

ISSN 0795-0065 Volume 13, No. 2 JUNE 2010

UNIVERSITY OF IBADAN LIBRARY

A PUBLICATION OF THE
DEPARTMENT OF EDUCATIONAL MANAGEMENT
UNIVERSITY OF IBADAN.

**AFRICAN JOURNAL OF
EDUCATIONAL MANAGEMENT**

ISSN 0795 – 0065

Volume 13, No. 2

June, 2010

UNIVERSITY OF IBADAN LIBRARY

A PUBLICATION OF THE DEPARTMENT OF
EDUCATIONAL MANAGEMENT,
UNIVERSITY OF IBADAN

EDITORIAL BOARD

S. O. Adedeji

Martins Fabunmi

Mobolaji Ogunsanya

Joel B. Babalola

David Olaniyan

Adeola O. Jaiyeoba

B. O. Emunemu

- Editor - in - Chief

- Editor

- Member

- "

- "

- "

- "

INTERNATIONAL BOARD

Gabriel Olubunmi Alegbeleye,
Dept. Of Lib., Archival &
Information Studies
University of Ibadan, Nigeria.

Michael Omolewa,
UNESCO,
Paris, France

John Hunt,
Southern Illinois University,
Edwardsvilles (SIUE),
Illinois, 6202, U.S.A.

John Morgan,
UNESCO Centre for Comparative
Educational Research (UCCER)
University of Nottingham, U. K.

Yaan Ankomah,
Institute of Educational
Planning & Administration,
University of Cape Coast,
Cape Coast, Ghana.

J.C.S. Musaazi,
East African Institute of Higher
Education Studies & Development,
Makerere University,
Kampala, Uganda

John Ike Nwankwo
UNESCO Regional Office
Dakar, Senegal.

J. O. Olambo,
Dept. of Educational
Administration, Planning &
Curriculum,
Kenyatta University,
Nairobi, Kenya.

Table of Contents

Resource Provision and Utilisation, Mathematical Ability and Learning Environment as Predictors of Achievement in Undergraduate Practical Geography Courses Adeola A. Amori	1	
Time Management among Managers in Organisations in Lagos State, Nigeria - Erwat, E. A. & Nwakanobi, E. I.	17	
Communicative Approach to the Teaching of Foreign Languages and Its Motivational Implications Araromi Maxwell Olakunle	29	urce e of uate aphy deral
Non-Formal Education and Workplace: A Strategy for Higher Productivity Achievement in Nigeria Momoh, A. M. & Ambode, A. A.	39	se of ssion sults t in
Pre-School Education in Nigeria: Discrepancies between Policy and Practice - Monica Odinko	51	inear tion, ility,
Community Education and Informed Participation in Community Development Mary Olufunke Adedokun	79	were ssues on in that
EFFECTS OF OUTDOOR ACTIVITIES AND GENDER ON STUDENTS' ENVIRONMENTAL KNOWLEDGE IN BIOLOGY Olagunju A. Morenike & Oloyede, Omolola O	95	s are and
Effects of Aggressive Behaviour, Perceived Self Efficacy and State Anxiety on Burnout among Student Union Leaders in Nigerian Tertiary Institutions Hammed T. Ayo	109	ed to ricula rtiary dent
Influence of Stigmatization on Psychosocial Well-Being of HIV/AIDS Orphans and Vulnerable Children in Oyo State, Nigeria Stella Olabisi Oladeji	125	onse g the chool ertain

