



## **Managing Material Resources For Effective Teaching And Learning In Early Childhood Education In Rivers State**

**Dr. Mrs. O. T. Amie-Ogan & Osazuwa, Chinyelu Cordelia**

**Department of Educational Management**

**Faculty of Education**

**Rivers State University, Port Harcourt, Nigeria**

**[Opunne@gmail.com](mailto:Opunne@gmail.com) 08036709198, [Chylewis7@gmail.com](mailto:Chylewis7@gmail.com) 08029427222**

### **ABSTRACT**

This study investigated the strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State. Three research questions and three hypotheses guided the study. The descriptive research design was used. The population for the study was 510 public Early Childhood Education Centres (ECEC) in Rivers State with 2547 teachers. A sample size of 225 ECEC, 743 teachers and 225 head teachers totaling 968 respondents was used for the study. Stratified random sampling technique was used to draw the sample size. A self-designed questionnaire titled: “Managing Material Resources for Effective Teaching and Learning Questionnaire (MMRETLQ)” was used to collect data from the respondents. The instrument was validated by three experts while Cronbach alpha was used to achieve a reliability index of 0.79. Mean and standard deviation was used to answer the research questions while z-test was used to test the hypotheses. Findings among others showed that material resources should be used based on the manufacturers’ manuals, and selection of suitable locations within the school for children’s activities should be prioritized. Some recommendations made were: head teachers should use routine maintenance, preventive maintenance, appropriate storage and monitoring strategies as part of their prioritized plans for toys, instructional aids, school buildings and facilities in early childhood centres in Rivers State.

**Key words:** material resources, planning, controlling, early childhood

### **INTRODUCTION**

Early childhood education is the formal training given to children between the ages of one to five. The Federal Government of Nigeria (2014, p. 7) in her National Policy on Education defined early childhood education “as the education given in an educational institution to children prior to their entering the primary school”. It also stated that the purpose of early childhood care/education shall be to: effect a smooth transition from the home to the school; prepare the child for the primary level; provide adequate care, supervision and security for the children while their parents are at work; inculcate social and moral norms; inculcate in the child the spirit of enquiry and creativity through the exploration of nature, the environment, art, music and the use of toys etcetera; to develop a sense of cooperation and team spirit; to stimulate in the child good habits, including good health habits and teach the rudiments of number, letters, colours, shapes, forms” etcetera. This level of education is the foundation for inculcating social values and personal habits which are known to last a lifetime.

Early childhood education therefore, is a critical period for developing the brain to be able to handle information, express emotions normally and be proficient in language. Ajala (2012) stated that, if early childhood education was not supported by stimulating and enriching physical and social environment, the chances of a child’s brain developing to its full potential was slim. It is basically a period for establishing the foundation for the general improvement of the child. Most significantly, the experience of a child in transition to primary education is critical because what is learnt, prior to primary school, needs to be sustained for the child to do well later in life. Thus, the formative years of a child is very paramount and of great value to the child and the society in general. A key element in

the delivery of quality early childhood education is the provision of adequate quality material resources.

Material resources are physical resources utilized by educational institutions in the process of implementing educational programmes. They act as ancillaries for the achievement of educational goals and objectives. Educational material resources are an integral part of a well-organized school system. It could be described as any material used to facilitate the overall teaching and learning process in schools. They include textbooks, visual aids, charts, maps, chalkboard/whiteboard, playground and other materials applicable in the education system. Abdulkareem and Fasasi (2013) sees material resources as the tangible resources that can easily be seen and observed in any educational institution, such as classroom, staff office, vehicles, health centres, library, instructional facilities and so on which directly or indirectly contributes to the achievement of educational goals and objectives.

Material resource management in early childhood centres is therefore the process of ensuring that building and other technical systems support the operations of the school. The material resources in pre-schools are very essential. They are needed for the realization of the objectives of that level of education. Material resource management in early childhood centres is aimed at evaluating the physical conditions of existing facilities in schools in order to keep abreast with today's challenges (Adetoro, 2011). It is a tactical planning tool for modernization of the existing facilities as well as developing helpful measures for continuous maintenance, reconstruction and rejuvenation. Therefore management of material resources in classroom setting involves the application of scientific methods of planning, organizing, decision making, coordination and controlling of the physical environment of practical learning for the actualization of the educational goals and objectives (Asiabaka, 2008). The role of a material auditor is needed in the management of the material resources in schools. Resource management in early childhood centres involve a coordinated effort to effectively manage the available material resources in the school to promote learning through careful planning, organizing and controlling.

