be involved with one-to-one directed communication while a larger percentage of the teachers who used English Language all the time (25%) or to a large extent (38%) would be more likely to be involved with whole class (group)-directed communication. The result therefore indicates that the less a teacher uses the language which is different from that of the school environment, the more the teacher interacted with the children at individual level. This approach could reveal that the pupils tended to understand their teachers more and thus would not want to hide away under the influence of whole-class (chorus) response but would rather want to air their views at individual level. This approach would more likely enable the teacher to know how much of the lesson objectives were achieved. In addition, as the teachers interact with the children more on one-to-one basis there is the likelihood that the children's language proficiency will develop better than when such interactions fail to exist. This result therefore is not expected considering the fact that the Federal government of Nigeria through its policy on medium of instruction (FGN, 2004) tried to reduce this negative practice.

8.3 Class size and Prevailing Interaction Patterns

8.3.1 Use of Instructional Time

The Analysis Of Variance was used to test if the prevailing interaction patterns observed depended on the size of classes managed by the pre-school teachers observed, ANOVA was considered most appropriate because the class size was divided into more than 2 groups and again one was interested in making comparisons to find out if the groups did differ as measured by the CIS. The class size operated at three groups: small (8-25), medium (26-40) and large (41-98). Thus, it was used to compare the variability in behaviour of the different groups of teachers while teaching the three subjects with reference to size of class. The F ratio was calculated to indicate the degree of variability among the groups. The result shows that significant group differences (based on one-way ANOVA; $P<.05$ level) were observed on only 7 of the 57 subcategories (12.3%). Table 8.3 also shows that the observed significant differences in the use of instructional time across the class sizes tend to be associated with both learning and non- learning

facilitating behaviours of teachers and pupils in pre-primary classrooms. However, ANOVA test did not pin down the specific groups that differ. As a result a post hoc test using scheffe was conducted. Post-hoc tests are used to find out where these differences lie. The data on differences in the interaction patterns (use of instructional time) across class sizes are presented in Table 8.3.

Table 8.3: Summary of Analysis of Variance of Use of Instructional Time by Class size

Behaviour Sub-category	**Class-size**	**Mean**	**SS**	**df**	**MS**	**F-ratio**
Teacher writing on the chalkboard	8 - 25	8.94	235.39	2	167.69	4.12*
	26 - 40	8.19	8669.95	213	40.70	
	41 - 98	5.84	9005.34	215		
Pupil group exploring	8 - 25	0.98	39.52	2	19.76	3.84*
	26 - 40	0.78	1097.44	213	5.12	
	41 - 98	0.00	1136.96	215		
Pupil group silence	8 - 25	0.94	15.04	2	7.52	5.48*
	26 - 40	0.30	292.30	213	1.37	
	41 - 98	0.56	307.34	215		
Individual pupil writing	8 - 25	9.49	767.19	2	383.60	3.50*
	26 - 40	5.00	23365.46	213	109.70	
	41 - 98	6.19	24132.65	215		
Individual pupil identifying	8 - 25	3.32	162.36	2	81.18	3.55*
	26 - 40	2.07	4865.47	213	22.84	
	41 - 98	4.11	5027.83	215		
Class disorganized	8 - 25	0.32	130.30	2	65.15	7.89*
	26 - 40	0.68	1759.62	213	8.26	
	41 - 98	2.21	1889.92	215		
Teacher grading work	8 - 25	1.52	50.50	2	25.25	4.02*
	26 - 40	0.42	1339.38	213	6.29	
	41 - 98	0.55	1389.88	215		

**Significant at the 0.05 level (non-directional test).*

More specifically, the further test showed that the identified differences emanated from the following behaviour categories teacher writing on the chalk board for the whole class (Large class versus small class and medium versus large class versus small) with small–class having the highest mean, followed by medium and then large

class. This shows that the pre-school teachers who have smaller classes exhibited this behaviour more 'writing on the chalk board' during instruction in the lessons observed followed by those with medium sized classes. This result is unexpected considers the fact (based) on literature (Blatchford, Moriarty, Edmonds and Martin (2002; NAEYC, 1998) the fewer the children left under the care the more they are likely to interact with them on one-to-one basis. Significant differences was also revealed in 'pupil group exploring' with those in small classes showing a higher mean average of 0.98 as against 0.78 by medium sized classes. Thus this shows that teachers in small class allowed more time for their children to explore in groups than in medium sized class. However no such differences occurred for large group classes.

Significant differences also occurred in pupil group silence. The difference emanated from (small versus large) and small versus medium as well as medium versus small with small class size showing a highest mean average of 0.94, followed by large class-size (0.56) and them medium with 0.30. In addition, significant difference also occurred in behaviour category 'individual children writing'. The differences were between (small versus large, small versus medium, and medium versus large) with small class sizes having the highest mean of 9.49, followed by large group (6.19) and medium class with 5.00. Further, significant differences also occurred in individual pupil identifying between (small versus large, large versus medium and medium and small) with large class-size having the highest mean average of 4.11, followed by small class size (3.32) and then lastly by medium class size (2.07). Other behaviours categories were significant differences occurred include 'class disorganized' and 'Teacher grading work'. The nature is such that in class organised, it occurred between small versus large, medium versus large and small versus medium. With large class having the highest mean of 2.21, followed by medium class sizes (0.68) and the small class –sizes with average mean of 0.32. This result is explicable when one considers the fact that large class sizes in Nigeria preschool classrooms ranges from 46 to 98 children of the same age bracket kept under the care of one person. No one teacher can maintain orderliness with children of such number. Research studies have also shown that this must be one of the reasons why organisation like NAEYC, (1998) recommended about 8 children per a

teacher. However, in Teacher grading work, it occurred between (small versus large and small versus medium with small class having the highest mean of 1.52, followed by large class-size (0.55) and then medium class size with average mean of 0.42.

In summary, the results of further analysis based on Scheffe post-hoc comparison tests (significant at $p<.05$) showed that the identified differences in the use of instructional time emanated mostly between small class size and by medium followed by medium and large class sizes (77.8%) as against between medium and large class sizes (22.2%). The results also showed that the differences were such that classroom activities such as teacher "writing on the chalkboard", " grading of pupils' work", "pupil group exploring", "pupil group silence", and "individual pupil writing" were more prevalent in small classes than in large ones. However, the results, in addition, showed that the interaction patterns in large classes were more characterized by "individual pupil identifying" and "class disorganize" than the patterns in smaller classes. These differences are illustrated in Figure 8.1. More detailed discussion is presented in chapter 9.

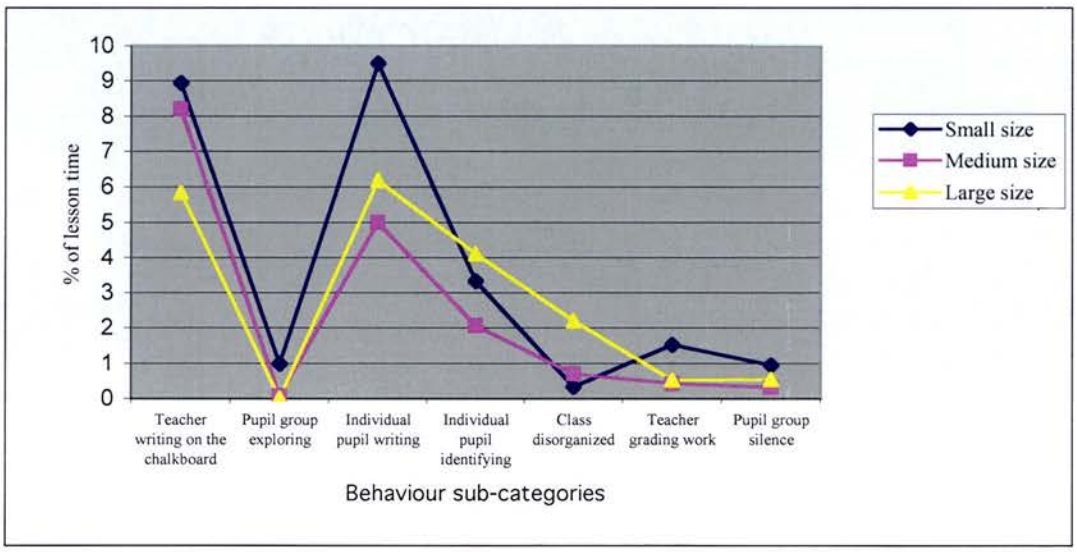

Figure 8.1: Class size-Group Differences in use of Instructional Time Across Behaviour Categories

8.3.2. Direction of Communication

The results on class-group differences in the direction of communication are presented in Table 8.4. As can be seen from Table 8.4, the prevailing direction of communication in Nigerian preschool classrooms was not sensitive to class size (χ^2= 0.80; p > 0.05, non-directional test).

Table 8.4: Class size-Group Differences in Direction of Communication

Direction of Communication	**Class size**			**Total**	χ^2
	Small (8-25)	Medium (26-40)	Large (41-90)		
Teacher to pupil/Pupil to teacher (One- to –one)	25	22	28	75	0.80*
Teacher to group/Group to teacher (Group/Whole class	38	42	39	119	
Total	63	64	67	194	

**Not significant at the 0.05 level (non-directional test; df. = 1).*

8.4. Qualification-Group Differences in Prevailing Interaction Patterns

8.4.1. Use of Instructional Time

Information from the teachers showed that none of the observed teachers was trained as preschool teacher. As a result, the data on differences in the interaction patterns (use of instructional time) was grouped between those who have any type of professional qualifications to teach in any level of education in Nigeria (holders of NCE, B.Ed, B.Sc/B.A. Ed certificates) and those who are not professionally qualified (holders of Pry; W.A.S.C; OND; H.N.D certificates) are presented in Table 8.5.

Table 8.5: Qualification-Group Differences in Use of Instructional Time

Behaviour Sub-category	Qualification	Mean	Mean diff.	Df.	t-value.
Teacher gives directives	Pry; W.A.S.C; OND.	65.12	19.1	214	2.58*
	N.C.E; HND; B.Ed	84.22			
Teacher prompting response.	Pry; W.A.S.C; OND.	49.43	18.72	214	3.03*
	N.C.E; HND; B.Ed	30.71			
Teacher grading	Pry; W.A.S.C; OND.	12.81	8.61	214	2.49*
	N.C.E; H.N.D; B.Ed	4.20			
Whole class observing	Pry; W.A.S.C; OND.	18.23	8.41	214	2.09*
	N.C.E; H.N.D; B.Ed	9.81			
Copying from chalkboard	Pry; W.A.S.C; OND.	52.53	32.42	214	2.46*
	N.C.E; H.N.D; B.Ed	20.11			

**Significant at the 0.05 level (non-directional test).*

Table 8.5 shows that significant group differences in the use of instructional time (based on independent t-test analysis; $p<0.05$) were observed on only 5 of the 57 subcategories (8.8%). Also Table 8.5 shows that the observed significant differences in the use of instructional time between the two qualification groups tend to be associated with both learning and non- learning facilitating behaviours of teachers and pupils in pre-primary classrooms. These differences were such that "teacher prompting response," "grading of pupils' work", "whole class observing, and "copying from chalkboard" were more prevalent in classrooms of teachers without professional qualification than in those of teachers with professional qualification. However, preschool teachers with professional qualification tend to "give more directives" than their counterparts who are not professionally qualified.

8.4.2 Direction of Communication

The grouping factor (teacher qualification) was classified into two while the direction of communication was also classified into two: one- to- one (Teacher to pupil/Pupil to teacher); and whole class (Teacher to group/Group to teacher). The results on class-group differences in the direction of communication are presented in Table 8.6.

Table 8.6: Qualification-Group Differences in Direction of Communication.

Direction of Communication	**Qualification**		**Total**	χ^2
	Pry;W.A.S.C; OND;HND	NCE; B.Ed; B.Sc /BA,Ed.		
Teacher to pupil/Pupil to teacher (One- to –one)	30	28	58	0.01*
Teacher to group/Group to teacher (Group/Whole class)	62	64	126	
Total	92	92	184	

**Not significant at the 0.05 level (non-directional test; df =1).*

Table 8.6, however, shows that the prevailing direction of communication in Nigerian preschool classrooms was not sensitive to teacher qualification ($\chi^2 = 0.01$; $p > 0.05$, non-directional test).

8.5 Location-Group Differences in Prevailing Interaction Patterns.

8.5.1 Use of Instructional Time.

The data on differences between the interaction patterns (use of instructional time) of classrooms in urban and rural locations are presented in Table 8.7.

Table 8.7: Location-Group Differences in Use of Instructional Time

Behaviour Sub-category	Location	Mean	Mean diff.	Df.	T-value.
Teacher writing on the chalkboard	Urban	101.48	23.42	214	2.23*
	Rural	78.06			
Whole class singing	Urban	16.02	8.61	214	2.76*
	Rural	7.41			
Whole class identifying	Urban	42.96	15.74	214	1.95*
	Rural	27.22			
Individual pupil silence	Urban	2.41	3.98	214	2.35*
	Rural	6.39			
Teacher distracts attention	Urban	0.28	2.41	214	2.16*
	Rural	2.69			

**Significant at the 0.05 level (non-directional test)*

Table 8.7, shows that significant group differences in the use of instructional time (based on independent t-test analysis; $p<0.05$) were observed on only 5 of the 57 subcategories (8.8%). Table 9 also shows that the observed significant differences in the use of instructional time between the two location groups tend to be associated with both learning and non- learning facilitating behaviours of teachers and pupils in pre-primary classrooms. These differences were such that learning-facilitating aspects of the behviours ("teacher writing on the chalkboard", "whole class singing" and "whole class identifying") tend to be more prevalent in urban classrooms than in the rural ones. However, classrooms in rural locations tend to experience more of the behaviours that do not facilitate learning ("individual pupil silence" and "teacher distracts attention") than those in urban locations.

8.5.2. Direction of Communication

The grouping factor, class location, was classified into two (urban and rural) while the direction of communication was also classified into two: one- to- one (Teacher to pupil/Pupil to teacher); and whole class (Teacher to group/Group to teacher). The results on location-group differences in the direction of communication are presented in Table 8.8.

Table 8.8: Location-Group Differences in Direction of Communication.

Direction of Communication	Location		Total	χ^2
	Rural	Urban		
Teacher to pupil/Pupil to teacher (One- to –one)	34	29	63	0.63*
Teacher to group/Group to teacher (Group/Whole class)	58	63	121	
Total	92	92	184	

**Not significant at the 0.05 level (non-directional test; df. = 1).*

Table 8.8, however, shows that the prevailing direction of communication in Nigerian preschool classrooms was not sensitive to class location (χ^2= 0.63; p > 0.05,non-directional test).

8.6. School type-Group Differences in Prevailing Interaction Patterns

8.6.1. Use of Instructional Time

The result on differences between the interaction patterns (use of instructional time) of classrooms in private and public pre-primary schools is presented in Table 8.9.

Table 8.9: School type-Group Differences in Use of Instructional Time

Behaviour Sub-category	School type	Mean	Mean diff.	Df.	t-value.
Teacher explaining	Private	10.01	2.06	214	2.06*
	Public	7.94			
Whole class reading	Private	2.94	1.84	214	2.11*
	Public	4.79			
Whole class singing	Private	1.44	1.19	214	1.93*
	Public	2.63			
Individual pupil silence	Private	1.56	0.79	214	2.52*
	Public	0.78			
Pupil asked to shut up	Private	7.86	0.52	214	243*
	Public	7.74			
Teacher punishing	Private	0.67	0.60	214	1.99*
	Public	1.27			
Teacher distracts attention	Private	0.43	0.34	214	2.49
	public	0.13			

**Significant at the 0.05 level (non-directional test).*

Table 8.9 shows that significant group differences in the use of instructional time (based on independent t-test analysis; $p<0.05$) were observed on only 7 of the 57 subcategories (12.3%). Table 8.9 also reveals that the observed significant differences in the use of instructional time between the two types of schools tend to be associated with both learning and non- learning facilitating behaviours of teachers and pupils in pre-primary classrooms. These differences occurred in classroom behaviours such as " teacher explaining," "individual pupil silence", "pupil asked to shut up/stop moving about" and "teacher distracts attention tend to be more prevalent in private school classrooms than in those of public schools. However, classrooms in public schools tend to experience more "whole class reading and singing" as well as "teacher punishing" than classrooms in private schools.

8.6.2 Direction of Communication

The grouping factor, school type, was classified into two (private and public) while the direction of communication was also classified into two: one- to- one (Teacher to pupil/Pupil to teacher); and whole class (Teacher to group/Group to teacher). The results on school type-group differences in the direction of communication are presented in Table 8.10. The prevailing direction of communication in Nigerian preschool classrooms was not sensitive to whether the school is of the private or public type (χ^2= 0.25 ; $p > 0.05$,non-directional test).

Table 8.10: School type-Group Differences in Direction of Communication.

Direction of Communication	**School type**		**Total**	χ^2
	Public	Private		
Teacher to pupil/Pupil to teacher (One- to –one)	33	30	63	0.25*
Teacher to group/Group to teacher (Group/Whole class)	59	62	121	
Total	92	92	184	

**Not significant at the 0.05 level (non-directional test; df. = 1).*

8.7. Discussion

The result relating to language of instruction and the interaction patterns observed showed that there was significant association between groups (based on the extent of using English language) in the use of instructional time. A greater proportion of teachers who used English language to a small extent during instruction, unlike their counterparts who used it all the time or to a large extent, tended to spend more time on pupil-centred and teacher-centred learning activities during which time children participation increased. With regard to direction of communication, the result also revealed that there was significant group association (based on the extent of using English language) in the direction of communication. It also showed that teachers who used English language to a small extent during instruction tended to be involved with one-to-one directed communication while those who used English language all the time or to a large extent were more involved with whole class (group)-directed communication thereby reducing the participatory level of children at the individual level.

The participatory level of children during instruction has been seen to be dependent upon the choice of language used by teachers (Bambgose, 1976; Brock-Utne, 2005; Obanya, 2000). They therefore advised that instructional process being delivered in pre-school children first language is likely to reduce the incidence of one sided flow of interaction (teacher to pupil) in preschool classrooms. Also, literacy and concepts are argued to be more easily internalized especially if it is done in the language which the learner knows best (Tabors, 1998, Prah, 2003, and Brock-Utne, 2005). In the same light, the research results of Apps, Mclutyre, and Juliebo (1996) have shown that children who have not sufficiently acquired the language used for instruction often have negative experiences while attempting to use the language, thus creating a fear of speaking in the classroom. This behaviour according to him, can affect the extent to which children could benefit from the teaching and learning activities (Desai, 2003). Children's school achievement has a link with oral language development, which is cultivated mainly in an environment that is linguistically stimulating that is created through the use of language

the learners are conversant with (Prah, 2003; Vandayar and Killen, 2006). It has also been emphasized that it is through language that children interpret the world around them (Kirova and Bhargava, 2002; Brock-Utne and Holmarsdottir, 2003; Desai, 2003).

The results emanating from class size-group differences in prevailing interaction patterns showed that significant group differences in the use of instructional time emanated mostly between small class size as against between medium and large class sizes with teachers communicating more with children in small classes. However the result revealed that the direction of communication in Nigerian preschool classrooms was not sensitive to class size. This shows that irrespective of the number of pupils in the classroom, the teachers had an upper hand in initiating the communications during instruction. This result is in agreement with one of the reasons why the National Association for the Education of Young Children in the US recommends the regulation of adult-child ratio (NAEYC, 1998) and Blatchford, Moriarty, Edmonds and Martin (2002) argument on logical grounds. Furthermore, the exploratory study carried out in England by Hall and Nuttal (2000) on class size and pedagogy showed that size of class influences the degree to which teachers were able to operate between their pedagogical philosophy and their practice. Howes, Phillips, and Whitebook (1992) also found that ratios in child care centres directly and indirectly influenced the types of interactions the teachers had with children. In addition, Blatchford, Moriarty, Edmonds and Martin (2002) study results on the relationship between class size and teaching in English infant schools revealed that there was consistent evidence that in small classes children were more likely to interact with their teachers, more on one-to-one teaching basis as well as be the focus of a teacher's attention.

The result on the type of teachers in Nigerian preschool classrooms match with that of Abidoye, 1998 and Oduolowu, 2004 which showed that the teachers were not trained to teach at the preschool level of education. This calls for concern when one considers the fact that professional preparation tends to provide for practicing teachers solid understanding of developmental issues as well as what and how to provide quality instruction to preschoolers (Hooks, Scott-Little, Marshal and Brown, 2006; Abimbade, 1999; Ndukwu, 2002; Howes, 1997). Hallak (1990) had stressed that the quality of any

educational system depends on the quality of its teachers. Also, Howes, 1997; Kontos, 1995 found that higher quality interaction tended to occur more between teachers with specialized training in early childhood education. Research on the effect of teacher qualification has also shown that the number of courses would be teachers are exposed to during training are more significant in acheiveing higher quality interaction between teachers and young children than number of years of service (Haning and Hirallel, 1998; Ofsted, 1998a; Early, Pianta, Clifford, Burchinal, Ritchie, Homes and Barbarian, 2001).

The results also showed that significant group differences in the use of instructional time were observed based on school location. The result also shows that the observed significant differences in the use of instructional time between the two location groups tend to be associated with both learning and non- learning facilitating behaviours of teachers and pupils in pre-primary classrooms. However, classrooms in rural locations tend to experience more behaviour that do not facilitate learning ("individual pupil silence" and "teacher distracts attention") than those in urban locations. The result however, revealed that the prevailing direction of communication in Nigerian preschool classrooms was not sensitive to class.

With respect to type of school, the result shows that significant group differences existed in the use of instructional time. The differences in the use of instructional time between the two types of schools tended to be associated with both learning and non-learning facilitating behaviours of teachers and pupils in pre-primary classrooms. However, classrooms in public schools tended to exhibit more "whole class reading and singing" as well as "teacher punishing" than classrooms in private schools. However, the prevailing direction of communication in Nigerian preschool classrooms was not sensitive to whether the school is of the private or public type.

8.8 Conclusion.

The practice which emerged showed that great differences exist between policy recommendations and practice on what and how preschool programmes should be organized in Nigeria. The interesting thing about the findings is that the differences observed occurred in both government owned as well as privately owned schools. For

instance all the teachers did not adhere to the prescribed medium of instruction. In addition, with regards to class-size, the 95 percent of the schools used had more than the recommended class-size of 25 children to one teacher by the government. Information from the data indicated that public schools had larger class-sizes than the private schools. This practice may not go down well with the education system when one considers the intricate values of using the languages which both parties are conversant with during instruction (Bambgose, 1976; Tabors, 1998; Prah, 2003; Brock-Utne, 2005) as well as the effect of using small class-sizes to enable the teacher have more contact periods with the children on a one-to-basis (Nye, Hedges, & Konstantoloulos, 2000; Hall and Nuttal 2000 and Blatchford, Moriarty, Edmonds and Martin 2002). More detailed discussions on the findings are presented in the final discussion chapter.

Chapter 9

Discussion of Results: The Meaning of the Observed Interaction Patterns

9.1 Introduction

Quality interaction in pre-school classrooms during instruction has been identified as crucial to ensuring that pre-school educational programmes provide solid foundations for children's learning and their well being (UNESCO, 2005; NERDC, 2002; NAEYC, 1997; Briefs, 1997; Bowman, Donovan and Burns, 2001; Myers, 1993;Association for Childhood Education International, 2002; Pigozzi, 2004; Sylva, Siraj-Blatchford, Taggart, Sammons, Melhuish, Elliot and Totsika 2006; Early, Bryant, Pianta, Clifford, Burchinal, Ritchie, Homes, and Barbarian, 2006).