UNIVERSITY OF IBADAN LIBRARY

Communication as Tool for Conflict Management and Conflict Resolution Olusola O. Isola	145
Sport as an Agent of Social Integration in Schools Ademola O. Abass	155
Peer Relations and School Involvement as Correlates of Early Adolescents' Adjustment after Transition to Junior Secondary School in Ibadan Oparah O.B., & Shipe I.T., Okoro E.N. & Umar T.I.	163
Study Habits, Examination Anxiety and Academic Achievement of Secondary School Students in Ibadan, Oyo State - Awoyemi A.E & Akinjobi O.R	185
The Relationship among the Educational Supervisory Agencies at the Three Tiers of Government in Nigeria Joshua O. Oni	195
Conflict in School Climate: A Synopsis of Its Nature, Causes, Effects and Management Approaches Martins Fabunmi & Chinyere N. Alimba	205
Implementation of Chemistry Practical Work in Senior Secondary Schools in Ogun State, Nigeria - B. O. Ogunleye	227

PRE-SCHOOL EDUCATION IN NIGERIA: DISCREPANCIES BETWEEN POLICY AND PRACTICE

Monica Odinko

Institute of Education, University of Ibadan, Ibadan, Nigeria.

Telephone Number: 00234 70322 76052

E-mail address: moniquengozi@yahoo.com

Abstract

The study evaluated pre-school education in Nigeria with respect to the nation's policy statements on this level of education and the extent to which the policy statements are being implemented. The variables of interest included pre-school teachers' instructional delivery modes, class size, and instructional material provision and use. The sample consisted of 93 pre-school teachers and 2859 pupils aged 4 - 5 years. Schools were selected through stratified random sampling to ensure adequate representation of private, public, urban and rural schools. Three valid and reliable classroom observational instruments were used to record instructional delivery in 216 lessons in 72 pre-primary classrooms. Data analysis involved the use of frequency, percentages, t-test, chi-square and graphical illustrations. The results revealed that teacher whole-class interaction characterized by direct instruction was the prevailing approach. Direction of communication was mainly from the teachers to the whole class, whereas the more personal one-to-one communication between teacher and pupil occurred less frequently; use of play did not feature; the class size ranged from 8 to 99; minimal or no instructional materials were used by the teachers during teaching-learning activities. The practice, which emerged, showed that great differences exist between policy recommendations and practice on what and how pre-school programmes should be organized in Nigeria and these may hinder our achieving the set out objectives for this level.

Key words: evaluation, pre-school education, Nigeria policy statements, instructional delivery modes.

Background to the Problem

The Government of Nigeria lays great emphasis on the cognitive developmental needs of Nigerian children in the last three decades. The reason behind this might be due to some research evidences on the importance of giving children appropriate stimulation during their formative years to ensure healthy development of their intellect (Bowman, Donovan and Burns, 2000; UNESCO, 1995). However, 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 during which time it was given a full recognition. Then, the government felt that tax payers' money should not be used to finance it but encouraged private individuals and organisations to be responsible for its provision. Further, 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 and ever since, Nigerian government's opinion towards the provision of pre-school education services has changed. This change appears to be based on the nation's national goals on education (Federal Republic of Nigeria, 1977), 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 children inside and outside the formal school system (sect. 1: 4c & 5c) (P. 6 -7).

Other reasons may include the resolutions made at the Convention on the Right of the Child United Nations General Assembly (1989), the World Summit for Children (1990) and EFA Global Monitoring Goals (UNESCO, 2000) to which Nigeria is a signatory.

Consequently, this level of education is presently viewed as "foundation stone and is considered indispensable to future or life-long education by the government" (Olorunfemi, 2000). Further, the policy document on the Universal Basic Education also prescribed that this level of education must be free, universal, compulsory, functional and qualitative (FRN, UBE, 2000). To accomplish this, the government has included pre-school education in the Universal Basic Education and has promised to provide appropriate types of opportunities for this level to be realistic. As a result, Nigerian Government is now directly involved in the establishment of pre-school institutions and is also saddled with the responsibility of:

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, 1977; 2004; section 2: article 12, p. 11).

The Federal Government of Nigeria has listed some aims and objectives, which the programmes aimed to achieve. The major objectives for which this level of education was incorporated in the policy document include to:

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; and teaching the rudiments of numbers, letters, colours, shapes, forms, etc. through play, among others (p. 11, section 13 a-e).