Material resource management starts from the planning of such resources. Planning for material resources in the early childhood centres entail thinking ahead and deciding on actions to take in using the instructional materials and facilities to improve learning in the school. Organization of material resources is also an important responsibility of the preschool administrators in managing resources. It implies arranging or putting the required material resources in order; which will take into consideration the materials to be used, the time of use and the activities or play to be performed. Controlling involves seeing that material resources are used according to specifications and secondly taking remedial actions when needed to prevent unsatisfactory results. Material resource management in schools has a direct impact on the teaching and learning process and is a key determinant of educational outcomes. It is against this backdrop that this study focused on the management of material resources in early childhood education.

### **Statement of the Problem**

Early childhood education is given to children in preparation for primary school education. It includes the crèche, the nursery and the kindergarten. The objectives of preschool education includes providing a smooth transition from home to school, providing adequate care and supervision for the children when parents are at work and preparing children for primary education amongst others. The school system may not be able to attain these set out objectives without proper management of materials resources. However it was observed that some of the material resources in early childhood centres are not well utilized, organized and stored by the care givers. Some of the materials are damaged and not replaced in some schools while in other schools they are either not available or properly stored for easy access to preschoolers. This scenario makes the cognitive, psychomotor and affective development of the child to be elusive. Based on the aforementioned, the researchers decided to proffer solution in managing early childhood education in Rivers State.

### **Purpose of the Study**

The purpose of the study was to investigate managing material resources for effective teaching and learning in early childhood education in Rivers State. Specifically the study sought to:

1. determine the planning strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State
2. investigate the organizational strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State

3. determine the controlling strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State

### **Research Questions**

The following research questions guided the study.

1. What are the planning strategies needed for the management of material resources for effective teaching and learning in early childhood education?
2. What are the organizational strategies needed for the management of material resources for effective teaching and learning in early childhood education?
3. What are the controlling strategies needed for the management of material resources for effective teaching and learning in early childhood education?

### **Hypotheses**

The following hypotheses were tested at 0.05 level of significance in the study:

- H<sub>01</sub>: There is no significant difference between the mean opinion scores of teachers and head teachers on the planning strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State
- H<sub>02</sub>: There is no significant difference between the mean opinion scores of teachers and head teachers on the organizational strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State
- H<sub>03</sub>: There is no significant difference between the mean opinion scores of teachers and head teachers on the controlling strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State

### **METHODOLOGY**

The research design used for this study was the descriptive survey design. The population for the study was the 510 public Early Childhood Education Centres (ECEC) in Rivers State, 510 head teachers and 2037 teachers; totaling 2547 respondents. A sample size of 225 ECEC representing 44% of the population was used. Stratified random sampling technique using balloting without replacement was used to draw a sample of 225 head teachers and 734 teachers totaling 968 respondents. A self-designed questionnaire titled: "Managing Material Resources for Effective Teaching and Learning Questionnaire (MMRETLQ)" was used to collect data from the respondents. The instrument had two (2) sections, sections A and B. Section A dealt with demographic information while Section B had 26 items. The response pattern of the items was a structured four (4) point rating scale of Strongly Agree (SA), Agreed (A), Disagreed (D) and Strongly Disagreed (SD) with values 4, 3, 2 and 1 respectively. Cronbach alpha reliability technique was used to determine and obtain a reliability index of 0.79. Mean statistics was used to answer the research questions. The criterion mean was 2.50. Questionnaire items with ratings below 2.50 denotes 'Disagree' while 2.50 and above signifies 'Agree'. The hypotheses were tested using z-test statistics at 0.05 level of significance. Any response therefore, with a calculated z-value above the z-critical value of  $\pm 1.96$  was rejected and below  $\pm 1.96$  was accepted.

**RESULTS**

**Research Question 1:** *What are the planning strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State?*

**Table 1: Mean responses of teachers and head teachers on planning strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State.**