No such research has been conducted in Nigeria at the pre-primary level, hence the necessity for this thesis. The focus of the thesis was the evaluation of classroom interaction patterns between pre-school teachers and their pupils in pre-primary school settings in both private and public schools as well as in rural and urban locations in Nigeria. To achieve this aim, 93 pre-school teachers were observed during the teaching of 216 lessons in literacy, numeracy and science skills. Two valid and reliable structured observation instruments (TMI and CIS) and a video camera were used to collect evidence during the observation of the lessons. Data were subsequently analyzed using qualitative and quantitative statistical procedures to reduce the data to interpretable forms.

The findings of the study and discussion were presented in chapters 5, 6, 7, 8 and 9. The qualitative results were presented in chapter 5 whereas the quantitative findings were presented in chapters 6, 7 and 8. This chapter provides a synthesis of the findings and a full and detailed discussion of their implication. The discussion is structured around the main research questions thus: common interaction patterns observed among teachers and pre-schoolers, observed instructional approaches and interaction patterns

observed, direction of communication commonly practised, language of instruction commonly used and extent of use, material provision/utilization during instruction, teacher qualification as well as class-size as they affected interaction patterns in Nigerian pre-school classrooms during instructions. The limitations of the study, recommendations on how to improve on the negative practices of the findings as well as suggestions for further research also form part of this chapter.

9.2 Prevailing Interaction Patterns Observed

The study revealed that teacher whole-class interaction patterns prevailed during instructions in the Nigerian pre-school classrooms observed, with teacher-centred activities being dominant. The nature of the interactions exhibited by the pre-school teachers were such that the teachers spent a greater percentage of their lesson time prompting learning through whole class activities (teacher whole class and pupil whole class activities) during which the teachers dominated the instructional activities. The participatory level of the pre-schoolers in terms of initiating activities as well as playing prominent roles during the instructional delivery processes, were observed to be relatively less frequent. The results revealed that teachers were in the forefront of initiating the classroom conversations (by explaining, questioning, writing on the chalkboard, giving directives, prompting, etc.) whereas chorus responses (whole-class responses) were more common among the pre-schoolers observed. These responses also tended to be more direct (usually either "yes" or "no" or a repeat of what the teacher had said: reading letters of the alphabet, identifying numbers, objects, letters, etc). The results also indicated that the teachers observed spent a good percentage of their lesson time on 'teacher not facilitating learning activities' (punishing, using negative reinforcements, distributing children's writing/textual materials, among others.

The pattern of classroom interaction observed in the study, where teacher-centred activity was predominant, and where the communication flows were mainly from the teachers to the whole class with minimal one-to-one (teacher to pupil or pupil to teacher) communication, may not augur well for effective acquisition of literacy skills, numeracy

skills, and science (knowing about the world around them) by Nigerian pre-school children. This meant considering the situation whereby the pre-school teachers spent a good proportion of their lesson times on "teacher not facilitating learning activities" (e.g. writing on the chalkboard for the children to copy, giving directives, explaining, not using instructional materials, providing answers, initiating most of the talking turns, punishing, using negative reinforcement, among others). The results indicate that most of the pre-school teachers observed are yet to move away from the traditional teacher-centred approach to teaching to using the method that is more interactive in nature with learners participating actively. The predominant approach used by the teachers appeared to be influenced by the empiricists view of learning as stimulus-response where adults lead the child's learning and dominates it with the child viewed as an empty vessel to be filled or a lump of clay to moulded into shape (Bruce, 1997). However, research has shown that this process does not necessarily promote pupils' learning, interest and curiosity. Rather it hinders motivation because such uninteresting and one-sided learning environments make learners passive and dependent and non-involvement tends to undermine the drive in learners to think for themselves (Silberman, 1970; NAEYC, 2001).

This situation should be considered important because at this level of education it could lead to the pupils becoming dependent on their teachers, passive learners, uncomfortable, and develop a negative attitude towards schooling and learning. This can lead to situations where the pre-schoolers would prefer staying home where they are most likely to be allowed to engage in activities they are interested in, without much interference by adults, as well as engage in much more actively involved interactions with parents, siblings and other relatives. The pattern observed runs contrary to the objectives of establishing pre-primary education settings in Nigeria which includes effecting a smooth transition from the home to the school, preparing the child for the primary level of education, as well inculcating in the pre-schooler the spirit of enquiry and creativity through exploration of nature, among others (Federal Republic of Nigeria, 2004). Furthermore, making Nigerian pre-schoolers mere recipients of instruction may also not lead to realization of one of Nigerians' national educational goals which focuses

on enabling Nigerian children to acquire appropriate skills as well as the development of mental, physical and social competences that could equip them to live in the society and contribute meaningfully to the development of the society later in life.

To this effect, Nigerian children need to be given opportunities to initiate conversation, which should be reciprocated in school settings during instructions. The work of Gordon (1983 cited in Bruce, 1997) has shown the importance of reciprocity in conversations between adults and children. Thus, to ensure that Nigerian pre-schoolers are not only equipped with the rudiments of letters, numbers, forms, colours, shapes but also with critical thinking skills, practicing teachers at this level need to substantially include participatory approaches during instructional activities in literacy, numeracy and science lessons. Psychologically, the tendency for pre-school teachers to be principal actors, talkers, and always eager to provide answers to questions they asked during instructions in pre-school classrooms, could affect the pre-schoolers' attitude to doing things (e.g. lack of confidence in themselves and inability to do things in ones own way without seeking assistance from adults or significant others). Bowman, Donovan and Burns (2001) argue that advances in cognitive abilities are not likely to take place if children are passive receptacles for knowledge delivered by others. Rather, they are of the opinion that cognitive development takes place in the context of the child's interaction with others and the environment with the child being an active participant.

Looking at the pattern of interactions exhibited at the pre-primary level by the observed teachers and pre-schoolers, one might infer that the observed teachers' and pre-schoolers' classroom behaviours could be seen as a reflection of the unequal power relations between adults and children in the wider Nigerian societal/cultural perspectives. The Nigerian pre-school teachers appear to conform to the cultural/societal norms for interaction whereby children are to be seen and not heard (Maduabum, 2001; Uka, 1966). Children therefore, when they come to school, may well have inculcated the habit of being active listeners and passive actors who are always waiting for adults to take the lead in every social interaction. Teachers, also being part of the culture and living within the society may transfer this belief to the classroom setting. Thus, since most Nigerian children are socialized into being mere listeners whenever adults have

something to say at home, they are likely not to feel at ease in participating actively during instruction in terms of initiating conversations, asking questions or even expressing themselves. Researchers have argued that when teachers are interacting with children at higher levels of involvement, this involvement is positively related to children scoring higher on language development assessment (Whitebook, Howes, & Phillips, 1989: Kontos & Wilcox Herzog, (1997) cited in Wilcox-Herzog and Ward, 2004). In the same light, Curtis (1997) found that mathematics is learned best when learners are actively participating in interaction during instructions with teachers and peers. Thus, Nigerian schools should provide opportunities such that teacher-learner differentiated interaction patterns be less practiced. Pre-school teachers in Nigeria should develop and initiate for teaching methods that could provide the pre-schoolers opportunities to initiate activities as well as be at the centre stage of interaction during instructions. However, based on the fact that Nigeria children are made to learn by listening both at home and at school, Nigerian children may learn more from active listening than in the West so the model of child development and learning may need some adjustments to apply well to Nigerian children.

9.3 Instructional Approaches and Interaction Patterns observed

The results also revealed (see chapter 7) that, irrespective of the lesson taught, the teachers observed adopted a single pedagogical method: direct teaching activities dominated by reading and writing through drills and practice, whereas one-to-one and individual activities occurred minimally. Formal instruction and much rote learning (through recitation and choral responses) characterized the instructional approaches at both public and private schools observed. This common practice is against the background of research evidence that teachers of preschool children should use a variety of teaching methods during instruction (Coltman and Whitebread, 2003; Bowman, Donovan and Burns, 2001; Anderson, et al 2003) since the younger the group is, the more likely it is that the children's readiness to learn is influenced by background experiences as well as individual differences (Katz, 1987). Based on this premise, it

could be assumed that when the kind of teaching approach that seem to be prevalent in Nigerian pre-schools is used for a diverse group of children, that a significant proportion of these children are likely not to benefit much from the teaching-learning activities.

The use of play method advocated by many early childhood educators and researchers (Montessori, 1912; Bruce, 1997; Tizard and Hughes, 2002) as the best way of teaching pre-schoolers rarely occurred. This is irrespective of the fact that the Federal Government of Nigeria has specified that children at this level should be introduced to school like activities through play (FME, 2004). The use of play method/approaches while introducing pre-school children to school related activities have been universally recommended (Almon, 2004; Ersoz, 2000; Aremu, 2000; NAEYC, 1998; UNESCO, 2006; Montague-Smith, 2002; Tizard and Hughes, 2002). The benefits play methods in aiding pre-schoolers all-round development have been emphasized (Lerach, 2003; Ogunsanwo 2000; Bergen, 2001; Afuwape, 2003). Considering the benefit accruing through the use of play, pre-school teachers in Nigerian could introduce play while delivering their lessons during which time the teachers sing while they demonstrate how certain actions should be carried out which the children could develop on. Incorporating such activities could make the lesson interesting, lively but challenging and less formal.

It could also act as a stimulus and encourages exploration, collective responsibility and active participation of the children (Anderson, Adlam, Coltman, Daniels and Linkerlater, 2003). For instance, a science lesson with a topic such as "Care of the body", could be taught through the use of structured play activities. Such play activities could include singing, demonstration and provision of the necessary materials need for taking care of the body (e.g. tooth brush, sponge, soap, comb, towels, etc.). A well known song like "This is the way I brush my teeth..... early in the morning" could be used by the teachers to arouse and sustain the interest of children while the teachers demonstrate with the materials how to use them in turn, after which each child would be asked to perform the actions. Within this particular lesson, the children must have learnt new words there by developing their language. After this, the teacher can tell the children the importance of keeping ones body clean, but ask children to identify the parts of their body with the accompanying names as well as functions, etc.

In addition, the pre-school teachers could also use exploration, drawing and painting to encourage creativity in the children. These methods could also help the teachers know how much information children have accumulated during the instructional delivery. For instance, in science with a topic such as "common insects around us", (treated by many of the teachers observed), the teachers could introduce the lesson by telling the children what insects are and the common names for it in their mother tongue. The second stage would have been the teachers asking the pupils to go outside their school environment to hunt for insects. At this point teachers could view themselves as co-explorers, even when they still maintained their leadership role but give the children the freedom in exploring their environment while they participated in looking for them. With as many insects as the children could catch, the teachers would have used as teaching aids. With all the insects displayed, the teachers could have used the opportunity of the varieties provided by the children to tell the children their names and features, with each child identifying them as he/she mentioned and demonstrated with his/her insect.

The teachers could have also extended the lesson by asking the children to draw the insects. As each child submitted the diagram of an insect, the teachers would have reinforced and expanded on what each child drew (whether the drawing made sense or not) by going through the drawings with each child and asking high level questions like the name the type each child drew, and the features included. Numerical skills could also be learnt as the children count the number of wings, legs, eyes, head, each insect has. Comparison of those insects with human beings and other common animals in their environment could also be done simultaneously with the children leading in the explanation. In this way, the teachers would have achieved the set out objectives much more than through abstraction or spending a good percentage of their lesson times writing words which the children cannot read or drawing on the chalkboard.

However, it was observed that the teachers used a lot of singing activities to introduce their lessons. These singing activities were done without much importance being attached to them. Most often, the teachers just start off the songs to maintain orderliness while they wrote or drew on the chalkboard. It appeared that the teachers

were not aware of the importance of incorporating songs and rhymes during instructional delivery. Instead, they all made it compulsory that writing tasks were performed at the end of each lesson. The teachers should educated to understand through re-training that children learn about sounds of language and linguistic awareness through exposure to nursery rhymes, games and songs. Some research suggests that the roots of phonemic awareness, a powerful predictor of later reading success, are found in traditional rhyming and word games (Duffelmeyer, 2002).

Drilling children on writing skills during which time they were forced to copy what the teacher had written on the chalkboard appeared to be practised by majority of the teachers observed. This instructional mode exhibited by Nigerian pre-school teachers, runs contrary to the ways, which early childhood practitioners advise that children should be taught at this age level (Bredakamp, Knuth, Kunesh and Shulman, 1992). Their report indicates a general agreement by these early childhood theorists that the traditional scope and sequence approach to curriculum with its emphasis on drill and practice of isolated academic skills does not reflect current knowledge of human learning. In addition, they stressed that it fails to produce learners who would posses the kind of higher-order thinking and problem solving abilities that will be needed in the 21st century. Bredakamp et al (1992) specifically called for the school curriculum to place greater emphasis on active hands-on learning, conceptual learning that leads to understanding along with acquisition of basic skills, meaningful, relevant learning experiences, interactive teaching and cooperative learning. In their concluding remarks, these researchers vehemently argued against rote learning, memorization, drill and practice on isolated academic skills, teacher lecture and receptive seat works at this level.

Research on the long-term effects of various curriculum models (Katz, 1987) suggests that the introduction of academic work into the early childhood curriculum yields good results on standardized tests in the short term, but may be counterproductive in the long term. She emphasized that the risk of early instruction in beginning reading skills is that the amount of drill and practice required for success at an early age tend to undermine children's disposition to be good readers. She, therefore, advised that it is not

useful for a child to learn skills if, in the process of acquiring them, the disposition to use them is lost. Further more, she stressed that the risk of introducing young children to academic work prematurely is that those who cannot perform the associated tasks required, tend to feel incompetent and might consider themselves not clever enough to benefit from school-related activities. This practice is therefore considered not appropriate enough to be encouraged in Nigerian pre-school institutions and may not help in successful realisation of the objectives of pre-primary education in Nigeria.

Nevertheless, pre-school teachers alone may not be blamed for using this model. This is because a critical look at the organisation of activities in the pre-school classroom in Nigeria shows that the activities were highly structured. For instance, the time tables across the various classrooms observed were arranged in such a way that usually each class will be working on a particular task together at a given time slot. Fixed times (usually 30 minutes) were allotted to each subject area on a daily basis. The subjects were also not featured in such a way as to provide the children with varied choice of activities that might interest them nor were free periods included to enable the children decide what to do with their time at individual or on with their peers. This must have resulted the constant whole class activity with direct teaching during which time all the children are either being taught together by the teacher or are responding to the teacher en masse.

The implication of this deviation from the recommended practice by the government is that Nigerian children might, from the very beginning, not be equipped with skills of literacy, numeracy problem-solving as well as functional knowledge, attitude and generative skills that are determined by the environment. Further, the programme instead of being a process aimed at laying a solid foundation for life long learning and human development on which other types of education and learning are built might end up inculcating in the children who passed through it the attitude of dependency as opposed to that of self-reliance. Further, they may grow into adults who are not creative and resourceful. Based on this sharp deviation, the policy makers should endeavour through educational monitoring and evaluation departments ensure that pre-

school classroom practices are monitored. Further discussions on the recommendations given are presented on pages 29 and 31 of this thesis.

9.4 Direction of Communication and Interaction Patterns observed.

The results revealed that the Nigerian pre-school teachers observed dominated instructional delivery processes during the teaching of literacy, numeracy and science. The directions of communication were such that during instruction, which occurred mostly in the whole-class context and seldom in small-groups, teachers initiated most of the conversations and, decided who should contribute usually through questioning technique. Pupils never initiated any communication or activities themselves either as a group or at individual level. The situations were such that even when the teachers initiated activities, pupils were not allowed to carry out the activities on their own without interference from the teachers. Further, even in the area of questioning, the pupils never summoned up the courage to ask their teachers questions. All the questions asked in class emanated from the teachers and were directed to the children. The pre-schoolers inability to ask questions may be attributed to the restricted medium of instruction which the children are not conversant with hence there resorting to silence for fear of being ridiculed by both the teacher and classmates had they made such attempts wrongly.

This behaviour (resorting to silence) was also observed to occur frequently whenever the teachers posed their questions in English language. The silence would continue until the said teacher gave cues, prompts or restructured the question in the language of the immediate environment of the school. Only at that point would the pupils raise their hands in attempts to answer such question. The implication of this finding is that the language used by the teachers during instruction appeared to be hindering the level of Nigerian preschoolers participation. Another contributing factor perhaps could be the effect of culture. The fact that the Nigerian pre-schoolers grew up in a culture where children are not allowed to question the opinion of an elder but to always agree with what the adult has to say must have encouraged that behaviour. The

school environment could even be worse because teachers are always seen as those who are more knowledgeable than others when it comes to academic matters. The school, which is seen as an agent of change in any society, should try to inculcate in their learners the spirit of inquiry right from the very beginning of Nigerian children exposure to education.

Teachers, through verbal communications, demonstrated the required behaviours whereas the learners merely responded in unison using monosyllabic words. Such responses from the children include reading the letters/numbers in rote manner or non-verbally (performing a lot of practice and drill in writing skills) by copying what the teacher wrote on the chalkboard in their exercise books. The talks initiated by the teachers, according to the result, occurred mainly when teachers used questions to find out the children's previous knowledge of the topic to be discussed, offering explanations during the course of the instruction, giving directives to the children on how to carry out class task, giving them clue on how the answer a question, as well as prompting the learner to pronounce a word, read letters of the alphabet and numbers, among others. The children most of the times responded as a group (whole-class) by reciting, counting, reading, identifying, observing, etc.

In the light of this, Nigerian pre-primary school teachers, owners of such schools as well as the policy makers, should be aware that children at this age level tend to have choices of activities they want to perform and as a result time slots should be provided to give the children some opportunities of choosing what they are interested in doing. Having a choice of activity within the auspices of what the teacher intended to teach, with minimum interference from the teachers might encourage the pre-schoolers to initiate talks or even ask questions when needing help from their teachers, during which time the teacher uses the opportunity to engage the child in meaningful conversation. This is worth incorporating because researchers (e.g. Fu, 2004) are of the opinion that knowledge and understanding are constructed through social interaction and that, classrooms should be seen as a social place where teachers and learners negotiate the curriculum. To this regard, it is also advisable that Nigerian pre-primary teachers as well as the curriculum developers should organise the teaching and learning environment in

such a way as to give equal opportunities for the pre-schoolers to initiate tasks and, questions as well as participate actively during lessons.

The findings also revealed that the pre-schoolers rarely initiated any talk, be it in question form (on things that puzzled them) or in form of giving explanations on the 'what' or 'why' of thing around them. It was also noted that the teachers rarely encouraged the pre-schoolers to ask questions nor were the children given enough time to extend what they were taught at their free time either at individual level or with peers. In fact, the pre-schoolers never played active role in deciding what they would want to work on. Instead, they were usually asked to keep quiet and listen to what the teachers had to say or to stop moving around as long as the lesson periods lasted. The prevalent pattern of classroom interaction which is characterized by teacher-initiating every activities also runs contrary to the pattern which teaching learning activities should follow as was emphasized in article 29(1) of the Convention on the Rights of the Child (United Nations, 1989). This article emphasized a child-centred approach to teaching children and that the goal of education should be the development of individual child's personality, abilities and independence.

9.5 Differences in Interaction based on the core subject

The results also indicated that significant differences, based on the core subjects observed, tended to exist in the prevailing interaction patterns across some of the behaviour subcategories. The group differences, it would seem, were such that time spent on teacher-centred learning activities (teacher whole class activity), as against pupil-centred learning activity (group/individual) were most for literacy lessons, followed by numeracy lessons and science lessons in that order. The group differences thus tended to be most apparent during literacy lessons. It has, however, been expressed that the pedagogical demands of the three core subjects in the curriculum tend to differ (Ezeokoli, 2003; Jegede, 2004). In his comments on teaching methods across the curriculum, Obanya (2003) observed that the teaching of science and mathematics (numeracy), unlike literacy, are more activity-oriented with some extra requirement on

hands-on-experience. However, the pre-school teachers in Nigeria by their nature (level of educational and professional training, teaching experience, etc.), and institutional and societal structure/supports are not sufficiently equipped to initiate and sustain child-centred, activity-oriented interaction patterns during instructional delivery in classrooms. As the teachers are prone to being at the centre stage of interaction during instruction, they are likely to feel comfortable spending more time on teacher-centred activities during literacy lesson than during science and mathematics lessons. In this regard, the tendency for the prevailing interaction patterns during instruction in Nigerian pre-primary classrooms to be sensitive to the core subjects in the curriculum (literacy skills, numeracy skills and science) with minimal encouragement of hands-on experience with materials for the pre-schoolers could be explained.

9.6 Instructional Materials and Interaction Patterns observed

Providing a variety of quality instructional materials in pre-school settings has been viewed as the bedrock of pre-school provision (Bruce, 1997; Montessori, 1912; Gura, 1996;) especially when the material are tools and beautiful objects, toys that could be easily accessible within the child's cultural environment (Valsiner, 1997; Light and Littleton, 1999). These, if provided, give pre-school children first-hand experiences of the concepts being talked about and, as a result this promote problem solving, critical thinking, and creativity for the pre-school children (Varol and Farran, 2006; Association for Childhood Education International, 2002). However, the study also showed that in most lessons observed teachers did not make use of instructional materials while teaching the children, nor were the children provided with a range of appropriate learning resources which could enable the children to have first-hand interactive experiences. It was also surprising to find out that neither the government whose duty it is to provide instructional materials in public pre-schools nor the owners of the private pre-school institutions made them available for the teachers to use. It was also gathered that (through a post teaching interview schedule with the teachers) in schools where teaching materials were skeletally provided, the teachers were not allowed to use them

frequently nor were the materials displayed in the pupils' classrooms for future reference. Instead, the teaching aids were locked away in the head-teachers' offices after use for fear of them being destroyed by the children. As a result most of the lessons were taught in abstraction. However, Schuller (2005) has warned that making pre-schoolers study things in isolation could take away some of the creative aspects of understanding concepts or procedures.

A critical look at the topics covered during the lessons observed in the various classrooms showed that the teachers could have improvised locally the materials needed during the instructional delivery. For instance topics such as "Plants and Animals Around Us", "Objects that Can Float or Sink in Water", "Objects in the Home/School", "Animals and Birds ", "Soil", "Effects of Air", "Counting of Numbers", "Identification of Numbers, Letters, Objects", "Picture Reading", among others are interesting topics which would require active participation and constructive open-ended search for new knowledge from learners. The teachers could have made topics such as these interactive with the children taking the lead in finding out why about things (e.g. why some objects could float in water but not others; why a candle flame cannot burn when the wind is passing by, among others). The teaching of such topics should have demanded a lot of interactive and active participation of the children through exploration of the environment during which time real life objects would have been observed, experimented with, touched, felt, and identified.

For instance, the teaching of a topic in mathematics such as "counting of numbers" would have demanded the use of objects by both the teachers while demonstrating and the pupils while carrying out the class task. But the prevalent practice by all the teachers who taught this topic was first to write the numbers out on the chalkboard read them out and ask the children to read after him/her. Actually, I had to infer that the teachers did not teach the children how to count but how to read numbers. My argument was that counting would require the use of objects other than numbers to enable the children understand that each number symbols has different corresponding number of objects. Using both teaching materials, symbols and corresponding sounds of the figures would have created the chance for the children to be

able to make good links. According to Montague-Smith (2002) it is through many experiences of counting with real life materials that children begin to develop recognition of patterns of "how many", a frequently used questions by the teachers observed to which the pupils were unable to provide answers to.