Measures taken to ensure that these objectives are achieved by providers of these services include to 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 teacher-pupil ratio

shall be 1:25; set and monitor minimum standards for early child-care 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 (FRN, 1977; 2004, p. 11-12). In order to achieve the outlined aims, National Educational Research and Development Council (NERDC) saddled with the responsibility of establishing minimum standards on types of Early Childhood Care Development Education (ECCDE) centres to be opened, nature of infrastructure, instructional materials, creation of a network of stakeholders for regulating and ensuring quality in different aspects of ECCDE centres and organization of regular monitoring and evaluation exercise was established (NERDC, 2002. p.4).

All these measures were put in place by the Nigerian government to ensure that pre-school provision in the country is of good quality in consonance with the recommendations of pre-school professional bodies, as well as individuals (UNESCO, 2005; Obanya, 2004; NAEYC, 1997; Bruce, 1997). They are of the view that providing quality pre-school education is a very important measure to ensuring that pre-school educational programmes actually lay solid foundations for the future learning and well being of those who are exposed to them.

Certain variables have been ascertained by pre-school advocates as crucial indicators of quality pre-school provision. Such indicators include adequate material provision and use (Association for Childhood Education International, 2002; Bruce, 1997; Montessorri, 1912); instructional delivery mode (Vandeyar and Killen, 2006; Yoon and Onchwari, 2006; Federal Republic of Nigeria, 2004); number of children per teacher (De Schipper, Riksen-Walraven and Geurts, 2006; Blatchford, Moriarty, Edmonds and Martin 2002; Nye, Hedges and Konstantouloulos, 2000;) among others. Many early childhood researchers and educators found that material provision at this level of education should be central to the early years environment (Varol and Farran, 2006; Bennett, Elliot and Peters, 2005). For instance, 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. Piaget also stressed that "hands-on manipulation of materials and real objects provide children at this stage with much information to assimilate and accommodate" (Henniger, 2005). The American 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).

With respect to class size, one of the reasons 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 is likely that the greater the number of children in a 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 and also 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 (Ndukwu, 2002; Howes, Phillips, and Whitebook, 1992). They also argued that teachers could be more sensitive and responsive in their interactions with children when there are fewer children per adult. This might be the reason educators as well as the governments of some countries, such as USA, recommend 1: 8 for children between the ages of 3 to 5 (Kontos and Wilcox-Herzog, 1997) and 1: 10 for children 3 to 7 in Scotland (The Scottish Executive, 2000).

Others found that during the pre-school years children learn through diverse ways and as a result recommended 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 (Wilcox-Herzog and Ward, 2004; Bowman, Donovan, and Burns, 2001) as well as learning by doing, inquiry/curiosity and interest, exploration, experiment and discovery, natural active hands on experience, (Edwards, 2006; Yoon and Onchwari, 2006; Regional Training and

Resource Centre, Africa, 1995) as good instructional delivery modes for this level of education. Further, Delpit (1995) is of the opinion that teacher directed approaches also yield good results whereas learning through story-telling, through prints, rhymes and songs were seen as a good approach (NAEYC, 2002; Howes, James, and Ritchie, 2003; FRN, 2004).

This background thus underscores the need to carry out a study that will provide a literature base on how Nigerian pre-school providers fared with respect to the extent to which the existing pre-schools in Nigeria are implementing the government's policy statements, as well as adhering to the recommended practices by pre-school educators and researchers. More specifically, the study aimed at providing answers to the following research questions:

- 1a. What are the prevailing instructional delivery modes and teaching-learning materials available while teaching the three core subjects in the curriculum in Nigeria pre-primary classroom?
- b. Are there significant differences in the prevailing instructional modes (use of instructional time and direction of communication) observed while teaching the three core subjects in the curriculum: literacy skills, numerical skills and science?
2. Do the prevailing instructional delivery modes observed depend on Class size?