S/N	Questionnaire Items	Teachers		Head Teachers		Mean Set	Rank Order	Remark
		$\bar{X}_1$	$SD_1$	$\bar{X}_2$	$SD_2$			
1	Material resources should be planned for based on current pupils' enrolment	2.75	0.89	2.79	0.88	2.78	7 <sup>th</sup>	Agree
2	Material resources should be used based on the manufacturer's manuals.	2.76	0.87	3.21	0.79	3.00	1 <sup>st</sup>	Agree
3	Standards should not be compromised for provision of material resources in the centres	2.84	0.88	2.80	0.88	2.82	5 <sup>th</sup>	Agree
4	There should be a plan for routine maintenance of available materials in the centres	2.91	0.88	2.76	0.88	2.84	2 <sup>nd</sup>	Agree
5	Selecting suitable location within school for children activities should be prioritized	2.92	0.87	2.76	0.86	2.84	2 <sup>nd</sup>	Agree
6	Selecting toys and other instructional materials based on age of the pupils is important	2.77	0.89	2.74	0.89	2.76	8 <sup>th</sup>	Agree
7	Teachers and minders should be assigned responsibility roles on the proper use of toys by pupils	2.41	0.49	2.40	0.49	2.41	10 <sup>th</sup>	Disagree
8	Equipment and materials should be planned based on the preschool curriculum	2.90	0.85	2.68	0.83	2.79	6 <sup>th</sup>	Agree
9	Decisions should be taken on the methods of storage required for materials used in the centers	2.92	0.82	2.74	0.83	2.83	4 <sup>th</sup>	Agree
10	Maintenance schedule should be developed for regular maintenance of tools, equipment and machines	2.79	0.81	2.40	0.89	2.60	9 <sup>th</sup>	Agree
<b>Aggregate</b>		<b>2.80</b>	<b>0.83</b>	<b>2.73</b>	<b>0.82</b>	<b>2.77</b>		<b>Agree</b>

Table 1 above revealed that all items except item 7 on planning strategies were rated by the respondents above the criterion mean of 2.50. This signifies that all the items except item 7 on planning strategies are effective in the management of material resources for effective teaching and learning in early childhood education.

**Research Question 2:** *What are the organizational strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State?*

**Table 2: Mean responses of teachers and head teachers on organizational strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State.**

S/N	Questionnaire Items	Teachers		Head Teachers		Mean Set	Rank Order	Remark
		$N_1 = 743$ $\bar{X}_1$	$SD_1$	$N_2 = 225$ $\bar{X}_2$	$SD_2$			
11	Arranging materials resources based on form and colour to captivate pupils interest	2.92	0.87	2.76	0.87	2.84	1 <sup>st</sup>	Agree
12	Storing materials before and after use	2.80	0.88	2.84	0.88	2.82	2 <sup>nd</sup>	Agree
13	Taking inventory of materials that are no longer in use and those that need repairs	2.79	0.81	2.80	0.88	2.80	3 <sup>rd</sup>	Agree
14	Appropriate arranging materials in order of utilization is an organization strategy for managing material resources	2.77	0.89	2.74	0.89	2.76	7 <sup>th</sup>	Agree
15	Instructional material are categorize under indoor and outdoor materials	2.76	0.86	2.76	0.86	2.76	7 <sup>th</sup>	Agree
16	Materials should be used for activities they are made for	2.84	0.88	2.74	0.89	2.79	5 <sup>th</sup>	Agree
17	Materials should be organized to facilitate movement of people in the classroom	2.68	0.83	2.92	0.82	2.80	3 <sup>rd</sup>	Agree
18	Methods of storage, and security of tools and equipment are important in material resources management	2.90	0.85	2.68	0.83	2.79	5 <sup>th</sup>	Agree
19	Predictive maintenance of materials should be adopted to avoid breakdown of material resources	2.77	0.82	2.74	0.83	2.76	7 <sup>th</sup>	Agree
	<b>Aggregate</b>	<b>2.80</b>	<b>0.85</b>	<b>2.78</b>	<b>0.86</b>	<b>2.79</b>		<b>Agree</b>

Table 2 showed that all items on organizational strategies were rated by the respondents above the criterion mean of 2.50. This signifies that all the items on organizational strategies are effective in the management of material resources for effective teaching and learning in early childhood education.

**Research Question 3:** *What are the controlling strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State?*

**Table 3: Mean responses of teachers and head teachers on controlling strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State.**