Another interesting topic commonly taught by some of the teachers was 'matching objects with numbers'. However, the only teaching aid used by the teachers while teaching this topic was the chalkboard on which diagrams of different objects were drawn with their corresponding figures. During the instructional process, the teachers did the counting while they asked the children to repeat after them. They also touched the diagrams drawn on the chalkboard without the children demonstrating it themselves. This appears to me an improper method. To enable children to understand the relationship between the words and the symbols written on the chalkboard, they need to learn to recite the counting words in order, touch and count physical objects so that this happen at the same time. Only then will it be considered a counting process. This method could help the children to relate counting process in real life situations which might involve their counting their pencils, books, shoes spoon, tables and chairs at home or school. This should be the main focus of pre-school programmes – helping pre-schoolers build a solid foundation needed for abstract learning in primary school and beyond.

Inability to use teaching aids appears to be entrenched among the teachers observed. This is because most of the instructional materials needed would have been provided for locally. Ideally, the pre-school teachers would have made their science and numeracy lessons more challenging and fun through the use of local materials that they could have been improvised. For instance, teaching materials like alphabet charts, flash cards, beads, stones, coloured sticks, seeds, bottle tops, cans, old and used house hold utensils, among others, could have been improvised by the teachers. The children themselves could have been involved in the collection of these materials. More so, when encouraging the children to participate in the material provision the teacher could arouse their curiosity and may have prompted their asking the why and how questions. Further, the pre-school teachers in the rural locations would have taken advantage of

their environment, full of readily available teaching aids (especially real life materials). This is because most of the pre-school environments were situated within the communities and not in the outskirts. As a result lessons on animals and birds around us, insects, plants, etc would have been taught to the children not in the classroom with the teacher using all the lesson periods writing or drawing on the chalkboard. These children would have been taken out to the community where they all belong and make them come face to face with the objects being talked about instead of doing so in abstract. The children would have taken the lead considering that the teaching is taking place in a familiar terrain.

According to Gallas (1995), young children must be allowed to co-construct their knowledge about science by imagining possible worlds and then inventing, criticizing, and modifying those worlds as they participate in hands-on exploration. She went further to implore that children must be encouraged to develop possible thoughts about their own questions and then proceed to investigate these ideas within the classroom learning community. These views corroborated that of Challie and Britain (1997) who opined that young children construct knowledge through participation with others in activities that foster experimentation, problem solving and social interaction. In the same light, Conezio and French (2002) also warned that pre-school teachers should not assume that pre-schoolers are not science inclined. They therefore expressed that young children are highly engaged when they have the opportunity to explore, create strong long lasting mental representations of what they have experienced while investigating the everyday world and could readily acquire vocabulary to describe and share these mental representations and the concepts that evolve from them if taught in a familiar language.

9.7 Language of Instruction and Interaction Patterns observed

With respect to the language of instruction commonly used by the teachers during instruction, the results showed that English Language was predominantly used during most of the lessons. This finding also is unexpected considering that the Nigerian National Policy on Education stipulates that the medium of instruction at this level of

education be principally the mother tongue or the language of the immediate environment of the pupils (FGN, 2004). However, these results could be attributed to the relatively low social status accorded to the indigenous languages (L_1) in a situation where English Language (L_2) is the official language. Thus, most parents would want their children to be interacted with in English Language at school. In fact, responses from teachers interviewed during the study fieldwork indicated that the situation is such that parents usually withdrew their children from schools where the mother tongue is used as the medium of instruction. This practice is regardless of the fact that in most Nigerian homes, the pre-school child is not likely to have English spoken around him or her. It was observed that this practice wasn't only peculiar in Nigerian homes but is also practiced at schools. Children conversed with peers more in their local languages. Teachers too appeared to use English language as a restricted code. For instance, during the data collection exercise, it was observed that the wide spread practice by the teachers during instruction was to go straight for English language. However, as the lesson progressed, a good percentage of the teachers tended to resort to the language, which both teachers and children know best (i.e. the language of the immediate environment).

It has, however, been observed that instructing pre-schoolers using a language which they are not very familiar with and expecting them to think and speak with that foreign language can put enormous pressure on young learners (Helm and Gronlund, 2000). Pressure, according to Jensen (1998), can inhibit thinking as well as the level of active engagement of the learners during classroom interaction. Educational research findings have also revealed that children who maintain their home languages as they learn a second language do better in school (Tabors, 1998) while (Broch-Utne, 2005; Obanya, 2004; Prah, 2003) expressed the opinion that concepts are more easily internalized in the language which the learners know best. Thus, since teacher-learner interactions are more easily promoted in situations where all those involved have no inhibitions themselves, it is explicable that teaching-learning activities in L_1 are likely to reduce the problems of predominant one sided direction of communication (teacher to pupil) and teacher-centred activities that happened to characterize instructional delivery in pre-school classrooms in Nigeria.

Interestingly, the results also revealed that significant group differences exist in use of instructional time and direction of communication respectively with respect to the type of language used by the teacher. The group differences, it would seem, were such that the less a teacher uses English language during instruction (i.e. the more the teacher uses Nigerian language) the more he or she is likely to facilitate learning, promote learning-facilitating activities among children as well as one-to-one directed communication (teacher to pupil; pupil to teacher). This is explicable because language is viewed by prominent educators as well as educational bodies as mans' principal means of expression (Bamgbose 1976; Prah, 2003; Obanya, 2004; Brock-Utne, 2005; UNESCO, 2001). They acknowledged that the degree of ones fluency in the language used in teaching has a considerable influence on the school achievement. UNESCO as far back as 1951 (cited in Bamgbose 1976) shared the view that education is best carried out in the mother tongue and as a result recommended that pupils should begin their schooling by receiving instruction using this medium. This view was reaffirmed by UNESCO in 1972 during a conference titled ' The Use in Education of African Languages in relation to English". At the conference it was emphasised that the ideal medium of instruction for a child living in its own language environment should be the mother tongue. This assertion is not without some difficulties in Nigeria considering the multiplicity of Nigerian languages and inadequate production of texts in the local languages. However, UNESCO to this effect insisted that teaching at least initial literacy in the mother tongue might be advisable even in situations where the scanty number of speakers appears not to warrant the large-scale production of educational materials (UNESCO, 1972 cited in Bamgbose, 1976).

It is interesting to know that the missionaries who were not Africans and also who worked with adults and not children recognised the literacy level of the Nigerian people hence realised the importance of using Nigerian languages for emergence literacy. Most practicing educators and educational researchers share this view (Bamgbose, 1976; Prah, 2003, Brock-Utne, 2005, UNESCO 2001; Obanya, 2004). They all assert that the ideal practice for educating learners should be for teachers to use the language, in which the learners are more relaxed and confident, one that would create

the opportunity for them to express their opinion about things more freely, than they would normally have done in a language they are not conversant with. More specifically, UNESCO (2001) views the use of mother tongue as means of improving the quality and relevance of education and therefore urged the African leaders to promote the use of the mother tongue in the early childhood education, early years of primary education and link personal development to the learners' cultural heritage and strengthen their self-confidence.

Bearing in mind the importance of using the language learners are conversant with during instruction, the government could do more to help the situation. For instance, the Nigerian government could consolidate and enforce the policy, which stipulates that Nigerian language of children's immediate environment should be used for instruction in pre-school classrooms. In addition, curriculum developers for mother tongue education have not really been encouraged in terms of material provision and funding. As a result, there is acute scarcity of books for children at the pre-school level in Nigerian languages. The ministry of education should therefore see this aspect of early childhood provision as needing urgent attention. They can as a result channel their demands (material provision) to international sponsors towards this aspect of the programme considering the number of children left in the care of one teacher. Such provision could aid in alleviating the problems associated with large class-sizes, which characterized Nigeria pre-school classrooms.

9.8 Class-size and Interaction Patterns observed

The results on class size-group differences in prevailing interaction patterns which were presented in chapter 8 of this thesis showed that significant group differences in the use of instructional time occurred mostly between small class sizes and large class sizes as against medium and large class sizes with teachers communicating more with children in small classes. However the results also showed that the direction of communication in Nigerian pre-school classrooms was not sensitive to class size. The implication of this is that irrespective of the number of pupils in the

classroom, the teachers still dominated in initiating communications processes during instruction. This result is explicable when one considers the fact that Nigerian pre-school teachers have not formed the habit of mentioning topics to be treated in class with the children before the actual date just to prepare the minds of the children nor where children involve in the provision of the teaching aids needed. As a result, children waited on their teachers all the time to decide what to teach and when and how the instruction should be carried out.

The findings indicated that interactions between the teachers and the pre-schoolers during instruction irrespective of the number of children in the class were more at the whole class than at one-to-one level. This finding is not unexpected when one considers the structured nature of daily activities as well as the pupil-teacher ratio. The teacher pupil ratio in the pre-school classrooms observed was relatively high above the recommended number by the government. The average class-size recorded during the data analysis was 46 children to one teacher as against the 25 children to 1 teacher recommended in the Nigeria education policy. Because of the large class-sizes, there appeared to be tension on the teachers in balancing the needs of the individual child with that of the group, especially when a highly structured curriculum imposed its own restrictions. The organizational structure of pre-school activities in Nigeria were such that would not give the teachers enough time to enable them to meet with children's needs at individual level.

Thus, teachers' interaction with the pupils occurred most of the times at whole class level, followed by group and individual levels with such contacts being very brief. The prevalence of large classes must have contributed to the teachers' use of whole class teaching and made it difficult for the teacher to give individual attention to pupils on one-to-one basis. It was observed that even when teachers had the intention of spending longer time with individual children during grading, their intentions tend to be frustrated by the demands of other children queuing up for attention. This also resulted to the classroom being overcrowded and must have contributed to their engaging in brief conversations with the children. This result throws some lights on the supposed reason why the National Association for the Education of Young Children in the US

recommends the regulation of adult-child ratio to 1:6 (NAEYC, 1998) and Blatchford, Moriarty, Edmonds and Martin (2002) argument for small classes on logical grounds and based on empirical findings. This is also in agreement with Macgillicuddy-Delisi and Sigel (1989) findings that the greater the number of children of the same age in the same classroom environment, the greater they draw on the teacher's attention, thus making it more difficult for the teacher to provide appropriate nurture and interaction needed by respective children. This view, perhaps, must have also influenced researchers and educators (Maduewesi, 1999; Ndukwu, 2002; FGN, 2004) to suggest teacher-pupil ratios of 1:6, 1:8 and 1:25 respectively in pre-school settings.

Time factors also appeared to have also contributed to the teacher's frequent use of whole-class interaction and very brief interactions at one-to-one level with individual pupils. The exploratory study carried out in England by Hall and Nuttal (2000) on class size and pedagogy showed that size of class influences the degree to which teachers were able to operate between their pedagogical philosophy and their practice. Howes, Phillips, and Whitebook (1992) also found that ratios in child care centres directly and indirectly, influenced the types of interactions the teachers had with children hence their resorting to whole-class teaching. This research result indicated that in small-size classes children are more likely to interact with their teachers, more on one-to-one teaching basis as well as be the focus of a teacher's attention.

9.9 Class context and Interaction patterns observed

With regard to commonly used classroom context during instructional delivery, the results revealed that majority of the lesson times were spent within the large group context during which time, teachers interacted with all the children together while they used less than one percent of the lesson time on small group interactions (when the teacher was interacting with a group of eight or fewer pupils). The result also showed that the pre-school teachers spent less than two percent of the lesson time interacting with individual pupils outside a group context. In addition, they used a good percentage of the lesson time on monitoring which involved the teachers moving around the room

while pupils were working independently, checking the work of individual learner and offering help when needed. The result also revealed that the teachers spent about three percent of the lesson times on transition which involved preparing the children for participation in a task by getting out materials, changing or collecting materials, or moving the pupils into groups. However, the result indicated that the teachers were also engaged in other activities, which prevented them from being involved in what the learners were doing. Within this period of 'non-involvement', the teacher might be sitting at a table grading work, updating class records, preparing materials, or doing personal tasks.

It is however worth to noting that the teachers irrespective of the large classes try as much as possible to provide immediate feedback to the children after each class task has been carried out either to the whole-class or to individual pupils during monitoring or grading activities. However this was not without some constraints on the part of the teachers and the pupils at one-to-one level. Children usually stood around the teachers' tables or in queues waiting for a small amount of attention from the teacher. It was noted most of them ended up unattended to. This could lead to frustration on the part of the pupils since they would want to know how much they have gained from the lesson they were exposed to. Feedbacks given by the teachers were done orally. This might be because most of the children cannot read or be able to interpret teachers' written comments. The teachers gave both positive and negative feedbacks to the children during instruction. However, researchers are of the view that teachers should endeavour to use more positive than negative feedback (Linfield and Warwick, 2003). They also emphasized that with young children, feedbacks should be stated in very simple terms and pupils would need to be reminded of them for future work. My experience during the data collection exercise showed that children themselves also realize the need for feedback too!

The importance of using small group teaching approach in children's classrooms (dividing of the class into groups of children) has been emphasized in teaching methodology literature (Biot and Easen, 1994; Lloyd and Beard, 1995). Nevertheless, whole class teaching has been classified as a very active teaching model. However, the

proponents of this model (Hardman, Smith, Watt and Mroz, 2003,) argue that it must be interactive in nature during which learners will be encouraged to play an active role by asking questions, contributing ideas, explaining and demonstrating their thinking during instructions. However, the results of the present study did not reveal much signs of preschoolers' active participation during the lessons observed. In addition, the classroom environments were not organized in such a way to encourage restructuring of class context as the lesson progressed with regard to provision of enough space for the children and their teachers to move around freely and make quick adjustments. Neither were enough teaching resources with which the teachers could adjust the class arrangement to enable the children to explore a range of ideas during instructions. There were no sections within the classroom environment to support or motivate the children to organise their own learning. Not encouraging the children to take decisions on what they want to do, could lead to their not being enabled by the school authorities to become autonomous and confident individuals capable of taking decisions on their own which is considered an essential attribute for survival in Nigerian society.

In the U.K, interactive whole class teaching during which the teacher simultaneously deals with all the children in the language which pupils know best, is seen as an active teaching model, which promotes high quality dialogue and discussion between teachers and pupils (Hardman, Smith, Watt and Mroz, 2003). However, David Hamer (cited in Porteous, 2004) suggests that though whole-class has it place, but however gifted the teacher is, after a while the "top third of the pupils are bored, the bottom few are lost, while the ones in the middle are hoping its nearly play-time" (p.2). This comment requires a cross examination especially when the whole-class being referred to is characterized by such large classes as identified in Nigerian preschool settings. With reference to the recorded class-sizes in this thesis, which ranged from 46 to 96 children, no teacher, would therefore be at ease if two-thirds of the pupils in his/her class get either bored or lost in transition during instructional delivery. The use of whole-class approach therefore needs careful planning, incorporation of other teaching methods such as play activities in between lessons and provision of teaching aids to enable the teachers arouse as well as sustain the learners interests to a reasonable extent.

All these factors were reported lacking in most of the schools visited. One would conclude that it might therefore take only teachers who are exposed to pre-school education methodology course to perform up to the expectations in such situations a quality indicator, which is lacking in Nigerian pre-school programme provision.

9.10 Teacher Qualification and Interaction Patterns observed

The result on teacher qualification as was revealed in chapter 7 indicated that none of the teachers observed had any training in pre-school education hence its non-inclusion in the analysis. However, the available data showed that a good number of the teachers observed (less than 40 percent) had the National Certificate of Education (NCE) and Grade 11 Teacher Certificate, which according to the National Policy on Education, should be the barest minimum qualification for teaching at the primary school level, less than 10 percent of teachers had bachelor degrees from different disciplines while the remaining half (about 50 percent) fell into the groups without the relevant teaching qualification needed before one could be employed as a teacher as stipulated by the nation's educational policy. This present finding of the type of teachers who teach in Nigerian pre-school classrooms collaborates that of Abidoye, (1998) and Oduolowu, (2004) which revealed that the teachers in the Nigerian pre-schools are not trained to teach at the pre-school level of education.

Nevertheless, significant group differences in the use of instructional time were observed between teachers who have some kind of teaching qualifications and those who do not. The differences were such that "teacher prompting response," "grading of pupils' work", "whole class observing, and "copying from chalkboard" were more prevalent in classrooms of teachers without professional qualification than in those of teachers with professional qualification. However, pre-school teachers with professional qualification tended to "give more directives" than their counterparts who are not professionally qualified. The result however, indicated that the prevailing direction of communication in Nigerian pre-school classrooms was not sensitive to teacher qualification.

This scenario outlined by the present result findings has the capacity to jeopardize the educational system from achieving the intended objectives in the country's pre-primary education sector. This is argued from the point of view that of all the inputs that go into education provision, none is probably as significant as the teacher (UNESCO (1998). This calls for concern when one also considers the benefits accruing to employing qualified teachers at this level of education which Nigerian pre-schooers are being denied. For instance, research findings (Hooks, Scott-Little, Marshal and Brown, 2006; Abimbade, 1999; Ndukwu, 2002; Howes, 1997) have revealed that professional preparation tends to provide for practicing teachers solid understanding of developmental issues as well as what and how to provide quality instructional materials aid pre-schoolers learning. Further, others have found that higher quality interaction tended to occur more between teachers with specialized training in early childhood education, (Howes, 1997; Kontos, 1997; Honing and Hirallel, 1998; Ofsted, 1998a; Early, Pianta, Clifford, Burchinal, Ritchie, Howes and Barbarian, 2006); moreover, children placed in classes with teachers who have bachelors degree gained significantly in math skills while those in the class of teachers with Associate certificate tended to gain basic skills such as ability to rhyme, and to name letters, numbers, and colours as well as literacy related skill (Early, Bryant, Pianta, Clifford, Burchinal, Ritchie, Howes, and Barbarian, (2006). The result of Kontos and Wilcox-Herzog (1995), Kontos and Wilcox-Herzog (2002) and Pianta et al., (2005) show that specialized education in early childhood care education was important for practicing teachers' competent interactions with infants and pre-schoolers, associated with the amount of social interaction, cognitive/language stimulation, and conversation with children and is more important for working with pre-schoolers than with infants and toddlers (NICHD, 1996).

The types of training, which the Nigerian pre-school teachers were exposed to, may have perhaps contributed to the nature of their classroom practices. Post observation interviews, which I had with the teachers revealed that most of the teachers were deployed from the primary sessions based on their number of years in service to teach at the nursery classes. Thus their using the teaching methods meant for older children for the pre-schoolers. The low rating of the teaching profession appears to be

instrumental to Nigerian graduates who majored in pre-school education lack of interest in taking up teaching as a career. To compound the problem, Nigerian teachers at all levels are usually not paid. The incentives given to teachers by the government at all levels leave much to be desired when compared with their counterparts in other professions. This must have led to the migration of highly trained teachers to other high paying jobs. The nature of the classroom environments can also be a contributing factor for low regards to the profession. Since early the childhood education programme is viewed as important for laying solid foundation for children's future learning, (Myers, 1993; Obanya, 2004; NAEYC, 1998; UNESCO, 2006, 2007; Consultative Group on Early Childhood Care and Education, 1993 cited in UNESCO, 1995) this level of education therefore requires that the Nigerian Government should give it a solid financial backing. This will enable the sector to ensure that the conditions of service of the teachers employed are favourable in terms of guaranteeing good pay packages, providing the necessary materials needed for them to carry out their duties effectively, as well as organise periodic training workshop for the teachers to update them on the pedagogical methods. Care should also be taken to ensure equal representation of teachers working in both public and private pre-schools as well as those in the urban and rural locations while organising the re-training programmes.

9.11 School Type/Location and Interaction Patterns

With respect to type of school, the results show (see chapter 8) that significant group differences existed in the use of instructional time. The differences in the use of instructional time between the two types of schools tended to be associated with both learning and non-learning facilitating behaviours of teachers and pupils in pre-primary classrooms. The difference was such that teachers in public pre-schools tended to exhibit more "whole class reading and singing" as well as "teacher punishing" than classrooms in private schools. However, the prevailing direction of communication in Nigerian pre-school classrooms was not sensitive to whether the school is of the private or public type.

This result is explicable when one considers the fact that public pre-school classrooms have larger class-sizes than the private pre-schools. Thus, the teachers are faced with more children to cater for and as a result may resorted to use physical punishment to maintain orderliness in the classrooms. What baffle me most were the reasons why the little ones are being punished. The reasons ranged from a child's inability to respond correctly to the teacher's questions or a child's inability to use the classroom language. A child was actually made to urinate in the class simply because he was unable to ask permission to go out using English Language. However, the child was able to do so in his mother tongue but the teacher insisted that the child must translate it in English. "Remember no speaking of vernacular in this class! Class isn't it?" said the teacher. "Yes aunty" chorused the pupils. Unfortunately, the child could not and therefore had to keeping waiting on the teacher to have a change of mind while the classmate looked on. When the poor child could not bear it any longer he urinated on his clothes in the class amid tears and of course laughter from his classmates. The child had to run out of the classroom and refused to come back. One therefore imagined the psychological trauma the poor child would go through all his life as well as the consequences this action will have on his attitude towards schooling.

Nevertheless, this does not mean that the teachers did not use positive reinforcements during their instructional delivery. Teachers actually did acknowledge positively by asking the pupils to either sing or clap for any child who got the answer to a question right. Children enjoyed being praised by their teachers or applauded by their classmates. In situations where by a teacher forgets to ask the children to clap or sing for a child, the children themselves tended to remind the teacher to do so.

The implication of the observed practice is a mismatch between policy and practice. One area in which the Nigerian pre-school children are denied their right to quality education (indicated in result chapters 7 and 8 of this thesis) is in the use of a foreign language. This practice deprived children the opportunity of having purposeful interaction with the teachers and the subject matter during instructions. Education at this level should not be geared towards inculcating the skills of reading and writing but should emphasis more on cultivating (providing the stimulation for the various desirable

traits for the learners to develop the ability to think and reason in their highest forms, develop good attitudes, values and adjustments learning related activities to their fullest capacity. The policy makers should realise that exposing these pre-schoolers to reading and writing, which are subject-specific through drill without paying attention to using things that would help to nurture the individual learner but create in the children the inability to relate what they were taught to real life situations. Thus, if the situation remains unchecked, the Nigerian pre-primary educational objectives may go unachieved. Children exposed to the programmes might come out as children who cannot search for knowledge without the help of an adult, develop the attitude of doing things themselves without the adult directing them on what and how to go about things.

9.12 Recommendations

The problem with Nigerian education system at this level is the absence of will power to fund and implement the recommended programme guidelines. When one reviews the Nigerian Policy and philosophy for this level of education, one would conclude without doubt that on paper it is rich enough to meet up with the Global standards for this level of education. Thus, for the Nigerian pre-primary education system to be able to realize the intended objectives, many things have to be put in place in order to revitalize the system. The efforts should be geared towards organizing in-service trainings for the practising teachers, reviewing the pre-primary education daily activities, making educational materials available, improving the quality of instructional delivery, giving teachers enough incentives to boost their motivation, as well as reducing to manageable size teacher-pupil ratio, among others.

9.12.1 Organizing in-service training programmes for practicing teachers

There is a need to initiate an intensive and extensive organization of in-service training and retraining programmes for practicing pre-primary school teachers in the country. Pre-school programmes can be organized during long vacation periods. They

can be organized by the ministry of education in collaboration with institutions responsible for training of teachers. This suggestion is against the background that most of the teachers did not have any training on how to teach at this level of education and the sufficient number of practicing teachers in the school system who are yet to obtain the proposed minimal qualification for teaching at the pre-primary level (Nigerian Certificate in Education). It is expected that these programmes will provide ample opportunities for teachers to improve their knowledge base and relevant skills to ensure a more effective teaching without being absent from their duty posts during the normal school sessions. Re-training primary school teachers deployed to teach at the pre-primary age group should be a less difficult challenge than asking the government to start recruiting an entirely new workforce for already existing pre-schools. This type of programme might help the teachers realize that pre-school education has its own specific pedagogy and as a result enable them to deviate from insisting on rote learning for children at this age level. If they cannot be fully trained as pre-school specialist, at least they would be exposed to topics that are concerned with teaching and learning in early years.