Methodology

Sample

The sample size consisted of 2859 pupils aged 4 to 5 years and 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 schools in urban and rural locations were used in order to reflect ownership/location. Discrepancy existed 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 taken 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.

Instruments

The collection of data involved using three observational instruments (Classroom Interaction Sheet, CIS, Ten-Minute Interaction Instrument, TMI and Instructional Material Provision and Use Checklist, IMPUC) to code instructional delivery modes in 216 lessons in literacy, numeracy and science. 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 coded for the CIS and the TMI respectively during each thirty-minute lesson. The IMPUC was developed by the researcher based on the views of early childhood researchers (Montessori, 1912; Bruce, 1997).

Before this study, the original instruments (CIS/TMI) 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; Bourke, Hildyard, and Anderson, 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 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-rater 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 was visited twice (habituation and the real observation day on which the analysis was focused). Using observation method as a data collection device in a study of this nature requires that the observer be present in classrooms with the participants 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). In consequence, the investigator sought ways to reduce the possible impact of the fore-listed source of methodological challenge. 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 day. The visits prior to the actual observation day 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 to reduce the observer's effect.

Each lesson was coded for thirty minutes using the 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 whereas the IMPUC was used to record the instructional materials provided and those used during instructional delivery activities. 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 whereas the IMPUC was used to code the materials provided and used during instruction in the classrooms used. Data analysis involved the use of frequency, percentage, t-test, chi-square and graphical illustrations because the data was nominal in nature.

Results and Discussions

Prevailing Instructional Approaches

The instructional approaches that characterize the prevailing instructional delivery modes in Nigerian pre-primary school classrooms are in Figure 1.

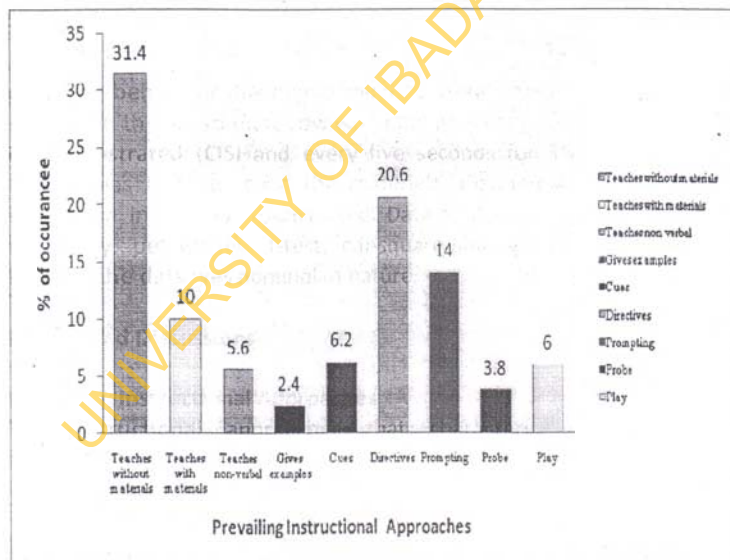


Figure 1: Instructional approaches prevalent in the pre-school classrooms used.

As indicated in Figure 1 above, the instructional approaches that focus on “teaches/explains without materials” (31.4%) and “directives”(20.6%) tend to characterize the prevailing interaction patterns. The Figure, however, acknowledges the occurrence, though less frequently, of other instructional approaches such as “teaches with materials writing on the chalkboard”(10.0%), “prompting”(14.0%), “cues”(6.2%), “play” (6.0) “teaches non-verbal”(5.6%), “probe”(3.8%) and “gives example”(2.4%).

The major instructional materials that were prevalent in Nigerian pre-school classrooms are shown in Figures 2.