S/N	Questionnaire Items	Teachers		Head Teachers		Mean Set	Rank Order	Remark
		$N_1 = 743$ $\bar{X}_1$	$SD_1$	$N_2 = 225$ $\bar{X}_2$	$SD_2$			
20	Assigning competent store officer to be responsible for the security of toys and instructional materials	2.76	0.86	2.68	0.83	2.72	5 <sup>st</sup>	Agree
21	Monitoring the movement of instructional materials is important	2.70	0.78	2.79	0.81	2.75	3 <sup>rd</sup>	Agree
22	Detecting misuse of materials with the view to check on such demeanor	2.79	0.81	2.64	0.83	2.72	5 <sup>th</sup>	Agree
23	Making necessary corrections in the conduct of pupils while using material resources	2.74	0.89	2.92	0.82	2.83	1 <sup>st</sup>	Agree
24	Preventing damage to the materials and available facilities in the school should be given premium	2.55	1.03	2.49	0.50	2.52	7 <sup>th</sup>	Agree
25	An identification system should be put in place to deter material resources theft.	2.84	0.88	2.70	0.78	2.78	2 <sup>nd</sup>	Agree
26	Pupils should be regularly monitored and guided in the use of appropriate material resources	2.92	0.82	2.56	1.03	2.74	4 <sup>th</sup>	Agree
	<b>Aggregate</b>	<b>2.76</b>	<b>0.87</b>	<b>2.68</b>	<b>0.80</b>	<b>2.72</b>		<b>Agree</b>

Table 3 above showed that all the items on controlling strategies were rated by the respondents above the criterion mean of 2.50. This signifies that all the items on controlling strategies are effective in the management of material resources for effective teaching and learning in early childhood education.

**Hypotheses**

**H<sub>01</sub>:** There is no significant difference between the mean opinions of teachers and head teachers on the planning strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State.

**Table 4: z-test analysis of difference between the mean opinion scores of teachers and head teachers on the planning strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State.**

Respondents	N	X	SD	Df	SL	z-cal.	z-cri.	Decision
Teachers	743	2.80	0.83	966	0.05	1.12	±1.96	No Significant difference
Head Teachers	225	2.73	0.82					
<b>Total</b>	<b>968</b>							

Table 4 shows a summary of mean, standard deviation and z-test of difference between the mean opinions of teachers and head teachers on the planning strategies needed for the management of material resources for effective teaching and learning in early childhood education. The z-test

calculated stood at 1.12 while the z-critical value was  $\pm 1.96$ , using 966 degrees of freedom at 0.05 alpha level of significance. Since the z-calculated is less than the z-critical, the null hypothesis was accepted. This infers that, there is no significant difference between the mean scores in opinions of teachers and head teachers on the planning strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State.

**H<sub>02</sub>:** There is no significant difference between the mean opinion scores of teachers and head teachers on the organizational strategies needed for the management of material resources for effective teaching and learning in early childhood education Rivers State.

**Table 5: z-test analysis of difference between the mean opinion scores of teachers and head teachers on the organizational strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State.**

Respondents	N	X	SD	Df	SL	z-cal.	z-cri.	Decision
Teachers	743	2.80	0.85	966	0.05	0.32	$\pm 1.96$	No significant difference
Head Teachers	225	2.73	0.86					
<b>Total</b>	968							

Table 5 shows a summary of mean, standard deviation and z-test of difference between the mean opinions of teachers and head teachers on the organizational strategies needed for the management of material resources for effective teaching and learning in early childhood education. The z-calculated is 0.32 while the z-critical value was  $\pm 1.96$ , using 966 degrees of freedom at 0.05 alpha level of significance. Since the z-calculated is less than the z-critical, the null hypothesis was accepted. This infers that, there is no a significance difference between the mean opinion scores of teachers and head teachers on the organizational strategies needed for the management of material resources for effective teaching and learning in early childhood education.

**H<sub>03</sub>:** There is no significant difference between the mean opinions of teachers and head teachers on the controlling strategies needed for the management of material resources for effective teaching and learning in early childhood education Rivers State.

**Table 6: z-test analysis of difference between the mean opinion scores of teachers and head teachers on the controlling strategies needed for the management of material resources for effective teaching and learning in early childhood education in Rivers State.**

Respondents	N	X	SD	Df	SL	z-cal.	z-cri.	Decision
Teachers	743	2.76	1.16	966	0.05	1.29	$\pm 1.96$	No significant difference
Head Teachers	225	2.68	1.19					
<b>Total</b>	968							

Table 6 shows a summary of mean, standard deviation and z-test of difference between the mean opinions of teachers and head teachers on the controlling strategies needed for the management of material resources for effective teaching and learning in early childhood education. The z-test statistics calculated stood at 1.29 while the z-critical value was  $\pm 1.96$ , using 966 degrees of freedom at 0.05 alpha level of significance. Since the z-calculated is less than the z-critical, the null hypothesis was accepted. This infers that, there is no significance difference between the mean opinion scores of teachers and head teachers on the controlling strategies needed for the management of material resources for effective teaching and learning in early childhood education.