The re-training programmes should have a broad based curriculum content to encourage teacher trainees to acquire diversified skills in both academic content and the teaching methods. The curriculum content should incorporate lessons that will enable them to be creative and resourceful. Efforts should be made to expose the teachers to different kinds of pre-school teaching methods, covering both the theoretical backgrounds and the implication of using them. This will expose the trainee teachers on the hows, whys and when to use each of the methods they are exposed to. Upon the completion of the course, efforts should be made by the teacher trainees to implement the new ideas, approaches or methods learnt during the course of study by undergoing the practice of teaching where course trainers or peers will observe them. The transfer of knowledge to classroom practice can only take place when teacher trainees have received significant classroom-based support (O'Sullivan, 2004). Classroom-based support will help to address the inherent difficulties existing between theory and practice. Joyce and Showers (1980) termed this kind of practice 'coaching' and argued

that it plays a central role in the effective transfer of training content to classroom practice.

This will enable the course trainer know the extent to which the teacher trainees are capable of implementing the curriculum with a view to achieving the intended outcome and the problems they are experiencing. With this information at the back of his mind, the teacher trainers will be in a better position to offer suggestions for improvements, and use such experiences as case studies while seeking for ways of improving the course content. The use of classroom-based support will also help the trainee teachers to know the difference between theory and the practice of teaching. Research has shown that there are a lot of benefits when this method is used to support practicing teachers in the form of in-service training (O'Sullivan, 2004). This should be intended to support and develop the teacher's work and teaching methods rather than serve as inspection or a trait to the teacher's job. It should also be aimed at helping the practicing teachers to discover their strengths and weaknesses.

On the other hand, workshops on effective methods of teaching children at this level could be organized by the government in partnership with the institutions responsible for training of teachers. During these re-training programmes mock practice teaching could be organized during which colleagues would act as pupils while they observe the practical experiences based on the new training. Feedbacks from colleagues would be an effective starting point for critical reflection. This could aid in bridging the gap between what is practiced and theory. The results could also provide supportive interactions among colleagues through exchange of ideas and discussions, which could aid in changing the traditional patterns of direct instruction and frequent use of whole class interactions, among others.

9.12.2 Reviewing the Organization of Nigerian Pre- Primary Education Daily Activities

There is an urgent need to review the Nigerian pre-primary school curriculum and pedagogy. The review process should involve a cross section of all possible stakeholders in pre-primary education: teacher trainers/educators at the universities and colleges of education, curriculum developers, practicing per-primary school teachers, parents, Non-Governmental Organizations, policy makers in education, education monitoring officers, per-primary school inspectors, private pre-school providers etc. The review should focus on what they think constitute high quality pre-school education, and also how the curriculum load (in terms of subject matter contents/topics and number of subjects done on daily basis) could be sufficiently reduced to avoid unnecessary stress on the parts of both the teachers and the learners. In addition, the review should provide sufficient strategies/suggestions on how to ensure effective implementation of the curriculum in order to enhance the teacher-pupil interactions during these years.

Teachers' opinion is important here because research has shown that any attempts to change or improve pre-school education without consideration of the voices and thoughts of the classroom teachers, who are involved in the realities of classroom practise, have often resulted in very little significant change accompanied with misunderstanding and misinterpretations (Walsh, Smith, Alexander, and Ellwein, 1993) or even worse, strong resistance to change by the teachers (Sarason, 1996). Without teachers' commitment to, and ownership of, any efforts to reform pre-school education, little can be accomplished (Kagan and Cohen, 1996 cited in Lee, 2006). Parents' views are also important because they bear the burden of the cost implications. Pre-schoolers need opportunity, time and a variety of materials that allow for different ways of learning, as a result, the policy makers should review the issue of structured nature of daily activities in the Nigerian pre-school settings to give room for extension of learning through play with child-centred learning activities.

9.12.3 Making Educational Materials Available

The various levels of government (Federal, State and Local Government) should develop and implement an instructional material provision policy that will involve supplying low cost materials to pre-school settings. The instructional material policy should also include setting up reasonable school resource and other educational material resource centres at the various Local Government Education Authorities (LGEAs). All the pre-primary schools within the Local Government Area should be allowed to utilize teaching-learning materials and other educational facilities to be provided in these resource centres. It is also possible for the government to provide incentives for resourceful teachers to improve or develop educational materials to enhance the quality of teaching- learning processes in Nigerian primary classrooms. Since Pre-school children are still in their preoperational stage of development and according to Piaget need a lot of materials to work with. The Nigerian government should review the curriculum of teacher education preparation to lay more emphasis on material improvisation to enable the teachers meet the learning demands of their pupils during practice.

Further, the Nigerian government should ensure that the minimum acceptable standards prescribed by the NERDC (a Nigerian government agency set up to handle Early Childhood related matters) are met by all pre-school education providers both at the public and private levels as well as in urban and urban locations to ensure quality of instructional delivery.

9.12.4 Improving on the Quality Of Instructional Delivery

Quality teaching refers to the extent to which the teacher delivers instructions successfully with both parties fully involved in order to bring about the intended learning outcomes of the lesson (Whitebread, 2004; Akinbote, et al, 2001; Anderson, 1991;Kyriacu, 1991). They argue that for instructional delivery to be of high quality, the teacher should endeavour to bear the following in mind: the age of the learners, what the

intended learning outcomes are, are they achievable, will it be appropriate to meet the learner's needs, what learning activities/instructional materials should be used to attain the intended outcomes. To them, a teacher who has these at the back of his mind is not likely to deviate from the desired target. Instead, such a teacher is likely to choose appropriate instructional medium, materials and is also likely to know how to determine whether the intended learning outcomes have been achieved. Appreciating the age of the learner and its implications would help the teacher to tailor teaching and learning activities towards helping the pupils benefit from what is taught with a view to using their accumulated knowledge latter in life. Experiences can be provided by better showing, doing, and telling through the use of the language the learners know best.

Pre-school teachers should see the act of teaching in Nigerian pre-schools as that of facilitating of pupils' experiences in the classroom with the intention of aiding their learning. Thus, for Nigerian teachers to act as facilitators would require them acquiring some special body of knowledge and special skills too. For instance, Nigerian pre-school teachers need a powerful grasp of the developmental level of their pupils, best ways (methods) the pupils should be taught and the instructional materials needed for teaching them (e.g. books, films, real life as well as artificial materials for practices, etc.). The identified methods must be critically appraised and their uses fully understood. Furthermore, the teachers should try as much as possible to incorporate different methods during instructional delivery. Cockburn, (1995) noted that a combination of different methods of teaching (e.g. exploration, play and direct teaching methods) at the same time proves to be a very effective way of aiding learning to take place at this level. This point of view had also been illustrated by Haylock and Cockburn (1989) when they expressed the view that Mathematical activity could involve the manipulation of concrete materials, symbols, language and pictures and those connections between these four types of experience constitute important components of mathematical understanding.

Nigerian pre-school teachers would need some exposure to trainings on how to incorporate discussion, which involves interaction between the teacher and the pupils. This is seen as a very important way through which teachers can help children to

understand ideas is through holding conversations with them about concepts in their curriculum or about their work in a familiar language (Fox, 1995; Obanya, 2000; Desai, 2003; UNESCO, 2005) They argue that conversation promotes thoughtfulness and could enable the teacher to assess what the children were able to achieve. This method in addition, gives the learners the opportunity of being active participant, and thereby arousing their interest.

9.13 Implication for Further Research

The Nigerian government should strive to conduct large-scale studies in pre-primary. This is because in Nigeria presently, there is paucity of large-scale systematic research studies on ECCDE unlike in the UK and in the USA. Studies focused in this level of education were carried out on small-scale basis more specifically on individual basis. Government should therefore vote in money for studies, which could have a more representation of the country and lead to generalization of findings.

A periodic nationally representative study of child care practices and quality would provide an important basis for understanding the current state of affairs and for evaluating the effects of changes in the Federal Government of Nigeria policies for this level of education. A better system of monitoring quality ECE provision should be formulated at the national and state levels with good documentations in order to provide a database and also allow comparison within states, types and locations. In addition, studies, which would involve researchers observing the state of things both at the national, and state levels rather than relying on information generated solely through questionnaire or mere reports from government officials.

9.14 Limitations and Suggestions for Further Research

The thesis irrespective of its' findings is not without some limitations. The first of the identified limitations has to do with its design. The ideal of any science investigation according to Kerlinger and Lee (2000) is the use of controlled experiment. The non-experimental nature of the thesis with respect to design posed some limitations. The use of experimental design, which would have given the investigator the opportunity of manipulating variables by assigning the identified quality indicators to both experimental to control groups to help establish the cause of the observed pattern, which emerged. In addition, issues that focused on the role of identified effects on the learning outcomes of the Nigerian pre-schooler could also form part of the study.

As a result, a replication of this study using experimental design to verify effects which the identified interaction patterns that emerged in the result using the identified quality indicators such as teacher qualification, class-size, class context, language of instruction, material provision and use would have on Nigerian pre-schoolers learning outcomes. With subjects assigned randomly to groups or treatment conditions, this procedure could eliminate the possibility of systematic differences occurring among subjects and the environment of the experiment that could affect outcomes (Creswell, 1994). Variables could be matched on the basis of language (L_1 and L_2; teacher qualification could be matched at three levels) those with early childhood training, those with any teacher training qualification and those who do not have either of the two); class-size (large and small size as recommended by the Nigerian government), class context (whole-class versus one-to-one and availability of instructional material) and use (those who taught with teaching aids and those who did not) to throw more light on where the effects on learning outcomes, if any, are from. This could lead to the development of instructional models and procedures that would be more beneficial to the children in Nigerian environment as well as procedures for supporting improvement in ECCE programmes.

It would be recalled that purposive sampling was used to select the states, which depicted most the characteristics of three regions that make the country, Nigeria. The use

of purposive or judgmental sampling for selection of states therefore appeared not to be the best sampling procedure to have used. This is because this method did not give other states equal opportunity of being selected to participate. As a result one would conclude that the sample might not have reflected a true characteristics of the state in the country. Further, the sample size with respect to number of states, classrooms, teachers, pupils as well as subjects observed could seen as not have formed true representation of the population of each category. Thus, a study, which would cover more, states, more lessons, teachers as well as pupils could be conducted.

Studies which focused on the nature of present day Nigerian family make up as well as the way which parents relate with their children of pre-school age could be conducted to throw more light on the family effects on children's level of interactions in school-like environments. Studies are also needed in parental views of what pre-school education entails as well as what and how they expect pre-school teachers to be relating children at this level of education.

In addition, child-centred approach using qualitative method could also be conducted. Further, long-term follow up studies on children who were exposed to pre-school education prior to their entry into primary and beyond could be conducted to find out if the exposure have any long time effect on them or not. This could be compared with those who did not pass through pre-school education. The effect of teacher motivation on pre-school teachers classroom activities could be carried out to find out what the teachers feel about their wages and if has any impact on their classroom behaviours. Lastly, case studies could be carried out based on the recommendations outlined in this thesis.

Limitations with respect to data collection procedure, for instance the observer effects, had been discussed in the methodology chapter and as a result will not be discussed again here. In effect, a rather specific issue which focused on design (representative ness of the sample used) to the populations under study. Irrespective of limitations discussed, the present study forms a base for research studies on pre-school interaction patterns, and as such it findings could be used to determine if some of practical problems identified could be solved.

9.15 Conclusion

The findings presented in the thesis showed that pre-school classroom environments in Nigeria were characterized by inadequate provision of instructional materials as well as lack of classroom space. The results also reveal that teacher whole-class activity with the teachers playing major roles occurred very frequently, and chorus response occurred more than individual pupil activity, while other distracting behaviours occurred less frequently. The participatory level of the pre-schoolers in terms of initiating of activities as well as playing prominent roles during the teaching–learning processes were observed to be very minimal. The direction of communication was mainly from the teacher to the whole class. The more personal one-to-one communication between teacher and pupil occurred less frequently. The teachers, irrespective of their location and school type, spent a larger proportion of their lesson time interacting with pupils in large groups rather than in small groups. The major language of instruction was English language instead of the language of the pupils' immediate community as prescribed by the Federal Government of Nigeria. The use of instructional time and the direction of interaction tend to be sensitive to the language of instruction. Teacher-initiated interactions and whole class activities are associated more with the use of English as language of instruction while learner-initiated interactions and individual/small group activities are associated more with use of the language of the pupils' immediate community in instructional delivery.

These findings are in utmost degree of contrast with the Federal Government's recommendations and international best practice in early childhood education. The study finding on language of instruction actually demonstrated the advantages accruing to instructing pre-schoolers in an unfamiliar language. Thus re-echoing the views of other educators and researchers that learners are more at ease during instruction if their home language is the same with that of the school (Bambgose, 1976; Obanya, 2000; Desai, 2003). In addition, the findings revealed that teacher qualification, class-size, and class context are major determinants of the nature of teacher-pupil interaction during instructional delivery. These findings thus collaborates those available in the U.K

(Tizard and Hughes, 2003; Hardman, Smith, Wall and Mroz, (2003) Ofsted, 998a), The USA (Blatchford, Moriarty, Edmonds and Martin (2002) Bowman, Donovan, & Burns (2001 Hooks, Scott-little, Marshall and Brown, (2006) and Sub-Saharan Africa (Prah, 2003; Brock-Utne, 2005). Conducting a study such as this provides some empirical base with respect to interaction patterns in pre-school classrooms in Nigeria.

The right of the Nigerian child to education, particularly at the pre-primary level, should go beyond the issues of access and equity only. The issue of quality (how well the child progresses in school) should also be considered very important. The Nigerian government at all levels should strive to provide more resources to early childhood education centres as well as sponsor the re-training of the practicing teachers to enable be in a better position quality interactions with the children left under their care. Furthermore, the government officials in charge of ECCE programmes should device strategy to ensure effective implementation of pre-school education policy and the sensitization of families, communities and state governments to provide facilities in pre-schools. Efforts should be made by those government officials in charge of monitoring of compliances by the providers to ensure that their duties are carried out effectively and efficiently to ensure that preschool education provision in Nigeria is of high quality.

In conclusion, Nigerian pre-school providers should endeavour not to cheat the system by providing services, which do not commensurate with what they propagate to the Nigerian parents. Based on the thesis findings, one would conclude that pre-school programme at both private and public schools mainly the planning, provision of facilities and the process of execution the activities. The picture painted shows that Nigerian Government appeared not to be ready to implement the well spelt out policy as well curriculum content at this level of education. It now appears that that the government /policy makers have found it more politically desirable to start creation of this level in every existing public primary school over the radio and television rather than first doing the feasibility studies to ensure that the needed infrastructures, instructional materials and qualified teachers are put in place before take-off. However, from experience in the activities of Nigerian government, one would reiterate that the government has the tendency of using the fire brigade approach when it comes to implementation and

execution of projects in all spheres of life. One would not say that the introduction of pre-primary education to the education system took the Nigerian Government unawares. Issues pertaining to this level of education have been on since 1969 (Bamgbose, 1976). Research evidence from other African countries have shown that children learn better when taught in the language well known to both the learners and the teachers (Prah, 2003; Desai, 2003; Brock-Utne, 2005) perhaps what is still lacking ids the political will to initiate this action.

References

Abidoye, G. O. (1998) Quality and Quantity of Pre-school Provision: A Case Study of Some Selected Schools in Lagos Metropolis. *Journal of Early Childhood Association of Nigeria*,(JECAN), Vol. 1 (1)

Abimbade, A. (1999) *Principles and Practice of Educational Technology.* Ibadan: International Publishers Ltd.

Adelino d Guz (2000) *Education For All: the Year 2000 Assessment report on Mozambique* . Downloaded from the Internet at: http://www2.unesco.org/wef/countryrepotrs/mozambique/contents.html

Afuwape, M. U.(2003) *The Effects of Simulated Games-Assisted Instruction, Cognitive Style and Gender on Student's Learning Outcomes in Integrated Science.* Unpublished Doctoral Thesis, University of Ibadan.

Agusiobo, B.C. (1998). Science, Techonology and Mathematics (STM) in the Early Child Care Development and Education (ECCDE) Curriculum: Implication for Teacher Education. *African Journal of Education,* Vol. 1., No. 1, pp 18-23.

Agusiobo, B.C. (2000). Federal Ministry of Education Comprehensive Education Analysis Project. In *Pre-Diagnostic Bibliography collation on studies proposed for the Nigerian Education Sector Analysis (ESA).* Federal Ministry of Education/SIBON Books Ltd. Nigeria.

Ajayi, K. (1989). *Educational Development and Management in Nigeria Since Independence.* Ibadan: Vintage Publications Ltd. 114 – 115.

Akande, O.E. (1998). Socialization of the Nigerian Child Through Games and Simulations: The Value of Abuja Game. *Journal of Early Childhood Association of Nigeria.* Vol. 1(1) pp 29-35.

Akinbote, O. (2003). *Pre-primary and Primary Education Projects in Nigeria and Elsewhere.*Ibadan Distance Learning Series, Distance Learning Centre, University of Ibadan, Nigeria.

Akinbote, O; Oduolowu, E; & Lawal, B. (2001). *Pre-primary and Primary Education in Nigeria: A basic text.* Stirling-Horden Publishers, Nigeria.

Almon, J. (2004). The Vital Role of Play in Childhood. *Waldorf Early Childhood Association of North America* pre. Retrieved from the Internet at http://www.waldorfearlychildhood.org/article.asp?id=5

Anderson, H., Adlam, T., Coltman, P., Daniels, R. & Linklater, H. (2003) Spinning the plates: organising the early years classroom. In *Teaching and Learning in Early Years.* 2nd (ed.)

Apampa, O.S. (1998) Quality and Quantity of Education of the Nigerian Child. *Journal of Early Childhood Association of Nigeria (JECAN).* Vol. 1(1).

Apps, M., McIntyre, L. & Juliebo., M.F. (1996) Encouraging Classroom Oracy. *The Canadian School Executive*, 15, 16-21

Aremu, A. (2000). Development of Environmental friendly attidues in children through the use of games. *Journal for Early Childhood Education,* Vol. 2, pp. 72-81.

Arnone, M.P. (2003). Using Instructional Design Strategies to Foster Curiosity. *ERIC Digest.* ERIC Clearinghouse on Information and Technology. http:// www.ericdigest.org/2004-3/foster.html. Accessed in August 23 2006

Association for Childhood Education International (2002). *Global Guidelines for Early Childhood Education and Care in the 21st Century.*

Awoniyi, A; Baba, A; Ala, B and Maduewesi, E. (1988) *Evans Teachers Book and Scheme of Work for Nursery Schools.* Evans Brothers (Nigeria Publishers) Limited, Ibadan, Nigeria.

Ayers, H. (1996) *Assessing Individual Needs: A Practical Approach*, London: David Fulton Publishers.

Babbie, E.R. (1995) *The Practice of Social Research* (7th ed.) Belmont, CA: Wadsworth.

Bajah, S. T.; Onocha, C. O and Okpala, N. P. (1985) *Sampling Plan, Nigeria: Second IEA science Study.* SISS/ICEE/Nig./ 1 – 002, 24 PP.

Bamgbose, A. (1976). The Changing Role of the Mother Tongue in Education. Bamgbose (edt.) *Mother Tongue Education: The West African Experience.* Hodder and Stoughton, London; The UNESCO Press, Paris.

Banister, P. (1994). Observation. *Qualitative Methods in Psychology: A research Guide.* Banister, Burman, Parker, Taylor, Tindall (eds). Open University Press. Buckingham, Philadelphia.

Barnes, D. (1992). The role of talk in learning. In K. Norman (Ed.), *Thinking voices* (pp. 123 – 128). London, Hodder & Stoughton.

Barnett, W. S. (1995). Long-term effects of early childhood programmes on cognitive and school outcome. *Future Of Children*, 5(3), 25-50

Bennett, P., Elliot, M. & Peters, D. (2005). Classroom and family effects on children's social and behavioural problems. *The Elementary School Journal*, 105(5), 461-499

Bergen, D. (2001). Pretend Play and Young Children's Development. *Early Childhood and Parenting Collaborative.* Archive of ERIC/EECE Digests. Available at http://ecap.uiuc.edu/eecearchive/digests/2001/bergen01.html.

Biot, C. and Easen, P. (1994) *Collaborative Learning in Staffrooms and Classrooms*, London: David Fulton Publishers.

Blatchford, P., Moriarty, V., Edmonds, S., and Martin, C. (2002) Relationship between Class Size and Teaching: A Multi-method Analysis of English Infant Schools. *American Educational Research Journal,* 1, pp.101-132

Bloom, B. (964) *Stability and Change in human characteristics.* John Willey, New York

Bowman, Donovan and Burns (eds.) (2001) *Eager to learn: Educating our preschoolers.* National Research Council Committee on Early Childhood Pedagogy, National Research Council. Washington, DC.

Bourke, C. J.; Hildyard, B.J. and Anderson, L.W (1989) *The IEA classroom environment Study* edited by L.W. Anderson and B.J. Shapiro. Oxford Published for International Association for the Evaluation of Educational Achievement by Pergamon.

Bras-Car, M. (2000) *Education For All: The Year 2000 Assessment,* National EFA Report The Republic Of Croatia.
http://www2.unesco.org/wef/countryreports/croatia/contents.html

Bredekamp, S. (1997). NAEYC issues revised position statement on developmentally appropriate practice in early childhood programmes. *Young Children,* 52(2), 34-40.

Bredekamp, S., and Copple, C. (1997) *Developmentally Appropriate Practice in Early Childhood Programmes* (Rev. ed.). Washington, DC: National Association for the Education of Young Children. Eric Document No. ED 403023

Bredakamp, Knuth, Kunesh and Shulman, (eds.) (1992). *Developmentally appropriate practice in early childhood programmes serving children from birth through age 8 (Revised ed.).* Washington, DC: National Association for the Education of Young Children. ED 403 023

Briefs (1997). Quality in Child Care Centers. Early Childhood Research and Policy Briefs. *Briefs*. 1 (1). Available at www.fpg.unc.edu/ncedl/ncedl.html

Brock-Utne, B. (2005). Learning through familiar language versus learning through a foreign language – a look into some secondary school classrooms in Tanzania. Paper presented at 8th UKFIET Oxford International Conference on Education and Development, 13th – 15th September 2005.

Brock-Utne, B. and Holmarsdottir, H.B. (2003). Language Policies and Practices – Some Preliminary Results from a Research Project in Tanzania and South Africa. In Brock-Utne, Desai and Qorro (eds) *Language of Instruction in Tanzania and South Africa (LOITASA*. E & D Limited Dar-es-Salaam.

Brogberg, A.G., Wessels, H., Lamb, M. E., Hwang, C. P. (1997). Effects of day care on the development of cognitive abilities in 8-years-olds: a longitudinal study. *Developmental Psychology*, 33 (1), 62-69

Brualdi, A.C. (1998). Classroom Questions. Practical Assessment, Research and Evaluation, 6(6). Available at http://PAREonline.net/getvn.asp?v=6&n=6. Accessed November, 2005.

Bruce, T. (1997) *Early Childhood Education.* London. Hodder & Stoughton

Bruner, J. (1997) *The Culture of Education*. Cambridge Massachusettes, Havard University Press.