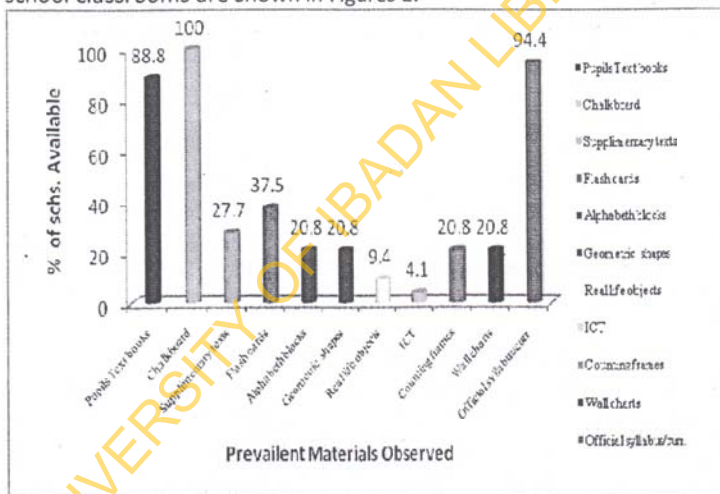


Fig. 2: Prevailing Instructional Materials Available

As shown in Figure 2, the instructional materials that featured most prominently in all the classrooms used was chalkboard (100%). This was followed by the official syllabuses/curricular (94.4%) and availability of pupils text and workbooks (88.8%). While only 37.5% of the classrooms had flashcards (27.7%), 20.8 had alphabet blocks, geometric shapes and counting frames respectively, whereas only 9.4% and 4.1% of the classrooms used had real life objects and ICT materials provided.

Extent of Use

The findings are illustrated pictorially in Figures 3.

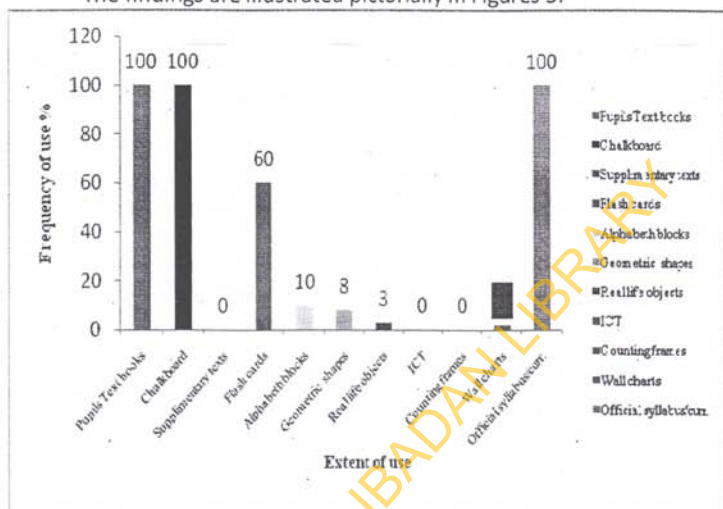


Figure 3: Extent of using the instructional materials provided in the pre-school classrooms

As shown in Figure 3, most of the teachers (100%) tend to use pupils' recommended text and workbooks, chalkboard and official syllabuses/curricular all the time; whereas flashcards were used by (60%) of the teachers while teaching. However, the figure also indicated that alphabet blocks, geometric shapes, real life materials as well as wall charts were minimally used (10%, 8%, 3%, 2%) respectively, whereas supplementary books, ICT materials and counting frames though provided were not used at all during instruction.

Difference in the Prevailing Interaction Patterns while Teaching the Three Core Subjects

- **Subject-Based Group Differences in Use of Instructional Time**

The data on differences in the interaction patterns (use of instructional time) while teaching the three core subjects are presented in Table 1. The Table shows that significant group differences (based on one-way

ANOVA; $p < 0.05$) in the use of instructional time were observed on only 13 of the 55 subcategories (22.8%). 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, the Table shows that the use of instructional time associated with the behaviour sub-categories/activities that do not facilitate learning tends not to be sensitive to classroom delivery involving the three core subjects.