## DISCUSSION OF FINDINGS

Findings on research question 1 showed that planning strategies needed for the management of material resources for effective teaching and learning in early childhood education were: that material resources should be used based on the manufacturers manuals; there should be a plan for routine maintenance of available materials in the centres, selecting suitable location within school for children activities should be prioritized, decisions should be taken on the methods of storage required for materials used in the centers, Standards should not be compromised for provision of material resources in the centres, equipment and materials should be planned based on the preschool curriculum, Materials resources should be planned for based on current pupils' enrolment, selecting

toys and other instructional materials based on age of the pupils is important and maintenance schedule should be developed for regular maintenance of tools, equipment and machines with a grand mean of 2.77. This is in agreement with Izuagie (2015) who opined that the following planning skills are needed for the management of material resources in pre-school via determining children instructional activities in the pre-school, planning toys and facilities in the pre-school based on current students' enrolment; setting standard for provision of toys and providing adequate number of toys and instructional materials for effective use by the preschoolers. The findings of this study also collaborated with the report of New Jersey State Department of Education (2009) which identified the major planning skill needed by teachers to include identifying the material resources to be used to foster instruction amongst others. Planning activities are the bedrock of any successful management of material resources.

Findings on research question 2 revealed that: arranging materials resources based on form and colour to captivate pupils' interest, storing materials before and after use, taking inventory of materials that are no longer in use and those that need repairs, organizing materials to facilitate movement of people in the classroom, materials being used for activities they are made for, methods of storage, and security of tools and equipment, appropriate arrangement of materials in order of utilization and adoption of predictive maintenance of materials in order to avoid breakdown of material resources were organizational strategies needed for the management of material resources for effective teaching and learning in early childhood education with a grand mean of 2.79. This is in agreement with Ogbuanya, Nweke and Ugwoke (2017) whose independent study revealed some organizational strategies needed for material resources management as arrangement of tools and materials before and after use, grouping of students during shop practice to enhance mastery as well as sorting materials in cabinets. This finding also supports Ajala (2012), whose study on initiatives for material resource management in preschool showed that items such as arranging all the materials in conformity with safety regulations, providing guidelines, using materials in groups, arranging materials in order of utilization etcetera are effective organizational strategies.

Findings on research question 3 showed that making necessary corrections in the conduct of pupils while using material resources, use of identification system to deter material resources theft, monitoring the movement of instructional materials, pupils regular monitoring and guided use of appropriate material resources, assigning competent store officer to be responsible for the security of toys and instructional materials, detecting misuse of materials with the view to checking such demeanor and preventing damage to the materials and available facilities being given premium were controlling strategies needed for the management of material resources for effective teaching and learning in early childhood education with a grand mean of 2.72. Again this finding was in agreement with the view of Izuagie (2015) who stated that skills of controlling resources in teaching and learning in early childhood centres involve assigning competent store officer, giving appropriate directives for the use of materials, controlling the application of instruction materials and monitoring the movement of instructional materials that are movable. Sampong (2006) in agreement also listed the following as controlling strategies needed for material resource management viz an identification system to deter tool and equipment theft, students should be guided in the use of appropriate materials, tools and predictive maintenance of materials should be made.

The study revealed that there is no significant difference between the mean opinion scores of teachers and head teachers on the planning, organizational and controlling strategies needed for the management of material resources for effective teaching and learning in early childhood education. This shows that the two groups have the same perception on the strategies needed for material resource management.

## **CONCLUSION**

Effective teaching and learning in early childhood centres depends largely on material resources. These materials must be available and appropriately managed. It was therefore concluded that the acquisition and implementation of routine maintenance, preventive maintenance, emergency repairs, predictive maintenance, appropriate storage and monitoring etcetera in the use of material resources in early childhood centres will improve the achievement of the stated objectives of early childhood education.



## RECOMMENDATIONS

1. Head teachers should use routine maintenance; preventive maintenance; appropriate storage and monitoring strategies as part of their prioritized plans for toys, instructional aids, school buildings and facilities in early childhood centres in Rivers State.
2. Early childhood care givers and heads of school should keep up to date inventories of material resources that will help to reduce lost and improve effective teaching and learning.
3. Early childhood care givers need the knowledge and skill of controlling to be able to manage material resources effectively.
4. The Nigerian Educational Research and Development Council (NERDC) should emphasize the management of material resources in the curriculum of early childhood teacher education and follow up its implementation through accreditation.

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