Burchinal, M.R., Campbell, F.A., Bryant, D.M., Wasik, B.H., Ramey, C.T. (1997) Early Intervention and Mediating Processes in Cognitive Performance of children of Low Income African American Families. *Child Development.* Vol. 68. (5), 935–*954.*

Campbell, F.A. and Ramey, C.T. (1994). Effects of Early Intervention on Intellectual and Academic Achievement: A Follow-up Study of Children from Low-Income Families. *Child Development*, 65, 684-698

Castle, E.B. (1966). *Growing up in East Africa* Oxford University Press

Challie, C. and Britain, L. (1997). *The Young Child As Scientist: A constructivist approach to early childhood science education.* Longman.New York.

Chomsky, N. (1977*) Essays on form and interpretation (Studies in linguistic analysis).* North-Holland Publishing Company. New York

Clarke – Stewart, K.A., Vandel, D. L., Burchial, M., O'Brien, M., & McCartney, K. (2002) Do regulable features of child care homes affect children's development? *Early Childhood Research Quaterly*. 17 (1), 52 – 86

Cockburn, A.D. (1995). "Learning in Classrooms". *An Introduction to teaching, Psychologival Perspectives*. Desforges (eds.). Blackwells, UK

Coltman, P. and Whitebread, D. (2003) 'My mum would pay anything for chocolate cake!' Organising the whole curriculum: enterprise projects in the early years. *Teaching and learning in early years*. 2nd ed. RoutledgeFalmer. London and New York.

Conezio, K. and French, L. (2002). Science in the Pre-school Classroom: Capitalizing on Children,s Fascination with the Everyday World to Foster Language and Literacy Development. *Young Children* Available at www.naeyc.org/resources/journal. Accessed June 2006.

Coolican, H. (2004) *Research Methods and Statistics in Psychology*, Hodder Arnold Publishers, London.

Cost, Quality and Outcomes Study Team (1995). Cost Quality Child Outcomes in Child Care Centres: Key Findings and Recommendations. *Young Children*, 50, 41.

Cotton, K. (2004). *Classroom Questioning*. School Improvement Research Series (SIRS). Available at file://A:\Classroom Questioning.htm

Curtis, R. (1997). *Classroom Interactions*. Research Summary Paper. Http://www.gsu.edu/~mstlls/res_rc.htm

Da Guz, A. (2000) *Education for All: The Year 2000 Assessment.* Report of Mozambique Downloaded from the Internet at: http://www2.unesco.org/wef/countryreports/mozambique/contents.html

David, T. (1996) Nursery Education and the National curriculum, in T. Cox (ed.) *The National Curriculum and the Early Years* London: Falmer Press.

David, M., Edwards, R., &Alldred, P. (2001). Children and School-based Research: 'Informed Consent' or Educated Consent'? *British Educational Journal*, 27, (3), 347-365

David, T. and Goouch, K. (2001). Early Literacy Teaching: The Third Way. *Education 3 - 13*

D'Anna, M. and Rogers, L. (2005). *New teaching strategies and learning methods* Discussion Workshop D. 3rd International GIREP Seminar on Informal Learning and Public Understanding of Physics, 5-9 September 2005, Ljubljana, Slovenia

De Gaulle, C. (2005) *How Child Care Benefits the Economy.* ExchangeEveryDay. Downloaded from the internet at http://ccie.com/eed/news_print.php?news_id=1314 Accessed June 2006.

Desai, Z. (2003). A Case for Mother Tongue Education. In Brock-Utne, Desai and Qorro (eds) *Language of Instruction in Tanzania and South Africa (LOITASA.* E & D Limited Dar-es-Salaam.

De Schipper, E. J., Riksen-Walraven, J. M., and Geurts, S. A. E. (2006) Effects of Child-Caregiver Ratio on the Interaction Between Caregivers and Children in Child-Care Centers: An Experimental Study. *Child Development*, 77, (4), 861 – 874

Duffelmeyer, F.A. (2002) Alphabet activities on the Internet. The Reading Teacher. *Journal of the International Reading Association.* 55, 631-635

Duffy, J; Warren, K; Walsh, M (2001). Classroom Interactions: gender of teacher, gender of student, and classroom subject-Statistical Data Included. Sex Roles: *A Journal of Research.* Downloaded from the Internet www.findarticles.com/p/articles. Accessed 24 August, 2004.

Early, D.M., Bryant, D.M., Pianta, R.C., Clifford, R.M., Burchinal, M.R., Ritchie, S., Howes, C., and Barbarian, O. (2006). Are teachers' credentials, major, and credentials related to classroom quality and children's academic gains in pre-kindergarten? *Early Childhood Research Quaterly* 21, 174-195. EJ 0885 – 2006. Accessed June 2006

Education Sector Analysis (ESA)/UNESCO, (2003) *Pre-Diagnostic Bibliography Collation on Studies Proposed for the Nigerian Education Sector Analysis.* Federal Ministry of Education/SIBON Books Ltd. Nigeria.

Edwards, C.P. (2002) Three Approaches from Europe: Waldorf, Montessori, and Reggio Emilia. *Early Childhood Research and Practice*, Vol. 4, No. 1.

Edwards, C.P. (2006) Montessori education and its scientific basis. *Journal of Applied Developmental Psychology.* Vol. 27, Issue 2, p. 183-187. Downloaded form the Internet at http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B Accessed June 2006

El-Din, N. G (2000) *Egypt National Report: Education For All 2000 Assessment.* Downloaded from http://www2.unesco.org/wef/countryreports/egypt/contents.html

Elkind, D. (1999). Dialogue on Early Childhood Science, Mathematics, and Technology Education: A context for Learning. *American Association for the Advancement of Science* (AAAS). Available at http://www.project2061.org/tools/earlychild/context/elkind.htm. Accessed in February 23 2004

Elley, W.B. (Ed.). (1994). *The IEA Study of Reading Literacy: Achievement and Instruction in Thirty-two School Systems.* Oxford: Pergamon Press.

Ellis, K. (1993). *Teacher questioning behaviour and students learning: What research says to teachers.* Paper presented at 1993 convention of the Western States Communication Association, Albugurque, New Mexico. ERIC Document Reproduct No. 359 572.

Ersoz , A(2000) 'Six Games for the EFL/ESL Classroom' *The Internet TESL Journal,Vol* VI, No.6.

Evans, J. L., Myers, R.G., Ellen, M., & Ilfeld, D. A. (2000) *Early Childhood Counts.* Programming Resource for Early Childhood Care and Development. DD-Rom and Printed Manual. Consultative Group on Early Childhood Care AND development. World Bank, Washington D.C.

Ezeokoli, F. (2003) "Consideration in Teaching English Language in Nigerian Primary Schools in Lawal, B.E. (Ed.) *The Nigerian Language Literature.* Striling–Horden Publishers Ltd. Pp. 201 – 249

Fafunwa, B.A. (1974) *History of Education in Nigeria.* London: George Allen and Unwin

Fafunwa, B.A. (1982) African Education in Perspective. In *Education in Africa: A comparative Survey.* Fafunwa and Aisiku (eds.) Gearge Allen & Unwin, London, Boston, Sydney

Federal Ministry of Education (FGN, 1999). *Blueprint on Basic Education.* Federal Ministry of Education Abuja.

Federal Government of Nigeria (FGN/UNICEF, 2001). *Children's and Women's Rights in Nigeria: A Wake-up Call Situation Assessment and Analysis.* FGN/UNICEF Publication.

Federal Republic of Nigeria (FRN, 1977). *National Policy on Education.* Federal Ministry of Information Lagos, Nigeria Educational Research and Development Council. Yaba, Lagos – Nigeria.

Federal Republic of Nigeria (FRN, 2004). *National Policy on Education.* Federal Ministry of Information Lagos, Nigeria Educational Research and Development Council. Yaba, Lagos – Nigeria.

FGN/UNICEF/UNESCO (1993), *Situation and Policy* Analysis of the Basic Education in Nigeria, Federal Government of Nigeria, UNICEF and UNESCO, Lagos.

Fillmore, L.W., and Snow, C.E. (2000). *What teachers need to know about language.* Available: http://www.Cal.org/ericcll/teachers/teachers.pdf Accessed April 2005

Flanders, N. (1970). *Analysing Teacher Behaviour.* New York; Addison Wesley.

Fox, R. (1995). "Development and Learning". *In an Introduction to teaching, Psychologival Perspectives.* Desforges (eds.). Blackwells, UK

Fu, R.V (2004). The Issues: Learning and Teaching in Preschool. PBS Teacher Source. Early childhood Learning and Teaching in Preschool. http://www.pbs.org/teachersource/prek2/issues/303issue.shtm Accessed 2005

Fu, V.R., Stremmel, A. J., Hill, L. T. (Eds.) (2002). Teaching and Learning: Collaborative Eploration of the Reggio Emillia APPROACH. Upper Saddle River, NJ: Merrill/Prentice Hall.

Gallas, K. (1995). *Talking their way into science: Hearing children's questions and theories, responding with curricula.* New York: Teachers College Press.

Glauert, E., Heal, C. and Cook, J. (2003). Knowledge and understanding of the world. *Learning in early years: A guide for teachers of children 3-7.* Riley (eds.). Paul Chapman Publishing, London.

Golbeck, S.L (2002). *Instructional Models for Early Childhood Education.* Early Childhood and Parenting Collaborative. Available at Archive of ERIC/EECE Digests http://ecap.crc.uiuc.edu/eecearchive/digest/2002/golbeck02.html Accessed March 2004.

Goldthorpe, M. (1998) *Effective IEPs Through Circle Time* , Learning Development Aids.

Gottschalk, E.C. (1975). "Teachers, Helpers - Parents Play Big Role in California Program to Aid Starting Pupils". *The Wall Street Journal.* Vol. XC11. No 114.

Greane, J.C., Benjamin, L., Doodyear, L., (2001) The Merits of Mixing Methods in Evaluation. *Evaluation.* Vol. 7(1) 25-44.

Guba, E.G and Lincoln, Y.S (1981). *Effective Evaluation: Improving the Usefulness of Evaluation Results through Response and Naturalistic Approaches.* Jossey-Balls Publications. San Francisco – Washington, London.

Guimarães de Castro, M.H (2000) *EFA 2000 Education for All: Evaluation of the Year 2000,* National Report – Brazil Downloaded at http://www2.unesco.org/wef/countryreports/brazil/contents.html Accessed June 2006

Gura, P. (1996) *Resources for Early Learning: Children, Adults and Staff.* London: Hodder & Stoughton.

Hagan, M. and Smith, M. (1999). *Early Years Child Care Education: Key Issues.* 2nd Edition. Bailliere. Edinburgh, London.

Haggai, M.P. (2000) A study of the use of story telling in affective education. *Journal of Early Childhood Education*, 2, 82 - 86

Hall, K., and Nuttall. (2000) Class Size and Pedagogy: How might infant teachers in England respond to class size changes? *Education. 3-13, Arts in Primary Education.*

Hallak, J. (1990*). Investing in the Future Setting Educational Priorities in the Developing World,* Paris: UNESCO - IIEP.

Hardman, F., Smith, F., Wall, K., and Mroz, M. (2003) Interactive whole class teaching. *Literacy Today.* Issue No. 35. down loaded from the Internet at www.literacytrust.org.uk

Hayes, D. (1999) *Foundations of Primary Teaching.* 2nd (ed). The Crimwell Press, Trowbridge, Wilts.

Haylock, D. & Cockburn, A.D.(1989). *Understanding Early Years Mathematics.* London: Paul Chapman.

Helm, J.H & Gronlund, G. (2000) Linking Standards and Engaging Learning in the Early Years. *Early Childhood Research and Practice.* 2 (1)

Henniger, M.L. (2005) Teaching Young Children: An Introduction. 3rd (ed) Pearson Merrill Prentice Hall.

Higgins, S. (2001). Identifying Feedback in Mathematical Activities using ICT. *Education 3 – 13.*

Honig, A.S. & Hirallal, A. (1998). Which counts more for excellence in childcare staff: Years in service, education level, or ECE coursework? *Early Child Development and Care*, 145, 31 – 46. EJ. 580 288. . Accessed in June 2006.

Hooks, L.M., Scott-little, C., Marshall, B.J., and Brown, G. (2006) Accountability for Quality: One State's Experience in Improving Practice. *Early Childhood Education Journal,* Vol. 33, No. 6. EJ. DOI: 10.1007/s10643-006-0065-3. . 399-403. Accessed in August 2006.

Howard, M. A. P., & Shaughnessy, A., Sanger, D., & Aux, k. (1998). Let's talk! Facilitating language in early elementary classrooms. *Young Children*, 53(3), 34 – 39.

Howes, C. (1997). Social Interaction in the Classroom: Patterns and Implications. *The Scottish Council for Research in Education*. Available at http://www.scre.ac.uk/. Accessed in August 24 2004.

Howes, C., James, J., and Ritchie, S. (2003). Pathways to effective teaching. *Early Childhood Research Quarterly*, 18, 104 –120.

Howes, C., and Smith (1995) Relations among child-care quality, teacher behaviour, children's play activities, emotional security, and cognitive activity in child-care. *Early Childhood Research Quarterly* 10(4): 381-404.

Howes, C., Whitebook, M., & Philips, D. (1992) Teacher characteristics and effective teaching in child care: Findings from the *National Child Care Staffing Study and Youth Care Forum,* 21(6), 399 – 414.

Hurley, J. C. and Underwood, M. K. (2002). Children's Understanding of Their Research Rights before and after Debriefing: Informed Assent, Confidentiality, and Stopping Participation. *Child Development*, 73, (1), 132-143.

Igwe, R.0. (1998) The Nigerian Child in the 21st Century Education and Excellence. *Journal of Early Childhood Association of Nigeria* (JECAN) Vol. 1(1)

Independent Education Union Australia (1997). *Senate Employment, Education and Training References Committee Inquiry into Early Childhood Education.* Submission from the Independent Education Union of Australia. Submissions. Available in http://www.ieu.org.au/policies/early.htm. Accessed 2nd August 2006

Iliya, H (2000) Child rearing practices of the Nupun and their effects on school performance. *Journal of Early Childhood Education*, Vol. 2.

Jegede, T. O. (2004) *Utilization of Instructional Materials in Oyo State Primary Schools*. Unpublished M.Ed. Project, University of Ibadan, Nigeria.

Jensen, E. (1998). *Teaching with the brain in mind.* Alexandria, VA: Association for supervision and curriculum Development.

Joyce, B. and Showers, B. (1980). Improving in-service training: the messages of research. *Educational leadership, 37*,pp.385 – 397.

Katz, L. G. (1987) *What should Young Children Be Learning*? ERIC Digest. ED 290 554. ERIC Clearing house on Elementary and Early Childhood Education Urbana IL. Downloaded from the Internet at www.ericfacility.net/databases/ERIC_Digest.

Katz, L.G. (1993). *Dispositions as Educational Goals*. ERIC DIGEST. Available at http://ericae.net/edo/ED363454.htm

Katz, L.G., and Chad, S.C. (1989). *Engaging children's minds: The project approach*. Greenwich, CT: Ablex. ERIC Document No. ED 4 07074

Kerlinger, F. N. and Lee, H. B. (2000) *Foundations of Behavioural Research*. 4th edt. Earl McPeek, USA

King, K. (2004). Quality and quantity in EFA and skills development: an East African angle. *Commonwealth education partnership 2004*. P.62-4.

Kirova, A. & Bhargava, A. (2002). Learning to Guide Preschool Children's Mathematical Understanding: A Teacher's Professional Growth. *Early Childhood Research and Practice.* Vol. 4 (1). EJ at http://ecrp.uiuc.edu/v4nl/kirova.html

Klein, E. R., Hammrich, P. L., Bloom, S. & Ragins, A. (2000). Language Development and Science Inquiry: The Head Start Science Communication Programme. Early Childhood Research and Practice, 2, 2, 1-20. Downloaded from the Internet at http://ecrp.uiuc.edu/v2n2/klein.html

Kontos, S. and Wilcox-Herzog, A. (1997). Teachers' Interaction with children: Why Are They So Important. *Young Children*. Vol. 52 (2) pp. 4-12

Kontos, S. and Wilcox-Herzog (2002). Teacher Preparation and Teacher-Child Interaction in Preschools. *ERIC Clearinghouse on Elementary and Early Childhood Education.* Downloaded from the Internet at http://ericece.org . Accessed on June 2005

Kutnick, P. (1994) 'Use and effectiveness of groups in classroom: towards a pedagogy' in Kutnick, P. and Rogers, C. (eds.) *Groups in Schools*, London:

Kyriacou, C. (1991). *Essentials teaching skills.* Hemel Hempstead, England: Simon & Schuster.

Lageweg, D. (2000) *Education for All: the Year 2000 Assessment* The Netherlands Report. edata at http://www2.unesco.org/wef/countryreports/netherlands/contents.html Accessed on June 2005

Layzer, J., Goodson, B., & Moss, M. (1993) *Life in preschool: Volume one of an observational study of early childhood programmes for disadvantaged four-year-olds.* Cambridge, MA: Associate.

Lee, J. S. (2006). Preschool Teachers' Shared Beliefs about Appropriate Pedagogy for 4-Years-Olds. Early Childhood Education Journal, Vol. 33, N0. 6, p. 433 – 441.

Lerach, H. (2003) Creating a Literacy-Based Play Center for Preschoolers. Internet file://A:\Creating a Literacy-Based Play Center for Preschoolers.htm Accessed 2004

Lewis, J and Ritchie, J. (2003). Generalising from Qualitative Anlysis. *Qualitative Research Practice: A Guide for Social Science Students and Researchers.* In Ritchie and Lewis (eds.) SAGE Publication, London, Thousand Oaks, New Delhi.

Li, M.F. and Lautenschlager, G. (1997) "Generalizability theory applied to Categorical data". *Educational and psychological Measurement*, 57, 813-822.

Light, P. and Littleton, K. (1999) Social Processes in Children's Learning. Cambridge University Press.

Linfield, S.R. and Warwick, P. (2003). 'Is it like the school bus?' Assessment in the early years. *Teaching and Learning in Learning in the Early Years*. 2nd Edition. David Whitebread (edt.).

Lloyd, C. and Beard, J. (1995) *Managing Classroom Collaboration*, London: Cassell.

Longman Dictionary of English language and Culture (1992). Longman Group U.K Limite.

Lybolt, J and Gottfred, C. (2004). Promoting pre-school language. *The International Bureau of Education –IBE*, Series 13.

Mace, R. (2000) *Education For All The Year 2000 Assessment.* UK Country Report http://www2.unesco.org/wef/countryreports/united_kingdom/contents.html

Mc Gillicuddy - Delisi, A.V., and Sigel, I.E. (1989). Family environment and children's representational thinking . In.S. B. Silvern (Ed), *Advances in reading/Language research: Vol. 5. Literacy through family, community and school interaction.* Greenwish, CT: JAI.

Maduabum, C.I (2001) Early Childhood Education in Nigeria: The role of 21st century women. *Journal of Women in Colleges of Education (JOWICE)*, Vol. 5.

Maduewesi, E.J. (1999): Early Childhood Education, The Theory and Practice. Macmillan Publishers Ltd. Lagos, Nigeria.

Malinga, F. (2000) Education For All Year 2000 Assessment Report Of Uganda http://www2.unesco.org/wef/countryreports/uganda/contents.html

Manstead A.S. R. and Semin, G.R. (1996) "Methodology in Socio-psychological: Putting Ideas to Test" in Hewstone M, Strobe, W. and Stephenson, J.M. (Eds) *Introduction to Social Psychology,* Blackwell's Publishers Ltd. UK.

Matola, J. (2000) EFA 2000 Assessment Report Malawi. Downloaded from http://www2.unesco.org/wef/countryreports/malawi/contents.html

Masson, J. (2002) *Researching children's perspective: a psychological dimension.* In Lewis, a. & Lindsay, G (eds). Open University Press. Buckingham.

Meadow, S. and Cashdan, A. (1988). *Helping Children Learn. Contribution to a Cognitive Curriculum. Studies in Primary Education.* David Fulton Publishers, London

Miles, M.B and Huberman, A.M. (1994) Qualitative data analysis: an expanded source book, 2nd edn. Sage Publications. Thousand Oaks, CA.

Mokubung, M.I (2000) *Republic Of Botswana National Education For All (EFA 2000)* Country Report Downloaded from http://www2.unesco.org/wef/countryreports/botswana/contents.html

Montague-Smith, A. (2002). Mathematics in Nursery Education. 2nd Ed. David Fulton Publishers, London.

Montessori, M (1912) *The Montessori Method: Scientific Pedagogy as Applied to Child Education in "The Children's Houses".* London, Heinemann.

Moseley, S. (2000) *Education For All A Global Commitment.* A Report of the United States to the International Consultative Forum on Education for All http://www2.unesco.org/wef/countryreports/usa/contents.html

Myers, R.G. (1993) Towards a fair start for children. Programming for early childhood care and development in the developing world. UNESCO, France.

Myers, R.G (2000). *Early Childhood Care and Development. A Global Review. World Education Forum. Global Synthesis. Education for all 2000 Assessment* UNESCO Publication, Dakar, Senegal.

Myhill, D. (2002). Bad Boys and Good Girls? Patterns of Interaction and Response in Whole Class Teaching. *British Educational Research Journal,* Vol. 28, N0.3, 339-352

National Association for the Education of Young Children (NAEYC, 1986). Position Statement on Development Appropriate Practice in Early Childhood Programmes Serving Children from Birth to Age 8. *Young Children* 41, 3, 3-19.

National Association for the Education of Young Children (NAEYC, 1997) *Developmentally Appropriate Practice in Early Children Programmes Serving Children from Birth through Age 8: A position statement of the NAYEC.* Washington, DC 20036-1426 Downloaded from the Internet at http://www.naeyc.org/resources/position_statements/psread0.htm

National Association for the Education of Young Children (1998) *Overview of Learning to Read and Write: Developmentally Appropriate Practice for Young Children.* A joint position paper of the International Reading Association (IRA) and the National Association for the Education of Young Children (NAEYC). Downloaded from the Internet at http://www.naeyc.org/resources/position_statements/psread0.htm

National Association for the Education of Young Children (2002). *Early Years Are Learning Years: Starting Children on Science.* Promoting excellence in early childhood education 1509 16th St. N.W. Washington DC 20036 (202) 232-8777 11 (800) 424-2460 11. Downloaded from the Internet at http://www.nayec.org/ece/2002/02.asp

National Educational Research and Development Council, (NERDC, 2002) *National Minimum Standards for Early Child Care Centres in Nigeria.* Lokoja – Kaduna Road, Sheda, Abuja.

National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network (1996). Characteristics of infant child care: actors contributing to positive caregiving. *Early childhood Research Quarterly,* 11, 269-306.

NICHD (2000) The Relation of Child Care to Cognitive and Language Development. *Child Development*, Vol. 7, N0. 4. pp. 960 – 980.

NICHD Early Child Care Research Network (2002). Early child care and children's development prior to school entry: Results from the NICHD study of early child care. *American Education Research Journal,* 39, 133 – 164.

National Research Council, (2002). *How People Learn: Brain, Mind, Experience, and School.* John D. Bransford, Ann L. Brown, and Rodney R. Cocking, (eds). Commission on Behavioural and Social Sciences and Education. Washington, D.C.: National Academy Press.

Ndukwu, P.N (2002). *School and Teacher Factors as Determinants of Classroom Material Resources Utilization in Pre-primary Schools in Lagos, Nigeria.* Unpublished Ph.D Thesis, Institute of Education University of Ibadan.

Nye, B., Hedges, L.V., & Konstantopoulos, S. (2000) The Effects Of Small Classes on Academic Achievement: The Results of the Tennessee Class Size Experiment. *American Educational Research Journal,* Vol.37, No. 1, pp. 123-151.

Obanya, P. A. I. (2000). *Teaching Methods Across the Curriculum.* Collins International Publishers.