Table 1 : Summary of Analysis of Variance of Use of Instructional Time by Core Subjects

UNIVERSITY OF IBADAN LIBRARY

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

*Significant at the 0.05 level

More specifically, the results of further analysis based on Scheffe post-hoc comparison test showed 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/science); giving directives (numeracy/science); monitoring (literacy/science and numeracy/science); drawing on the chalkboard (numeracy/science); distributing textual materials (numeracy/science); provides answer (literacy/science); whole-class/group reading aloud (literacy/science and numeracy/science); counting aloud (literacy/numeracy and numeracy/science); chorus response (numeracy/science and literacy/science); individual pupil drawing (numeracy/science); counting aloud (literacy/numeracy and numeracy/science); writing (literacy/numeracy and numeracy/science); and reading aloud (literacy/science). It would, thus, seem that the cases of observed significant differences in the use of instructional time emanated from mostly between science lessons and literacy/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/numeracy lessons than during science lessons. These differences are illustrated in Figure 4.

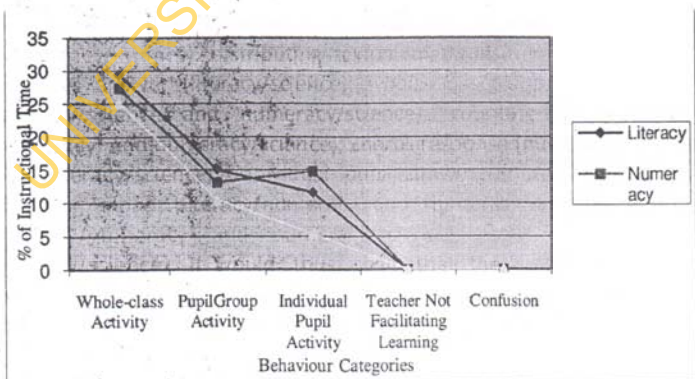


Figure 4: Subject-Group Differences in Use of Instructional Time Across Behaviour Categories

Subject-Based Group Differences in Direction of Communication

There were significant group differences (based on the core subjects) in the direction of communication. As indicated in Table 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 2: Subject-Based Group Differences in Direction of Communication

Direction of Communication	Core Subjects			Total	χ^2
	Literacy	Numeracy	Science		
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; $df. = 2$).

Class size-Group Differences in Prevailing Instructional Modes (use of instructional time and direction of communication)

• Use of Instructional Time

The data on differences in the interaction patterns (use of instructional time) across small (8-25), medium (26-40) and large (41-90) class sizes are presented in Table 1. The Table shows that significant group differences in the use of instructional time (based on one-way NOVA ; $p < 0.05$) were observed on only 7 of the 55 subcategories (12.3%). The Table 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.

Table 3: Summary of Analysis of Variance of Use of Instructional Time by Class size

Behaviour category	Sub-	Source of Variation	df	SS	MS	F-ratio
Teacher writing on the chalkboard		Between group	2	235.39	167.69	4.12*
		Within group	213	8669.95	40.70	
		Total	215	9005.34		
Pupil group exploring		Between group	2	39.52	19.76	3.84*
		Within group	213	1097.44	5.12	
		Total	215	1136.96		
Pupil group silence		Between group	2	15.04	7.52	5.48*
		Within group	213	292.30	1.37	
		Total	215	307.34		
Individual pupil writing		Between group	2	767.19	383.60	3.50*
		Within group	213	23365.46	109.70	
		Total	215	24132.65		
Individual pupil identifying		Between group	2	162.36	81.18	3.55*
		Within group	213	4865.47	22.84	
		Total	215	5027.83		
Class disorganized		Between group	2	130.30	65.15	7.89*
		Within group	213	1759.62	8.26	
		Total	215	1889.92		
Teacher grading work		Between group	2	50.50	25.25	4.02*
		Within group	213	1339.38	6.29	
		Total	215	1389.88		

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

More specifically, the results of further analysis based on Scheffe post-hoc comparison test showed that the identified differences in the use

of instructional time emanated from mostly between small class size and medium/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 5.