Obanya, P.A.I. (2000) National Press Briefing on the Universal Basic Education (UBE) Programme. Education Today. A quarterly Journal of the Federal Ministry of Education, 8 (2)

Obanya, PAI (2003) *Teaching Methods Across the Curriculum.* Stirling-Horden Publishers Ltd. 321 pp.

Obanya, P. A. I. (2004) Early Childhood Association of Nigeria Conference Goodwill Message. *Journal of Early Childhood Association of Nigeria,* 1 (2)

Obanya, P. A. I. (2004) *Educating for the Knowledge Economy.* Mosuro Publishers, Ibadan, Nigeria.

Obanya, P. A. I. And Okpala, N. P. (1984) Sampling *Plan for the IEA Study of Written Composition in Nigeria.* WCS/ICEE/Nig./ 001,12 pp.

Odinko, M.N & Iroegbu, V.I. (2005). *Effects of pre-primary education on cognitive and affective learning outcomes among primary school children in Nigeria.* Paper presented at The British Psychological Society Annual Developmental Section Conference, Edinburgh.

Oduolowu, E.A. (2004) Maximising the Proximal Learning Factors in Preschool Learning Environment: A Strategy to Reclaim our Childrem from Risks. *Journal of Early Childhood Association of Nigeria.*,2 (2), 21 - 30.

Ofsted (1993b) *Curriculum Organisation and Classroom Practice in Primary Schools: A Follow-up Report*, London: HMSO.

Ofsted (1998) *The Annual Report of Her Majesty's Chief Inspector of Schools*, London: The Stationery Office.

Ofsted (1998a) *The quality of education in institutions inspected under the nursery education funding arrangements.* London; Ofsted.

Ogunkola, B.J. (1998). Interaction Patterns in Primary School Science Classrooms in Ijebu- Ode, Ogun State, Nigeria. *African Journal of Educational Research,* 5 (1).

Ogunsanwo, T. (2000) Child's conception of play and the role of play in affective behaviour. *Journal for Early Childhood Education,* Vol. 2. pp. 5-9.

Oguntosin, B. (1998) Education and the Nigerian Child, Issue of Under-development. *Journal of Early Childhood Association of Nigeria,* 1(1).

Okebukola, P.A. (1985). Cognitive Level and Frequency of Teachers' Questions Relative to Students' Achievement in a Non-Inquiry Science Curriculum. Nigerian Educational Forum, 8(1), 31-36.

Okebukola, P.A.O (1998b)."Intended, Implemented and Achieved Curriculum in Primary School Classroom in Nigeria. *Journal of Education Studies, Vol. 21.*

Okebukola, P.A.O. (1998a). "Management of Higher Education in Nigeria", in J. Shabani (ed), *Higher Education in Africa: Programmes, Policies and Practices,* UNESCO, Dakar.

Okpala N.P. and Onocha C.O. (1988)"Classroom Interaction Patterns: Nigerian Physics Teacher Trainees" Physics Education. *A Journal of the British Institute of Physics)*, 23, (5), 288-290.

Okpala N.P. and Onocha C.O (1995) *Tools for Educational Research.* Stirling -Hordens Publishers (Nig.) Ltd.pp. 138-139.

Okpala, P.N. (2001) "Evaluation of teaching effectiveness" in Obemeata, J. O. (eds). *Evaluation in Africa*, Stirlin-Horden Publishers, Nigeria, Ltd. Pp. 93-109.

Okpala, P. N. (2002) *Mid-Term Evaluation of the Second Primary Education Project in Nigeria.* A study conducted for the Universal Basic Education Commission, Nigeria pp. 57

Olorunfunmi, M.O.A. (2000) Education For All: The Year 2000 Assessment Nigeria, Federal Ministry of Education, Shehu Shagari Way, Abuja.

Onocha, C.O. and Okpala, P.N. (1990). 'Classroom Interaction Patterns of Practising Pre-Service Teachers of Integrated Science'. *Research in Education. Journal of Manchester University, Britain,* 43, pp. 23 – 31.

Onuka, A.O.U. (2004) The Investment Implications of Creating Friendly Environment for the Nigerian Child. *Journal of Early Childhood Association of Nigeria*. Vol. 2 (2). Pp. 6 – 19.

Orebanjo. M.A. (2002) Pre-primary Education in Traditional Societies. Ibadan External Studies Program Series. The centre for External Studies University of Ibadan, Nigeria.

Osanyin, F.A. (2002) Early Childhood Education In Nigeria. Concept Publishers, Palmgrove, Lagos, Nigeria.

Osokoya, I.O (1989) History and Policy of Nigerian Education in World Perspective. AMD Publishers, Agodi, Ibadan.

Osokoya, I.O (2000) Early Childhood Education Teaching Methods. Adejuwon (eds.) Centre for External Studies, University of Ibadan, Nigeria.

O'Sullivan, M. C. (2004). The Usefulness of Lesson Observation in a Primary Teacher's INSET Programme in Namibia. *Journal of Education for Teaching: International Research Pedagogy*, 30 (1)

Oyebade, A.O. (1999) Home and School Environmental Correlates of Mathematics Achievement of Junior Secondary Students in Lagos State, Nigeria Unpublished M.Ed. Project. University of Ibadan, Nigeria.

Ozigi, A and Ocho, L (1981) *Education in Northern Nigeria*. George Allen and Unwin, London, Sydney, Boston.

Packalén, P. (2000) *The Year 2000 Assessment FINLAND: National Assessment EFA: Evaluation of the Year 2000,* National Report – Finland Downloaded at http://www2.unesco.org/wef/countryreports/finland/contents.html

Pallant, J. (2005) *SPSS Survival Manual: a step by step guide to data analysis using SPSS version 12*. 2nd (ed.). Open University Press, U.K.

Parker, I. (1994) Qualitative Research. *Qualitative Methods in Psychology: A research Guide*. Banister, Burman, Parker, Taylor, Tindall (eds). Open University Press. Buckingham, Philadelphia
Piaget, J. (1926). The Language and thought of the Child. NY: Harcourt.

Piñata, R., Howes, C., Burchinal, M., Bryant, D., Clifford, R. M., Early, D. M., & Babarian, O. (2005). Features of pre-kindergarten programmes, classroom, and teachers: Prediction of observed classroom quality and teacher-child interactions. *Applied Developmental Science,* 9(3), 144 -151.

Piesner-Feinberg, E.S., Burchial, M.R., Clifford, R.M., Culkin, M.L., Howes, C., Kagan, S.L., and Yazejian, N. (2001) The Relation of Preschool Child-Care Quality to Children's Cognitive and Social Developmental Trajectories through Second Grade Child Development, 72, (5), 1534 – 1553.

Pigozzi, M.J. (2004) Achieving quality education – a UNESCO perspective. *Commonwealth Education partnership.* (p. 65-8).

Pope, C. and Mays, N. (1995) 'Reaching the parts other methods cannot reach: An introduction to qualitative methods in health and health services research', *British Medical Journal* 311:2-4

Porteous, N. (2004). Whole-class Teaching. Available at http://s13a.math.aca.mmu.ac.uk/student_writings/DMELE/Nige.

Prah, K.K. (2003). Going Native: Language of Instruction for Education, Development and African Emancipation. In Brock-Utne, Desai and Qorro (eds) *Language of Instruction in Tanzania and South Africa* (LOITASA. E & D Limited Dar-es-Salaam.

Pringle, M. K. (1992) *The Needs of Children.* 3rd (ed), Routledge, London, New York.

Punch, S. (2002). Research with Children: The same or different from research with adults? *Childhood*, 9, (3) 321-341.

Regional Training and Resource Centre, Africa (1995) *Child Development: A Module for Training of Early Childhood Education Teachers and Caregivers.* Kenya Institute of Education, Nairobi.

Resnick, L., Pontecorvo, C. and Saljo, R. (1997) 'Discourse, tools and reasoning" in Resnick, L., Saljo, R., Pontecorvo, C. and Burge, B. (eds.) *Discourse, Tools and Reasoning: Essays on situated Cognition,* Berlin and New York, Springer-Verlag.

Rice, D. R (1977). The effect of question asking Instruction on preservative elementary science teachers. Journal of Research in Science Teaching, 14, 4, 353-9

Rinaldi, C. (2001) In Dialogue with Reggio Emilia. 'Listening, Researching and Learning'. Routledge,

Ritchie, J. (2003). The Application of Qualitative Methods to Social Research. *Qualitative Research Practice: A Guide for Social Science Students and Researchers.* Ritchie and Lewis (eds.) SAGE Publication, London, Thousand Oaks, New Delhi.

Roellke, C. (2003). *Resource Allocation in Rural and Small Schools.* ERIC DIGEST. ERIC Clearinghouse on Rural Education and Small Schools. Available at http://www.ericdigest.org/2005-2/resource.html. Accessed on August 23, 2006.

Russell, S. J. (2000). Developing computational fluency with whole numbers. *Teaching Children Mathematics, 7(3), 154-158.*

Rusk, R.R. (1969) *The Doctrine of the Great Thinkers.* 3rd Edition. Macmillan, Melbourne, London, Toronto, New York.

Saracho, O.N., and B.Spodek 1993 Professionalism and the preparation of early childhood education practitioners. *Early Child Development and Care 89*:1–17

Sarason, S. (1996). *The Culture of the school and the problem of change.* New York: Teachers College Press.

Saskaton Public School Division, (2004) *Instructional Strategies Online – Questioning* . Downloaded from the Internet at http://olc.spsd.sk.ca/DE/PD/insr/questioning.html

Schunk, D.H. (2003). *Try Harder? Motivational Effects of Effort Attributional Feedback.* ERIC DIGEST. ERIC Counseling and Student Services Clearinghouse. Available at http://www.ericdigest.org/2005/effort.html. Accessed on August 23, 2006.

Scottish Executive, (2000). *Regulation of Early Education and Childcare: The Way Ahead.* Crown copyright 2000, Edinburgh

Shlay, A. B., Tran, H., Weinraub, M., Harmon, M. (2005). Teasing apart the child conundrum: A factorial survey analysis of perceptions of child care quality, fair market price and willingness to pay by low-income, African American parents. *Early Childhood Reseach Quarterly.* Vol. 20, 393-416.

Shulman, L.S. (1986): Those Who Understand Teach: Knowledge Growth in Teaching: *Educational Researcher*, 57(1), 1 – 22.

Siann, G and Ugwuegbu, D (1988) *Educational Psychology in a Changing World.* 2nd Edition, Unwin Hyman, London, Boston, Sydney, Wellington.

Silberman, C.E. (1970*): Crisis in the Classroom*. Vintage Books New York.

Simpson, M. and Tuson, J. (2003) *Using Observation in Small-scale Research: A Beginner's Guide* SCRE (University of Glasgow) Publication, U.K.

Singh, A. (2000) *Education For All The Year 2000: Assessment Report India* http://www2.unesco.org/wef/countryreports/india/contents

Smith, M. W. & Dickson, D. K. (1994). Describing oral language opportunities and environments in Head Start and other preschool classrooms. *Early Childhood Research Quarterly (Special Issue on Head Start),* 9(3-4), 345-366. EJ 495 305. Accessed 2004

Smith, P.K; Cowie, H; and Blades, M.(2003). *Understanding Children's Development.* 4th (Ed.). Blackwell.

Snow, C.; Burns, S.; and Griffin, P. (1998). Preventing reading difficulties in young children. Washington, D.C: National Academy Press.

Sodipo, A.O. (2003). *Teacher Factors as Determinant of Time on Learning-Facilitating Tasks in Senior Secondary School Biology Lessons.* Unpublished Ph.D Thesis, *University* of Ibadan, Nigeria.

Staley, L. (1997). 'What Does Purple Smell Like?' Teaching Strategies. *Journal of the Association for Childhood Education Interaction: childhood Education Infancy through Adolescence.* 240-242.

Sylva, K., Siraj-Blacthford, I., Taggart, B., Sammons, P., Melhuish, E., Elliot, K. and Totsika, V. (2006) Capturing quality in early childhood through environmental rating scales. *Early childhood Research Quaterly.* Vol. 21, 76 – 92. EJ 0885 – 2006/ Accessed August 2006

Tabors, P.O. (1998). What Early Childhood Educators Need to Know: Developing Effective Programs for Linguistically and Culturally Diverse Children and Families. *Young Children*, Vol. 53 (6) 20-29.

The Independent Education Union Australia (1997). Senate Employment, Education and Training References Committee Inquiry into Early Childhood Education. Submission from the Independent Education Union of Australia. Submissions. Available in http://www.ieu.org.au/policies/early.htm. Accessed 2nd August 2006

The Scottish Executive, (2000). *Regulation of Early Education and Childcare: The Way Ahead.* Crown copyright 2000, Edinburgh

The Scottish Executive (1999) Regulation of Early Education and Childcare: the Way Ahead. Crown, Edinburgh.

The Scottish Consultative Council on the Curriculum (1999) A Curriculum Framework for Children 3 to 5. The Scottish Office, Dundee, Scotland.

Tindall, C. (1994). Issues of Evaluation. In *Qualitative Methods in Psychology: A Research Guide.* Banister, Burman, Parker, Taylor, Tindall (eds). Open University Press. Buckingham, Philadelphia.

Tizard, B. & Hughes, M. (1998). *Young Children Learning: Talking and Thinking at Home and at School.* London. Fontana.

Tizard, B. & Hughes, N. (2002). Young Children Learning: understanding children's worlds. 2nd (eds). Blackwells Publishers, UK, USA.

Tooley, J. (2005). "Schools out". TVE UK life Series 5. Documentary on Pre-school education in Nigeria Presented at the 8th UKFIET Oxford International Conference on Education and Development, 13th – 15th September 2005.

Todd, V.E. & Hofforman, H. (1977). *The Years Before School. Guiding Preschool Children*. 3rd (ed.) Macmillan Publishing Co. New York, London.

Udoh, C.O. (1999). *Teaching Health Education*, Lagos: Kitams Academic Industrial Publishers.

Uka, N. (1966) Growing up in Nigerian Culture: a Pioneer Study of Physical and Behaviuoral Growth and Development of Nigerian Children. Occasional Publication No. 6. Institute of Education, University of Ibadan.

Ukeje, O and Aisiku, J.U. (1982) Education in Africa: A comparative Survey. Edited by Fafunwa and Aisiku. George Allen and Unwin. London, Sydney.

UNESCO Education For All (1990) *Framework for Action: Meeting Basic Learning Needs*. World Conference on Education, Jomtien, Thailand. Internet at http://www.unesco.rog/education/efa/ed_for_all/background/jomtien Accessed January 2006

UNESCO Education Sector (1995) Early Childhood Care and Education: Basic Indicators on Young Children. UNESCO's Young Child and the Family Environment Unit, France.

UNESCO, (1998) *The State of Education in Nigeria*, UNESCO, Lagos.

UNESCO, (2000). World Education Forum: The Dakar Framework for Action. Education For All: Meeting our Collective Commitments. Adopted by the World Education Forum, Dakar, Senegal, 26-28 April 2000.

UNESCO, (2001) A Framework *For Action in Sub-Saharan Africa: Education for African Renaissance in the twenty-first Century.* Adopted by the Regional Conference on Education for ALL FOR sub-Saharan Africa Johannesburg, South Africa, 6 – 10 December 1999. Accessed from the Internet in August 4, 2006 at http://www.unesco.org/education/efa/wef_2000/regional_framework/frame_africa.shtml

UNESCO, EFA Global Monitoring Report (2002). *Education for All: Is the World on Track?* Available at http://portal.unesco.org/education/en/ev.php. Accessed January 2006.

UNESCO, (2005) Education for All Global Monitoring Report: The Quality Imperative. UNESCO Publishing France.

UNESCO, (2006) Education For All Global Monitoring Report 2006. UNESCO, France. Available at http://portal.unesco.org/education/en/ev.php. Accessed January 2006.

UNESCO, (2007) *Education For All (EFA) Global Monitoring Report) Strong Foundations: Early Childhood Care and Education (ECCE)* Available at http://unesco.org/education/en/ev.php. Accessed January 2006.

UNESCO/UNICEF (1998) *Early Childhood Development: Laying the Foundations of Learning.* Par CLERC S.A. - 18200 Saint-Amand-Montrond.

UNICEF, (2000). *Defining quality in education.* Programme Division, Working Paper Series. Pp.42. UNESCO, Paris.

UNICEF/Federal Government of Nigeria (FGN), (2001). *Children's and Women's Rights in Nigeria: A Wake-up Call Situation Assessment and Analysis.* FGN/UNICEF Publication.

United Nations General Assembly (1989). *The Convention on the Rights of the Child.* Adopted by the General Assembly of the United Nations on 20th November 1989. (UN Convention) Retrieved on January 14, 2004 from website: http://www.unicef.org/crc/text.htm

United Nations (2005). The Millennium Development Goals Report 2005. UN, New York. Available at http://www.un.org/milleniumgoals/contactus.html Accessed June 2006

U.S. Department of Education, National Center for Education (2002). *National Household Education Survey,* as cited in Federal Interagency Forum on Child and Family Statistics, America's Children: Key National Indicators of Well-Being, 2002 (Washington, DC: U.S. Government Printing Office, 2002). Retrieved from the Internet at http://www.childstats.gov/americaschilldren/ Accessed August 2005.

U.S. Department of Health and Human Services (2002). Early Head Start Benefits Children and Families. Available at http://www.acf.hhs.gov/programs/core/ongoing_research/ehs/ehs_intro.html Accessed August 2005.

Universal Basic Education (UBE, 2000). Education Today. A Quarterly Journal of the Federal Ministry of Education, Vol. 8, No. 2

Valsiner, J. (1997) " Bounde Indeterminacy in Discourse Process" in Coll ,C.and Edwards, D. (Eds.) *Teaching, Learning and Classroom Discourse*, Madrid, Fundacion Infancia Aprendizaje.

Vandeyar, S. & Killen, R. (2006). Teacher-student interactions in desegregated classrooms in South Africa. International Journal of Educational Development. Vol. 26, 382-393. Available online at www.sciencedirect.com. Accessed in August 2006.

van Oers. B. (2003). Learning Resources in the Context of Play. Promoting Effective Learning in Early Childhood. *European Early Childhood Research Journal*. 7-25

Varol, F. and Farran, D. (2006). Early Mathematical Growth: How to Support Young Children's Mathematical Development. *Early Children Educational Journal*, Vol. 33, (6) 381-387. EJ. DOJ: 10.1007/S10643-006-0060-8

Villalion, M.; Suzuki, E; Herrera, M.O. & Mathiesen, M.E (2002) Quality of Chilean Early Childhood Education from an International Perspective. *International Journal of Early Years Education,* Vol. 10, No. 1.

Vygotsky, L.S. (1978). *Mind in Society*. Cambridge, MA: Harvard University Press.

Wadsworth, M. (1986). 'Effects of parenting style and preschool experience on children's verbal attainment: results of a Britain longitudinal study'. *Early Childhood Research Quarterly, 1*

Watanabe, R (2000) *EFA 2000 Assessment: Draft Country Report Japan*. Downloaded from: http://www2.unesco.org/wef/countryreports/japan/contents.html Accessed June 2006

Whitbread, N. (1972) *The Evolution of the Nursery-Infant School. A History of Infant and Nursery Education in Britain, 1800-1970.* Routledge & Kegan Paul. London and Boston.

Whitebread, D. (1996) *Teaching and Learning in the Early Years*. 2nd ed. RoutledgeFalmer. London and New York

Whitebread, D. (2003) Introduction: young children learning and early years teaching. In *Teaching and Learning in Early Years*. 2nd (ed.)

Whitebook, M., Howes, C., and Philips, D. (1989). Who cares? Child-care Teachers and the Quality of Care in America – Final Report of the National Child Care Staffing Study. Oakland, CA: Child Care Employee Project.

Wikipedia, (2006) *The free encyclopedia.* Downloaded from the Internet at http://en.wikipedia.org/wiki/Nigeria. Accessed on the 2nd of August 2006.

Wilcox-Herzog, A. & Ward, L.S. (2004). Measuring Teachers Perceived Interactions with Children: A tool for Assessing Beliefs and Intentions. *ECRP*, Vol. 6 (2). Downloaded from the Internet at http://ecrp. Uiuc.edu/edu/v62/Herzog.html

Willson, J. (1999). *High and Low Achievers' Classroom Interaction Patterns in an Upper Primary Classroom.* Paper presented at the AARE Conference in Melbourne,

Australia. 29th – 2nd December 1999 – 12 07. Available at http://www.aare.edu.au/99pap/wil99741.htm

Winne, P. H. (1979) Experiments relating teachers use of high cognitive questions to students' achievement. Review of Educational Research, 49, 13 – 50.

Wolfe, J. (2002). Learning from the past: Historical voices in early childhood education (2nd ed.). Alberta, CA: Mayerthorpe, Piney Branch Press.

Woodhead, M. (1983). "Preschool education has long-term effects- but can they be generalized"? *Oxford Review of Education*, 11. 133-55

Woolfolk, A. and McCune- Wicolinch, N (1997). *Educational Psychology for Teachers.* Englewood, Cliffs, NJ: Prentice – Hall, Inc

World Bank, (2002) How Nigerian children: A National Survey of Classroom Interaction and Learning Environments in Primary and Junior Secondary Schools. A study commissioned by the World Bank, Nigeria, 139pp.

Xuezhong, Z. (2000) Education for All: The Year 2000 Assessment. Final Country Report of China http://www2.unesco.org/wef/countryreports/china/contents.html Accessed June 2006

Yoloye, E.A (1978). *Evaluation for Innovation. African Primary Science Programme (APSP).* University of Ibadan Press.

Yoon, J. and Onchwari, J.A. (2006). Teaching Young Children Science: Three Key Points. *Early Childhood Education Journal*, vol.33, No. 6. EJ. DOI: 10.1007/s10643-006-0064-4, 419 –423. Accessed in August 2006.

Zill, Mckey, R.H, O'Brien, R., et. al (2003). Head Start FACES 2000: A Whole-Child Perspective on Program Performance, Fourth Progress Report. Washington, DC: U.S. Department of Health and Human Services. At www.Childrendefense.org Accessed 2005

Appendix 1

Classroom Interaction Sheet (CIS)

SECTION A

SECTION A

Date:..... School No:..... State No:..... Subject Taught:..... Class:.....
Observation No:..... Teacher No:..... Teacher Gender:..... Time Start:..... Time Stop:.....
School Location:..... School Type:..... No. of Pupils:.....

SECTION B

Behaviour Category	TIME *
1. Teacher Prompting Learning Activity	
Working with the entire class	
Writing on the chalkboard	
Demonstrating with materials	
Working with individual pupil	
Explaining	
Questioning	
Giving Directives	
Getting children do different activity	
Reinforcing correct response	
Monitoring	
Prompting	
Working with groups	
Modelling	
Drawing on the chalkboard	
Story Telling	
Distributing textual materials	
Provides answer	
2. Pupil whole-class Activity	
Reciting	
Chorus response	
Exploring	
Demonstrate	
Silence	
Observing	
Reading	
Counting	
Singing	
Role play	
Structured play	
Identifying	
3. Individual Pupil Activity	
Exploring	
Reciting	
Demonstrating	
Observing	
Questioning	
Reading	
Counting	
Response	
Singing	
Writing	
Drawing	
Identifying	
Painting	
Free-flow play	
Role play	
Copying from the chalkboard	
Silence	
4. Monologue	
Teacher talking non-stop	
Pupils asked to shut up/stop moving around	
Teacher not questioning	
5. Teacher not facilitating learning	
Punishing	
Using negative reinforcement	
Not reinforcing corrrect response	
Demonstrating without materials	
Teacher discussing with a visitor	
Conversing with another teacher	
Leaves the class unannounced	
Announcement	
Distracts attention (eg. Cell phone rings)	
6. Confusion	
Noise	
Children wandering aimlessly	
Two pupils fighting	
7. Others (anyother activity outside 1-6).	

*** Code the major occurring behaviours in the column cells of only one main behaviour category after each interval c**

SECTION C

i. What is the main language of instruction? .....
ii. What other language(s) was /were used during the instruction ? .....
iii. To what extent did the teacher use Nigerian/English Language(s) during

Language	Never	Small extent	Large extent	All the time
i. Nigerian Language A				
ii. Nigerian Language B				
iii. English Language				

TEN - MINUTE INTERACTION INSTRUMENT (TMII)

Date:..... State No:..... ..... School No:..... Subject Taught: .....

Class Size:..... Time Start:..... Time Stop:..... Observation No: .....

CONTEXT CODE: L = Large Group. S = Small Group. M = Monitoring. T = Transition. P = Private. N = Non-involved

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
	← WHO TO WHOM →						← WHAT →																																Qual
							ACADEMIC																																
							Instruction								Question					Response							Feedback									Mgt. Non. Aca.				
context	Teacher to group	Teacher to Pupil	Group to Teaccher	Pupil to Teacher	Pupil to Group	Teacher to Other	Teaches/Explains	Teaches with Material	Teaches Non Verbal	Gives Examples	Cue (Structuring/thinking)	Directives	Prompting	Probe	High Level	Low level	Opinion	Redirect	Writes/Reads/Counts	Response	Recite	Extended Response	Identifies	Don't Know	Statement	Acknowledge Positive	Wrong	Repeat Answer	Gives Answer	Reinforcement	Grades	Punishment	Silence	Effective of teaching	Discipline	Procedure	Can't Hear	Social	Emphasis
(01)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(02)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(03)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(04)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(05)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(06)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(07)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(08)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(09)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(10)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(11)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(12)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(13)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(14)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(15)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(16)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(17)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(18)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(19)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(20)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(21)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(22)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(23)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(24)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(25)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(26)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Ro	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(27)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(28)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(29)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(30)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(31)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(32)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(33)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(34)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(35)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	ST	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em
(36)	TG	TP	GT	PT	PG	TO	Te	TEM	TEN	EX	CU	Dr	Pr	Pb	Hq	Lq	Oq	Rd	wrc	Re	Rc	Er	Id	Dk	St	Acp	Wr	Ra	Ga	Re	G	Pu	Si	Ef	Di	Pr	Ch	So	Em

Appendix 3

Teacher Questionnaire

Instruction: Please tick the qualifications obtained

Primary ☐

West African School Certificate (WASC) ☐

Teacher Grade Two Certificate (TC 11) ☐

National Certificate of Education (NCE) ☐

Ordinary National Diploma (OND) ☐

Higher National Diploma (HND) ☐

Bachelor of Education/Science (B. Sc) ☐

Bachelor of Education/Art (B.A) ☐

Bachelor of Education/Pre-primary and Primary (B.Ed. Early childhood Education) ☐

Post Graduate Diploma in Education (PGDE) ☐

Master of Education/Science (M. Ed/Sc) ☐

Master of Education/Arts (M. Ed/A) ☐

Master of Education/Early childhood (M. Ed/Early Childhood) ☐

Others specify……..

Number of years in service ☐

Appendix 4

Dear Parent,

This is to inform you that a researcher in early childhood education will be visiting our school to find out how our teachers and pupils interact during instruction. Fortunately, your child's class happens to be among the ones chosen. Would you want your child to participate? It will involve the use of a video camera to record the classroom activities as they occur. If you do/do not, could you please thick the box below as appropriate to you and return through your child tomorrow.

Thanks for your cooperation.

Yours truly

.....

Please thick (√) as appropriate and detach

Name of child: .....

Yes ☐

No ☐

Appendix 5

Table 1: Use of Instructional Time in Nigerian Pre-primary School Classrooms

S/No	Behaviour Category	Time (sec)	Percentage of Lesson period	
A	**Teacher Whole-Class Activities (Prompting Learning)**			
1	Writing on the chalkboard	87	7.3	
2	Demonstrating with materials	35	2.9	
3	Explaining	84	7.0	
4	Questioning	80	6.7	
5	Giving directives	73	6.1	
6	Getting children to different activity	25	2.1	
7	Reinforcing response	33	2.8	**44.4**
8	Monitoring	26	2.2	
9	Prompting response	10	0.8	
10	Modelling	5	0.4	
11	Drawing on the chalkboard	11	0.9	
12	Story telling	14	1.2	
13	Distributing textual materials	41	3.4	
14	Provides answer	7	0.6	
15	Reciting	38	3.2	
16	Chorus response	50	4.2	
17	Exploring	5	0.4	
18	Demonstrating	4	0.3	
19	Observing	14	1.2	**17.2**
20	Reading aloud	50	4.2	
21	Counting aloud	12	1.0	
22	Singing aloud	12	1.0	
23	Role-playing	1	0.1	
24	Structured play	0	0.0	
25	Identifying	20	1.7	
C	**Individual Pupil Activity**			
26	Exploring	4	0.3	
27	Reciting	6	0.5	
28	Demonstrating	0	0.0	
29	Observing	0	0.0	
30	Questioning	4	0.3	
31	Reading aloud	16	1.3	
32	Counting aloud	4	0.3	
33	Telling stories	5	0.4	**13.1**
34	Singing aloud	9	0.5	
35	Writing	51	4.3	
36	Drawing	15	1.3	
37	Identifying	16	1.3	
38	Painting	6	0.5	
39	Free flow play	0	0.0	
40	Role play	0	0.0	
41	Copying from chalkboard	25	2.1	
D	**Non- Facilitating Learning Behaviour**			
42	Monologue (Teacher talking non-stop)	124	10.4	
43	Pupils asked to shut up (silence)/stop moving around	9	0.8	
44	Silence (Group)	22	1.8	
45	Punishing	10	0.8	
46	Using negative reinforcement	7	0.6	
47	Not reinforcing correct response	15	1.3	**24.0**
48	Demonstrating without materials	15	1.3	
49	Discussing with a visitor	3	0.2	
50	Silence (Individual pupil)	30	2.5	
51	Conversing with another teacher	3	0.2	
52	Leaves the class unannounced	2	0.2	
53	Grading work	45	3.8	
54	Distracts attention (e.g. cell phone rings)	1	0.1	
E	**Confusion**			
55	Class disorganized	7	0.6	
56	Children wandering aimlessly	6	0.5	**1.3**
57	**others**	3	0.2	

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Language of Instruction and Interaction Patterns in Pre-Primary Classrooms in Nigiera.

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ABSTRACT

The study sought to investigate how pre school teachers and their pupils interact during instruction in numeracy lessons in Nigeria. The sample consisted of 2859 pupils from 72 pre-primary institutions/classrooms (selected through stratified random sampling to ensure adequate representation of private, public, urban and rural schools). The collection of data involved using two observational instruments (Classroom Interaction Sheet, CIS and Ten-Minute Interaction Instrument, TMI) to record interaction patterns in 72 lessons during the teaching of numeracy. Data analysis involved the use of frequency, percentages, chi-square and graphical illustrations. The result revealed that the major language of instruction was English language rather than the language of the pupils' immediate community; the use of instructional time and direction of interaction tend to be sensitive to language of instruction; teacher-initiated interactions and whole class activities are associated more with the use of English as language of instruction while learner-initiated interactions and individual/small group activities are associated more with use of language of the pupils' immediate community in instructional delivery; and the direction of communication was mainly from the teacher to the whole class.

INTRODUCTION

The process variables of school quality, which have to do with patterns of interaction among teachers, learners and classroom settings during instruction, have been the focus of educational researchers and psychologists in recent years. For instance, Kontos and Wilcox Herzog (1997) view quality in early childhood programs, in large part, as a function of the interactions that take place between the adults and the children in those programs. The National Association for the Education of Young Children's Developmentally Appropriate Practice Guidelines also placed much emphasis on teachers' classroom interaction, as well as does the accreditation guidelines by National Academy of Early Childhood Programmes (Bredekamp 1987; Bredekamp & Copple 1997, cited in Kontos and Wilcox-Herzog, 1997).

Classroom interaction, which could be seen as the communication between teacher and learners in small groups or the entire class as well as among learners, has been identified as one of the major key terms in the conduct of classroom lessons (Obanya, 2004; Duffy, Warren and Walsh, 2001). It could be teacher- or – learner – initiated. The possible cognitive and social gains as well as the positive learning outcomes resulting in and from such interactions within the classroom community have also been highlighted (National Research Council, 2001). In addition, the environment in which children develop and learn as well as the choice of language and pedagogical methods adopted by the teacher have been identified as important factors that determine the participatory level of the children in any teaching and learning situation (Kartz, 1987: Obanya, 2004). More so, language is seen as the major tool through which literacy and concepts are more easily internalized especially if it is done in the language, which the learner knows best (Bamgbose, 1976; Chomsky, 1977; Vygotsky, 1986; Prah, 2003; Brock-Utne, 2005). It thus seems that teacher-learner interaction could drive be promoted more in situations in which all those involved (particularly children) have no inhibitions in terms of language used. Therefore, teaching-learning process involving pre-school children in the first language of the children, is likely to reduce the incidence of one sided flow of interaction (teacher to pupil) in preschool classroom.

Nigeria is a multi-lingual country with more than 250 ethnic groups, with varying languages (Wikipedia, 2006). The largest ethnic groups are the Hausa-Fulani, Yoruba, Igbo (Ibo), Ijaw, Kanuri, Ibibio and Tiv. There are

a total of 250 dialects spoken in Nigeria, which correspond with the estimated number of ethnic groups in Nigeria. However, these dialects emanate from the three major languages spoken in Nigeria (Hausa, Igbo and Yoruba languages). The autographs of these major languages have long been developed as far back as the early nineteenth century by the missionary converts who came to Nigeria and felt that the best way to inculcate the rudiments of literacy to the natives was through their mother-tongue (Bamgbose, 1976). A majority of Nigerian population live in the rural locations (64%) and are mostly illiterates while only 36% of the population are urban dweller, with a large proportion also illiterate. The overall literacy rate is estimated at 57.1% (Federal Ministry of Education /National Population Commission 1998 cited in Olorunfunmi, 2000).

The missionaries who were not Africans and also who worked with adults and not children recognised the literacy level of the Nigerian people. This perhaps made them realise the importance of using Nigerian languages for emergence literacy thus established the tradition of beginning learning in ones mother tongue. Most practicing educators and educational researchers share this view (Bamgbose, 1976; Prah, K.K. 2003, Brock-Utne, 2005, UNESCO 2001; Obanya, 2004). They all assert that the ideal practice for educating learners should be for teachers to use the language in which the learners are more relaxed and confident and one that would create the opportunity for them to express their opinion about things more freely, than they would normally have done in a language they are not conversant. More specifically, UNESCO (2001) views the use of mother tongue as means of improving the quality and relevance of education and therefore urged the African leaders to promote the use of the mother tongue in the early childhood education, early years of primary education and link personal development to the learners' cultural heritage and strengthen their self- confidence (p.28)

In Nigeria presently, the National Policy on Education (1977 revised-2004) prescribes that preschool children should be taught in their mother tongue from the very beginning whereas English (which is the second language) should be taught as a subject and then be used as language of instruction from the third year of primary education. The Government appreciates the importance of language as a means of promoting social interaction, national cohesion and preserving cultures. Very few textbooks have also been developed for this level in the major languages with the help of donor agencies like the Bernard van Leer education trust fund (Osanyin, 1998). However, until now, there have been no studies on classroom interaction patterns and language of instruction at the pre-primary level of education the country. The few existing studies on classroom intera tion appear to be limited to secondary and upper primary school levels (Okebukola, 1998; Ogunkola, 1999). Neith did any of the studies examine the issue of language of instruction in classroom interaction. This study therefore sought to give a comprehensive description of how teache and pupils interact during mathematics lessons in pre-primary classrooms in Nigeria More specifically, the description provided answers to the following questions.

(i) What are the prevailing interaction pat terns (in terms of use of instructional time and direction of communication) during the teaching of numeracy in pre-primary classrooms in Nigeria?

(ii) What is the prevailing language of instruction in pre-primary classrooms in the country?

(iii) Do the prevailing interaction patterns (use of instructional time and direction of communication) depend on language of instruction?

METHOD

Sample

The sample consisted of 2859 pupils aged 4 to 5 years as well as 72 teachers from 72 pre-primary institutions/classrooms across the three major old regions (Eastern, Western and Northern regions) in Nigeria. Subjects were selected through stratified random sampling to ensur adequate representation of private, public, urban and rural schools. The classroom compositions of the subjects used were heterogeneous in nature in the urban locations but not in the rural. This is explicable in the country because of rural-urban migration of people from different parts of the regions to the cities. Thus, in urban locations, teachers observed worked with children from divers socio-economi and linguistic backgrounds (the three major language groups). Information from the pupils was collected throug the use of the class register. As a result, the preschool teac er in an urban location attended to children whose parents are educated and could communicate with them at home i English (this comprised 38% of the children observed) as well as those whose parents could not (included 62%of th

children). However, interviews from their teachers showed that all the children in each particular classroom setting observed are more conversant with the language of their immediate environment than English irrespective of the region or state they come from. This situation is somehow different in the rural locations considering the fact that people live in clans/villages, which constitute of people who share the same language/dialect. In addition, considering the age of the children in this level, preschools are situated in most places, within working distance of the children from their homes. Some are organized in village halls, churches, and mosques and in people's homes.

Instruments

The collection of data involved using two observational instruments (Classroom Interaction Sheet, CIS and Ten-Minute Interaction Instrument, TMI) to record interaction patterns in 72 lessons during the teaching of numeracy. Each lesson was recorded for thirty minutes using both instruments. During the thirty minutes observation period, the CIS was used in the first ten minutes followed by the TMI in the second ten minutes and then CIS again in the last ten minutes. The CIS, a category system scheme, is an adaptation of the Classroom Activity Sheet (Yoloye, 1978). It consists of fifty-five sub-categories which were grouped under seven main behaviour categories placed beside a row of boxes, in which an observer is expected to tick the most frequently occurring behaviour every ten seconds. The TMI, however, was adapted from Bourke, Hildyard, and Anderson (1989) Five Minutes Interaction (FMI) used for the IEA study. The TMI consists of four dimensions of interaction with about forty-five sub-categories, which, are to be coded every five seconds. In all, a total of sixty and two hundred and eighty-eight tallies were expected to be coded for the CIS and the TMI respectively during each thirty-minute lesson.

Before this study, the original instruments have been used in a number of studies that ascertained the extent to which teachers and their pupils interact during instruction at the primary level of education (Yoloye, 1978; Okpala and Onocha, 1988; Ogunkola, 1998; IEA, 1989). Thus, both instruments were modified to suit pre-primary classroom activities in Nigeria. The modified versions were also pilot tested over a period of eight days using two trained observers who solicited observation information in eight pre-school classrooms (4 private and 4 public schools) in rural and urban locations. These schools were not part of the study sample. The pilot test data showed that the observers did not have difficulty identifying and recording the behaviour categories. In addition, the data produced inter-ratter reliability values of 0.88 and 0.92 for the CIS and the TMI respectively.

Data Collection and Analysis

Subjects were observed over a period of fourteen weeks and two days (72 days) by the investigators. Each teacher and the pupils were observed twice. The pilot testing exercise brought us face-to-face with one of the problems of using observation as a method of data collection: how much does our presence affect what is being observed? To overcome this, we used the habituation technique, which has to do with our visiting the classroom environment (pupils / teachers) during instruction twice before the proper observation. This is to enable the pupils get used to the video camera being mounted in front of their class. With this we assumed that the effect due to the observer presence would diminish over time. Researchers who are experienced at doing observational work with children (Tizard and Hughes, 1984) believed that the effect of observer is usually minimal after an initial acclimatization. Behaviours were recorded using the two structured instruments and a video camera.

The observer ticked the most frequently occurring behaviour bearing in mind to make a tally after every ten seconds in the appropriate row when the prevalent behaviour category is demonstrated (CIS) and every five seconds for TMI. Data analysis involved the use of frequency, percentage, chi-square and graphical illustrations because the data is nominal in nature.

RESULTS

Prevailing Interaction Patterns (Use of Instructional Time and Direction of Communication)

(i) Use of instructional time

The prevailing interaction pattern during the teaching of numeracy in Nigerian pre-primary classrooms, in terms of use of instructional time, is shown in Tables 1.1 and 1.2, while the interaction pattern in terms of direction of communication is shown in Table 2. These interaction patterns are also illustrated graphically in Figures 1 and 2 respectively.

As shown in figure 1 teachers in pre-primary classrooms spent a larger proportion of their lesson time (51.2%) interacting (prompting learning) with the whole

class (e.g. explaining, questioning, giving directives, writing on the chalkboard, distributing textual materials, etc) whereas less proportions of the lesson time were spent on learning-facilitating activities that centred on groups of pupils (19.8%) and individual pupils (12.3%). However, 15.4% of the lesson time was spent on 'teacher not facilitating learning activities (e.g. monologue, punishing, grading pupils' work, discussing with visitors, using negative reinforcement etc) while the rest of the time (1.3%) was spent on confusion (e.g. class disorganized, children wandering aimlessly, children fighting).

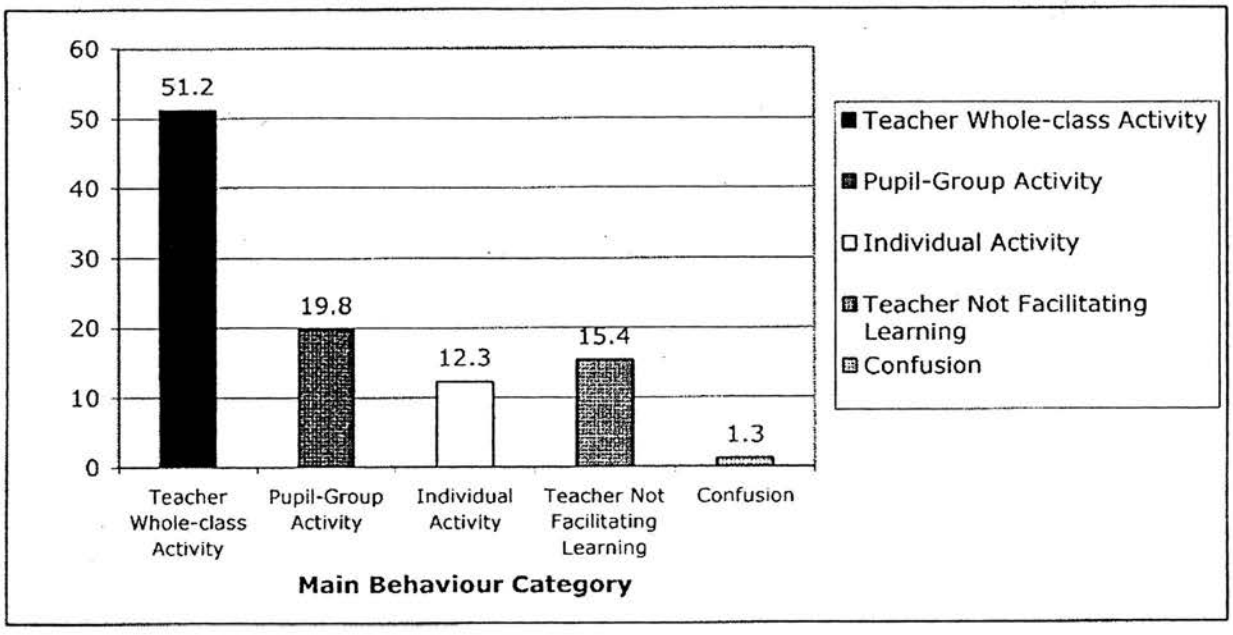

Figure 1: Use of Instructional Time During Teaching of Numeracy in Pre-primary Classrooms in Nigeria (derived from Table 1.1).

(ii) Direction of Communication in Pre-primary Classrooms in the Country

The direction of communication associated with the prevailing interaction pattern, as shown in table 2, reveals that 75.4% of communications during teaching of numeracy were directed from the teachers to the pupils (57.5% from teacher to group and 17.9% from the teacher to individual pupils). The direction of the communication from pupil to teacher accounted from 24% (group to teacher, 13.3% and pupil to teacher, 10.7%) of the total communications whereas less than 1% of the communications represents teacher communication with others.

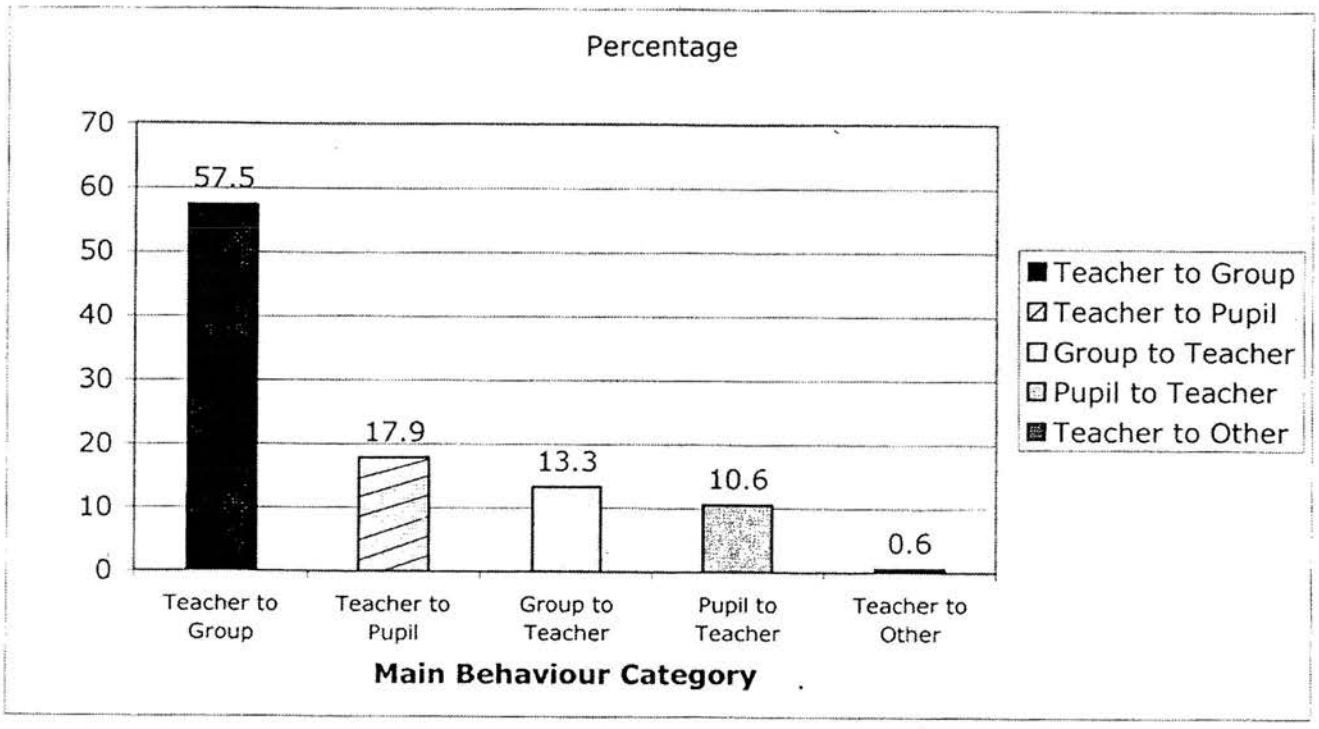

Figure 2: Direction of Communication During the Teaching of Numeracy in Pre-primary Classrooms in Nigeria.