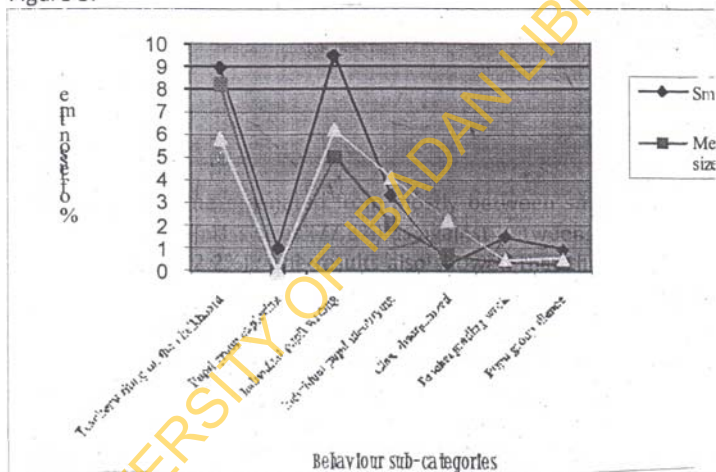


Figure 5: Class size-Group Differences in use of Instructional Time Across Behaviour Categories

• Direction of Communication

The grouping factor (class size) was classified into three: small (8-25 pupils), medium (26-40 pupils), and large (41-90 pupils). 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 results on class-group differences in the direction of communication are presented in Table 3. From the Table, the prevailing direction of communication in Nigerian preschool

classrooms was not sensitive to class size $\chi^2 = 0.80$; $p > 0.05$, non-directional test).

Table 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; $df = 1$).

Discussion

The pattern of classroom instructional delivery modes in the study, where teacher-centred activities were 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 pre-school 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 and Bhargava, 2002; Vandeyar and 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 centred instructional activities" (e.g. giving directives, explaining, providing answers, drawing on the chalkboard as well as in whole-class related activities, among

others) is not at par with the recommended practice (Lerach, 2003; Ogunsanwo, 2000; FRN, 1977 – 2004; Montessori, 1912), which emphasizes the use of. These practices 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 (FRN, 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 with enough teaching-learning materials provided 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 many signs of pre-schoolers' active participation during the lessons observed.

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 (FRN, 2004). The use of play method/approaches while introducing pre-school children to school related activities has been universally recommended (UNESCO, 2006; Almon, 2004; Montague-Smith, 2002; Aremu, 2000; NAEYC, 1998). The benefits of play methods in aiding pre-schooler's all-round development have been emphasized (Lerach, 2003; Afuwape, 2003; Bergen, 2001). Considering the benefit accruing through the use of play, pre-school teachers in Nigerian should 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.

The results also indicate that significant differences, based on the core subject under consideration, tend to exist in the prevailing instructional modes across some of the behaviour sub-categories. The differences, it would seem, were such that for the sub-categories, 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, is more activity-oriented with some extra demands on hands-on-experience.

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 pre-school 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's (2002) study 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 basis, as well as be the focus of a teacher's attention.

Pre-school advocates have identified teaching pre-schoolers without materials as a non-facilitating instructional method for children at this age level (Montessori, 1912; 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). The report, however, corroborates the findings of Abidoye (1998) and Apampa (1998) twenty-one years ago which revealed that the 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 pre-schoolers (Almon, 2004; Aremu, 2000; Bowman et al, 2001; Ogunsanwo, 2000; Bergen, 2001).

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 ensure through educational monitoring and evaluation departments that pre-school classroom practices are monitored.

Conclusion

The practice, which emerged, showed that great differences exist between policy recommendations and practice on what and how pre-school programmes should be organized in Nigeria. The interesting thing about the findings is that the differences observed occurred in both government owned and privately owned schools. For instance, all the schools used did not adhere to the prescribed class-size. 95 per cent of the schools used had more than the recommended class-size of 25 children to one teacher recommended by the government.