Prevailing Language of Instruction

Tables 3, 4 and 5 provide information on the prevailing language of instruction during numeracy lessons in pre-primary classrooms in Nigeria. As shown in Table 3 and Figure 3, majority of the teachers (79.2%) used English language as the main language of instruction during numeracy lessons while only 20.8% of the teachers used Nigerian language (language of the immediate environment where the school is located) as the main language of instruction.

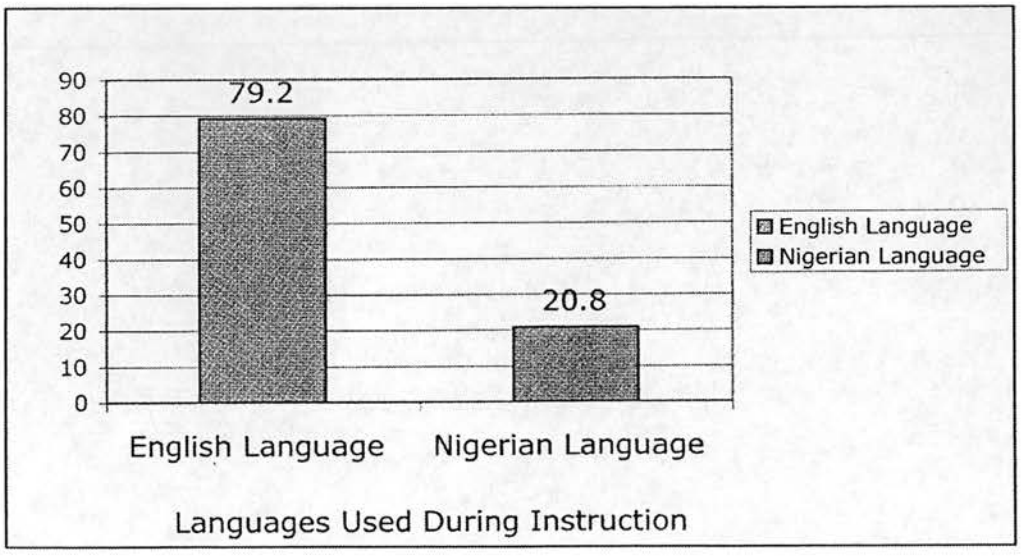

Figure 3: Prevailing Language of Instruction During Numeracy in The Country.

It would also seem, as shown in Tables 4 and 5 as well as in Figures 4 and 5, that most teachers (at least 62.3%) tend to use Nigerian languages to supplement English language, as the main language of instruction, during numeracy lessons whereas 37.15% of the teachers never used Nigerian Language.

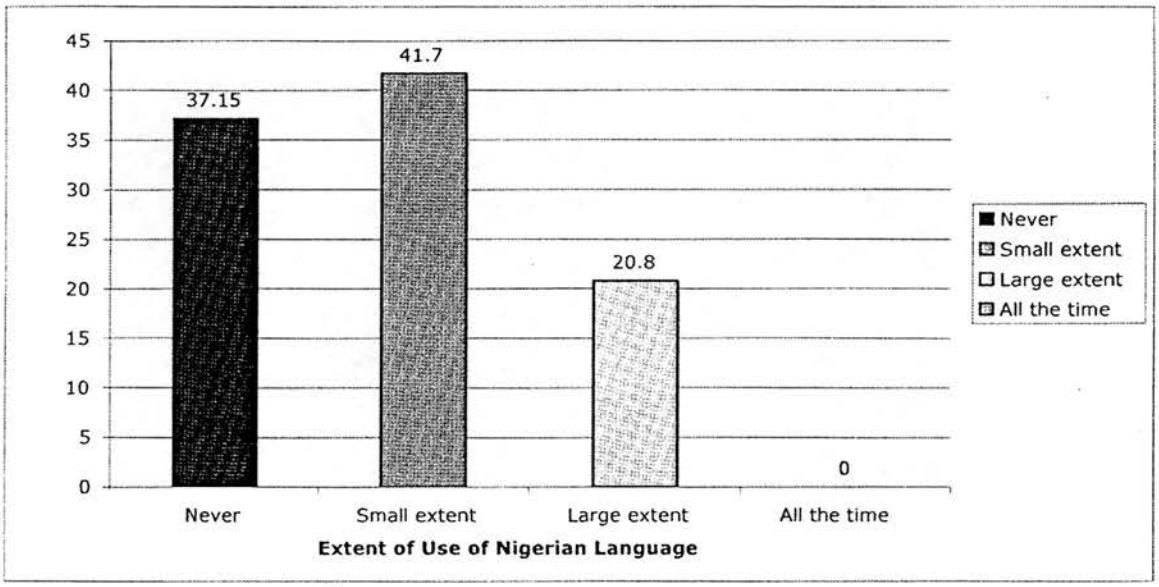

Figure 4: Extent of using Nigerian Language as Language of Instruction.

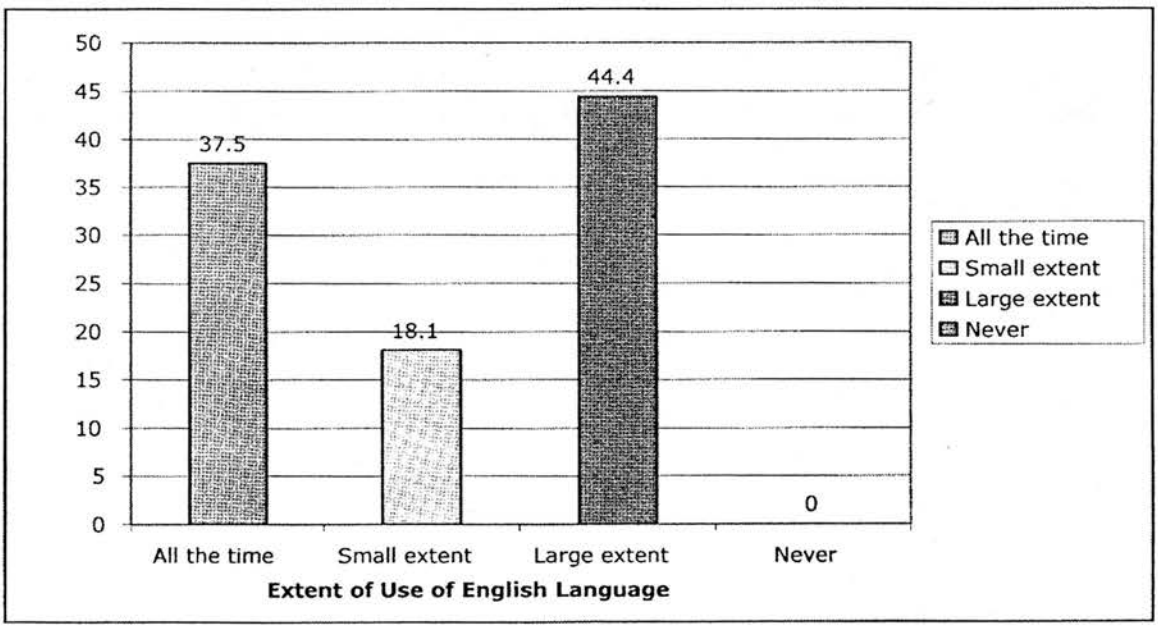

Figure 5: Extent of Using English Language as the Language of Instruction

Group Differences in Use of Instructional Time

The extent to which English language is used during instruction was the grouping factor. This factor was classified into three: small extent; large extent; and all the time. The use of instructional time was also classified into three (time spent on teacher-centered learning activity, pupil-centered learning activity and teacher not facilitating learning activity/confusion). There was significant association between groups (based on the extent of using English Language) in the use of instructional time. As can be seen in table 6, a greater proportion of teachers who used English language to a small extent during instruction, unlike their counterparts who used it all the time or to a large extent, tended to spend more time on pupil-centered and teacher-centered learning activities.

Table 6: Group Differences (Based on Language of Instruction) in Use of Instructional Time

Use of Instructional Time	Use of English Language in Instruction				
	Small extent	**Large extent**	**All the time**	**Total**	χ^2
Teacher Prompting Act.	35	20	7	62	10.48*
Pupil Learning Activity	24	9	5	38	
Teacher Not Facilitating Learning and Confusion	5	8	7	20	
Total	64	37	19	120	

**p< 0.05 non-directional test*

Group Differences in Direction of Communication

The grouping factor (the extent to which English language is used in instruction) was classified into three: small extent; large extent; and all the time. However, the direction of communication was classified into two: one-to-one (Teacher to pupil/Pupil to teacher); and whole class (Teacher to group/Group to teacher). There was significant group association (based on the extent of using English Language) in the direction of communication. As can be seen in Table 7, a larger proportion of teachers who used English language to a small extent during instruction tended to be involved with one-to-one directed communication while a larger proportion of the teachers who used English Language all the time or to a large extent would be more likely to be involved with whole class (group)-directed communication.

Table 7: Group (Based on Language of Instruction) Differences in Direction of Communication.

Direction of Communication	Use of English Language in Instruction				
	Small extent	**Large extent**	**All the time**	**Total**	χ^2
Teacher to Pupil/ Pupil to Teacher (One-to-One)	7	5	6	21	**6.91***
Teacher to Group/ Group to Teacher (Whole class)	6	27	18	51	
Total	13	32	27	72	

**p< 0.05 non-directional test*

DISCUSSION

The pattern of classroom interaction observed in the study, where teacher-centred activity was predominant, and where the communication flow was mainly from the teacher to the whole class with minimal one-to-one (teacher to pupil or pupil to teacher) communication, may not augur well for effective acquisition of numeracy skills by pre-school children. More so, when the pre-school teachers spent a good proportion of the lesson time on "teacher not facilitating learning activities" (e.g. monologue, punishing, using negative reinforcement, etc). Apparently, the result indicates that most of the pre-school teachers observed are yet to move away from the traditional teacher-centred approach to teaching to using the method that would be interactive in nature. The predominant approach used by the teachers appear to be influenced by the empiricists view of learning as stimulus-response were adult leads the child's learning and dominates it with the child viewed as an empty vessel to be filled or a lump of clay to be moulded into shape (Bruce, 1997, p.12). However, research has shown that this process does not promote pupil's learning, interest and curiosity rather it hinders motivation because such uninteresting and dull learning environment makes learners passive and non-involvement tends to undermine the drive in learners to think for themselves (Silberman, 1970; NAEYC, 2001;). This situation should be considered sensitive at this level of education because when pupils become bored, uncomfortable, confused and develop negative attitude towards schooling and learning, they would rather prefer staying in their homes where they are likely to be much more actively involved in interactions with parents, siblings and other relatives. The situation also runs contrary to the objectives of establishing pre-primary education settings in Nigeria which includes: effecting a smooth transition from the home to the school; preparing the child for the primary level of education among others (Federal Republic of Nigeria, 1998).

Children need to be given opportunities to initiate conversation in school settings during instructions. The work of Gordon (1983 cited in Bruce, 1997) has shown the importance of reciprocity in conversations between adults and children. Thus, to ensure that pre-schoolers are not only equipped with the rudiments of numbers but also with critical thinking skills, practicing teachers at this level need to substantially include participatory approaches during teaching-learning activities in numeracy classrooms. Psychologically, the tendency for preschool teachers to be principal actors and talkers in numeracy classrooms could affect learners attitude to doing things (e.g. lack of confidence in oneself and inability to do things in ones way without seeking assistance from adults or significant others). The National Research Council, (2001) argue that advance in cognitive abilities is not likely to take place if children are passive receptacle for knowledge delivered by others. Rather, they are of the opinion that cognitive development takes place in the context of the child's interaction with others and with the environment where the child is a very active participant.

Looking at the pattern of interactions exhibited at the pre-primary level by teachers in a wider societal/cultural perspective, one might infer that the observed teachers and the pre-schoolers could be seen as a reflection of the unequal power relations between adults and children. The Nigerian preschool teachers appear to accommodate the cultural/societal norms for interaction whereby children are to be seen and not heard. Children therefore, when they come to school, may well have inculcated the habit of being active listeners who are always waiting for adults to take the lead in every social interaction. Teachers also being part of the culture and living within the society tend to accommodate this belief and thus transfer it to the classroom settings. Thus, since most of Nigerian children are socialized into active listeners whenever adults have something to say at home, they are likely not to feel at ease in participating actively during instructions in terms of initiating conversations, asking questions or even expressing themselves. Researchers have argued that when teachers are interacting with children at higher levels of involvement, this involvement is positively related to children scoring higher on language development assessment (Whitebook, Howes, & Phillips, 1989: Konstos & Wilcox Herzog, (1997) cited in Wilcox-Herzog and Ward, 2004), Curtis (1997) found that mathematics is learned best when learners are actively participating in interaction during instructions with teachers and peers. Thus, schools should provide opportunities such that the teacher-learner differentiated interaction patterns be less practiced. Instead, the opportunities should encourage an inquiry based curriculum implementation approach where learners will be given the opportunity to initiate activities as well as be at the center stage of interaction during instructions.

The results show that English Language was predominantly used during most of the lessons. This is unexpected considering that the Nigerian National Policy on Education stipulates that the medium of instruction at this level of education be principally the mother tongue or the language of the immediate environment of the pupils.

The results could be attributed to the relatively low social status accorded to the indigenous languages (L1) in a situation where English Language (L2) is the official language. Thus, most parents would want their children to be interacted with in English Language at school. In fact, responses from teachers interviewed during the study fieldwork indicate that the situation is such that parents tend to withdraw their children from schools where mother tongue is used as the medium of instruction. This practice is regardless of the fact that in most Nigerian homes, the pre-school child is not likely to have English spoken around him or her.

However, the government could do more to helping the situation. For instance, the government could consolidate and enforce the policy, which stipulates that Nigerian language of children's immediate environment should be used for instruction in pre-school classrooms. In addition, curriculum developers for mother tongue education have not really been encouraged in terms of material provision and funding. As a result, there is acute scarcity of books for children at the pre-school level in Nigerian languages. It was also observed (during the field work) that at school, the L2 appears to be a restricted code. For instance, during the data collection exercise, it was observed that the wide spread practice by the teachers during instruction was to go straight for English language. However, as the lesson progressed, a good proportion of the teachers tended to resort to the language, which both teachers and children know best (i.e. the language of the immediate environment).

The results also revealed that significant group differences tend to exist in use of instructional time and direction of communication respectively. The group differences, it would seem, were such that the less a teacher uses English language during instruction (i.e. the more the teacher uses Nigerian language) the more he or she is likely to facilitate learning, promote learning-facilitating activities among children as well as one-to-one directed communication (teacher to pupil; pupil to teacher). It has, however, been observed that instructing pre-schoolers using a language which they are not very familiar with and expecting them to think and speak with that foreign language can put enormous pressure on young learners (Helm and Gronlund, 2000). Pressure, according to Jensen(1998) can inhibit thinking as well as the level of active engagement of the learners during classroom interaction. Therefore, since concepts are more easily internalized in the language which the learner knows best, (Obanya, 2004), and since teacher-learner interactions are more easily promoted in situations where all those involved have no inhibitions themselves, it is explicable that teaching-learning activities in L1 is likely to reduce the problems of predominant one sided direction of communication (teacher to pupil) and teacher-centred activities that tend to characterize the teaching of numeracy in pre-school classrooms in Nigeria.

CONCLUSION

The results reported in this study provide an empirical basis for concern that pre-school education program in Nigeria may not be achieving its objectives that focus on inculcating in her children the spirit of enquiry and creativity through exploration as well as on teaching the rudiments of numbers, shapes and forms through play and other types of learner-centered activities. There is therefore a need to review and, perhaps, update the curriculum contents of teacher preparation and continuing education programs (in-service and professional support) in both theory and practice of teaching pre-schoolers. The essence is to produce teachers who can channel most aspects of the lesson time towards facilitating learning tasks at both individual and small group levels without delivering monologues, using negative reinforcement, causing confusion, etc. Such training and retraining programs should also be tailored towards equipping the teachers to master how to facilitate one-to-one communication flow (teacher to pupil and pupil to teacher) as well as how to encourage pupils to initiate activities and participate actively in classroom interactions during numeracy lessons.

More efforts should be made by policy makers and teacher educators to train and retrain teachers to enable them teach preschoolers in the language of their immediate environment. To facilitate this, the Federal government should encourage textbook writers by funding the publication of books written in Nigerian languages and making the books available to preschoolers to use. The government should also endeavour to enforce the policy that children in Nigerian preschool institutions should be taught in the Nigerian language of their school environment. In addition, the Nigerian public, particularly parents, should be reoriented to appreciate the educational benefits of teaching preschool children using Nigerian language of the children's environment.

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REFERENCES

Bourke, C. J.; Shapiro, B.J. and Anderson, L.W (1989) The IEA classroom environment Study edited by L.W. Anderson and B.J. Shapiro. Oxford Published for International Association for the Evaluation of Educational Achievement by Pergamon.

Bowman, B.T., Donovan, M.S., & Burns, M.S. (eds). (2001). Eager to Learn: Educating Our Preschool ers. Washington, DC: National Academy Press.

Brock-Utne, B. (2005). Learning through a familiar lan guage versus learning through a foreign language – a look into some secondary school classrooms in Tanzania. Paper presented at the Oxford International Conference 13 – 15 September 2006

Bruce, T. (1997). Early Childhood Education. 2nd Ed. Hod der and Stoughton Educational. Great Britain.

Chomsky, Noam. (1977). Essays on form and interpretation (Studies in linguistic analysis). North-Holland Pub lishing Company. New York.

Curtis, R. (1997). Classroom Interactions. Research Sum mary Paper. Http://www.gsu.edu/mstlls/resrc. htm

Duffy; J; Warren, K: Walsh, M (2001). Classroom Interac tions: gender of teacher, gender of student, and classroom subject-Statistical Data Included. Sex Roles: A Journal of Research. Downloaded from the Internet www.findarticles.com/p/articles.

Federal Republic of Nigeria (1998). National Policy on Education. 3rd Edition. NERDC Press. Yaba – Lagos, Nigeria.

Helm, J. H. and Gronlund, G. (2000). Linking Standard and Engaged Learning in the Early Years. Early Childhood Research and Practice. Vol.2 (1)

Jensen, Eric (1998). Teaching with the brain in mind. Al exandria, VA: Association for supervision and curriculum Development.

Katz, L. G. (1987) what should Young Children Be Learn ing? ERIC Digest. ED 290 554. ERIC Clearing house on Elementary and Early Childhood Educa tion Urbana IL. Downloaded from the Internet at www.ericfacility.net/databases/ERIC_Digest.

Kontos, S; Howes, C.; Shinn, M; & Galinsky, E. (1995). Quality in family childcare and relative care. New York: Teachers College Press, ED 390 536.

Obanya, P. A. I. (2004) Educating for the Knowledge Economy. Mosuro Publishers, Ibadan, Nigeria.

Ogunkola, B. J. (1998). Interaction Patterns in Primary School Science Classrooms in Ijebu-Ode, Ogun State, Nigeria. African Journal of Educational Research. Vol. 5, No. 1.

Okebukola, P. A. O. (1998b). "Intended, Implemented and Achieved Curriculum in Primary School classroom inNigeria". Journal of Education Studies, Vol. 21.

Okpala N.P. and Onocha C.O. (1988)"Classroom Interac tion Patterns: Nigerian Physics Teacher Trainees" Physics Education. A Journal of the British Institute of Physics), Vol. 23,No.5, pp 288-290.

Osanyin, F.A. (1998) "Mother as the first teacher". Journal of Early Childhood Association Nigeria, 1(1)

Prah, K.K. (2003). Going Native: Language of Instruction for Education, Development and African Eman cipation. Language of Instruction in Tanzania and South Africa (LOITASA). Brock-Utne, Desai and Qorro (eds.) E & D Publishers, Dar-es-Salaam.

Silberman, C.E. (1970): Crisis in the Classroom. Vintage Books New York.

UNESCO, Education for All (2001) A Framework for Action in Sub-Saharan Africa: Educa tion for African Renaissance in the Twenty-first Century. Adopted by the Regional Conference on Education for All for Sub-Saharan Africa Johannesburg, South Africa, 6-10 December 1999. Ac cessed from the Internet in August 4 2006 at http://www.unesco.org/education/efa/wef_2000/ regional_frameworks/frame_africa.shtml

Whitebook, M., Howes, C., and Philips, D (1989). Who cares? Child-care Teachers and the Quality of Care in America – Final Report of the National Child Care Staffing Study. Oakland, CA: Child Care Employee Project.

Wilcox-Herzog. A and Ward, L. S. (2004). Measuring Teachers Perceived Interactions with Chiildren: A tool for Assessing Beliefs and Intentions ECRP, Vol. 6(2). Downloaded from the Internet at http://ecrp.uiuc.edu/v6n2/herzog.html.

Vygotsky, L.S. (1986). Thought and Language. Edited by Alex Kozulin. The MIT Press, Cambridge, Massa chusetts, London, England.

Yoloye, E.A (1978). Evaluation for Innovation. African Primary Science Programme (APSP). University of Ibadan Press.

Appendix 1.

Table 1.1: Use of Instructional Time During Teaching of Numeracy In Pre-primary Classrooms In Nigeria.

S/No	Behaviour Category	Time (sec)	Percentage of Lesson Period	
A.	**Teacher Whole-Class Activities (Prompting Learning)**			
1.	Writing on the chalkboard	82	6.8	
2.	Demonstrating with materials	21	1.8	
3.	Explaining	96	8.0	
4.	Questioning	86	7.2	
5.	Giving directives	84	7.0	
6.	Getting ready for an activity	27	2.3	
7.	Reinforcing response	43	3.6	**51.2**
8.	Monitoring	37	3.1	
9.	Simulating	17	1.4	
10.	Modelling	8	0.7	
11.	Drawing on the chalkboard	16	1.3	
12.	Story telling	27	2.3	
13.	Distributing textual materials	59	5.0	
14.	Provider answers	8	0.7	
B.	**Pupil-Group Activity**			
15.	Reciting	47	3.9	
16.	Chorus response	60	5.0	
17.	Explaining	6	0.5	
18.	Demonstrating	3	0.2	
19.	Observing	19	1.6	
20.	Reading	49	4.1	**19.8**
21.	Counting	27	2.3	
22.	Singing	11	0.9	
23.	Role-playing	0	0.0	
24.	Structured play	0	0.0	
25.	Identifying	16	1.3	
C.	**Individual Pupil Activity**			
26.	Exploring	0	0.0	
27.	Reciting	3	0.2	
28.	Demonstrating	0	0.0	
29.	Observing	0	0.0	
30.	Questioning	0	0.0	
31.	Reading	16	1.3	
32.	Counting	8	0.7	
33.	Telling stories	4	0.3	**12.3**
34.	Singing	4	0.3	
35.	Writing	60	5.0	
36.	Drawing	5	0.4	
37.	Identifying	15	1.3	
38.	Painting	4	0.3	
39.	Free-flow play	0	0.0	
40.	Role play	0	0.0	
41.	Copying from the chalkboard	30	2.5	
D.	**Teacher Not Facilitating Learning**			
42.	Monologue (Teacher talking non-stop)	89	7.4	
43.	Pupils asked to shut up (silence)/ stop moving around	7	0.6	
44.	Punishing	11	0.9	
45.	Using negative reinforcement	3	0.2	**15.4**
46.	Not reinforcing correct response	15	1.3	
47.	Demonstrating without materials	2	0.2	
48.	Discussing with a visitor	3	0.2	
49.	Conversing with another teacher	5	0.4	
50.	Leaves the class unannounced	2	0.2	
51.	Grading work	46	3.8	
52.	Distracts attention (e.g. cell phone rings)	3	0.2	
E.	**Confusion**			
53.	Class disorganized	7	0.6	**1.3**
54.	Children wandering aimlessly	6	0.5	
55.	Children fighting	3	0.2	