These findings are important because it will serve as an empirical base for the Nigerian government to know that the providers of this service as well as practising pre-school teachers are far from incorporating the recommended practices into the Nigerian pre-school

settings. The results reported in this paper 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).

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. It would also seem that the intensity of the expressed needs tends to be greater for effective teaching of science and numeracy skills than for literacy skills. This corroborates the findings of David (1996) and Ofsted (1998a). The Federal Government of Nigeria should ensure through its monitoring and evaluation unit that providers comply with the policy statements.

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).
- fuwape, 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.
- 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>.
- Apampa, O.S. (1998). Quality and Quantity of Education of the Nigerian Child. *Journal of Early Childhood Association of Nigeria (JECAN)*, Vol. 1(1).

- Aremu, A. (2000). Development of Environmental Friendly Attitudes in Children through the Use of Games. *Journal for Early Childhood Education*, Vol. 2, pp. 72-81.
- Association for Childhood Education International, (2002). *Global Guidelines for Early Childhood Education and Care in the 21st Century*.
- Bennett, P., Elliot, M. and 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>.
- 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.
- 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.
- Bruce, T. (1997). *Early Childhood Education*: London. Hodder & Stoughton.
- David, T. (1996). Nursery Education and the National Curriculum, in T. Cox (ed.) *The National Curriculum and the Early Years*. London: Falmer Press.
- 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.
- Edwards, C.P. (2003). 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 from the Internet at http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B Accessed June 2006.
- Ezeokoli, F. (2003). "Consideration in Teaching English Language in Nigerian Primary Schools in Lawal, B.E. (Ed.) *The Nigerian Language Literature*. Stirling-Horden Publishers Ltd. Pp. 201 – 249.
- Federal Republic of Nigeria (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.
- 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.
- allas, K. (1995). *Talking their way into science: Hearing children's questions and theories, responding with curricula*. New York: Teachers College Press.
- 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.
- Helm, J.H. and 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.
- Howes, C., James, J., and Ritchie, S. (2003). Pathways to effective teaching. *Early Childhood Research Quarterly*, 18, 104 –120.

- Howes, C., Philips, D. and Whitebook, M. (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.
- Jegede, T. O. (2004). *Utilization of Instructional Materials in Oyo State Primary Schools*. Unpublished M.Ed. Project, University of Ibadan, Nigeria.
- Kerlinger, F. N. and Lee, H. B. (2000). *Foundations of Behavioural Research*. 4 TH Ed. Earl McPeck, USA King,
- Kirova, A. and 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/v4n1/kirova.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.
- 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.
- 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.
- National Association for the Education of Young Children (NAEYC, 1997). *Developmentally Appropriate Practice in Early Childhood 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.naeyc.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.
- 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. and 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, 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).
- 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.
- Okpala N.P. and Onocha C.O. (1988). "Classroom Interaction Patterns: Nigerian Physics Teacher Trainees" *Physics Education. A Journal of the British Institute of Physic*, 23, (5), 288-290.
- Olorunfunmi, M.O.A. (2000). *Education For All: The Year 2000 Assessment Nigeria*, Federal Ministry of Education, Shehu Shagari Way, Abuja.

- Osokoya, I.O. (1989). *History and Policy of Nigerian Education in World Perspective*. AMD Publishers, Agodi, Ibadan.
- 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.
- The Scottish Executive, (2000). *Regulation of Early Education and Childcare: The Way Ahead*. Crown copyright 2000, Edinburgh.
- Tizard, B. and Hughes, N. (2002). *Young Children Learning: understanding children's worlds*. 2nd (eds). Blackwells Publishers, UK, USA.
- 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, (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, (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.
- 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>
- Universal Basic Education, (UBE, 2000). *Education Today*. A Quarterly Journal of the Federal Ministry of Education, Vol. 8, No. 2.
- Vandeyar, S. and 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. DOI: 10.1007/S10643-006-0060-8.
- Wilcox-Herzog, A. and 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>.
- 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.

UNIVERSITY OF IBADAN LIBRARY