

# Availability, Adequacy and Suitability of Infrastructure, Furniture and Outdoor Play Area Equipment at ECD

By

<sup>1</sup>Virginia, Hope Mawere and <sup>2</sup>Jonah Muguti

<sup>1</sup>Department of Teacher Development, Zimbabwe Open University,

<sup>2</sup>Department of Educational Studies, Zimbabwe Open University, Zimbabwe.

## Abstract

*The aim of the study was to assess the availability, adequacy, and suitability of infrastructure, furniture and outdoor play area equipment at ECD centres in Bindura District of Zimbabwe. A descriptive survey design was adopted, with questionnaire and interview as the data collection instruments. The population of the study consisted of all ECD teachers in the District. Sixty (60) teachers were randomly selected to provide data necessary for this study. Infrastructure such as classrooms and toilets was found to be inadequate and unsuitable for use by ECD children. Furniture too was not, at most ECD centres, suited for young children. Outdoor play area equipment was found to be available at most ECD centres with only a few centres reporting a lack of certain types of equipment. The study concluded that majority of ECD learners in the District failed to access the basic conditions in terms of infrastructure and furniture. There was evidence of significant progress in the development of outdoor play area equipment. It was recommended that the schools work on providing more, appropriate and child friendly infrastructure, furniture and play equipment. Schools should also mobilize communities to actively participate in developing child-friendly centres.*

**Keywords:** Early Childhood Development, ECD centre, Infrastructure, Availability, Adequacy, Suitability

## 1. Background to the Study

According to UNICEF's Child-Friendly Schools Manual (2009), schooling is the one experience that most children worldwide have in common and the most common means by which societies prepare their young for the future. However, schooling is not always a positive experience for all children. To some children it can mean shivering in cold, unheated buildings or sweltering in hot, airless ones (Ladhani, 2009; Nager and Shapiro, 2005, and The World Bank Group, 2011). It can mean being forced to stand in unfurnished classrooms, being hungry, thirsty or unwell; it can also mean being frightened by the threat of punishment, humiliation, bullying or even violence at the hands of teachers and fellow pupils, all conditions that thwart learning. The effects are more devastating when the learners involved are children in their early years. UNICEF (2011) observes that the most critical period of human development is in the first eight years of life. In terms of an ECD learning environment, it means safe water, basic sanitation, safe, well-equipped play spaces, building structures that protect children from adverse weather conditions, and protection from violence, abuse, exploitation and discrimination. It is argued in this study that when ECD learners access education of poor quality, it is tantamount to no education at all. This study, therefore, sought to determine and assess the availability, adequacy, and suitability of infrastructure, furniture and outdoor play area equipment at ECD centres in Bindura District of Zimbabwe. The importance of the study is that, apart from providing information on prevailing learning conditions at ECD centres, the findings may also positively influence policymakers' allocative decision. The view that children learn more efficiently and more knowledge when they are provided with opportunities for play at an early age is widely accepted among researchers in the field of ECD, (The World Bank Group, 2011; The Northeast Michigan Community Service Agency, 2012; American Institutes for Research, 2009; Jonsson, 2009, and Irvine, 2000). It is during this formative period that

there is need for training in social skills of orderliness, cleanliness, consideration for others, and good manners generally, and allowing opportunity for healthy and enjoyable activity with plenty of apparatus for play, language development and provision of good food. Ladhani (2009:2) asserts that long before formal schooling begins, a child starts developing language and social skills, the capacity to learn and healthy habits. Recent research has shown that these early years have a crucial bearing on how a child performs in primary school. That is why providing a supportive, stimulating and safe environment in the first few years of life is so critical.

One can discern from the above sentiments that world governments, and especially those from developing countries, have much to gain by promoting ECD. The evidence base from the neurosciences about ECD, for example, demonstrates that quality interactions during the earliest stages of life play a crucial role in shaping children's perceptual, cognitive and linguistic ability, their physical, social and emotional development and physical and mental health, activity, skills and behaviour in adult life. It is critical that this knowledge and its practical implications for parenting are universally understood by parents, families, ECD professionals, service providers, governments, and communities, the Ministerial Council for Education, Early Childhood Development and Youth Affairs (MCEECDYA), 2010).

The implications here are that governments and communities must ensure that ECD learning spaces are located, designed, and constructed in such ways that promote children's safety and well-being. It also implies the need to address all elements that influence the well-being and rights of the child as a learner. Quality standards should, thus, make it possible for all children to access ECD, survive through it and complete the cycle on time. The ECD programme should also provide an enriched educational experience through which children can thrive, develop and achieve their full potential.

### ***Theoretical Perspectives in ECD***

The Bankstreet's Developmental Interaction Approach is based on the theories of Jean Piaget, Erik Erikson, John Dewey and Lucy Sprague Mitchell, among others. The Developmental Interaction Approach stresses that the optimal educational process maximizes children's direct and rich interactions with a wide variety of materials, ideas and people in their environment (Scott, in Lexmond and Reeves, 2009). The approach aims for actively involving children in acquiring competence. Choice, active investigation, independent pursuit and learning through discovery are dominant components of the learning climate. Notice that choice implies provision of plentiful play equipment. The curriculum is flexible within a planned framework encompassing developmentally appropriate knowledge and skills. Teachers seize every opportunity to promote cognitive development by creating a climate that encourages questioning, exploration and children's growing understanding of patterns, rhythms and relationships in the ideas and environment around them (Nager and Shapiro, 2005).

Developmental interaction, as it was formulated at Bankstreet College of Education, reflects the beliefs that as children grow and develop, they learn from engaging with the world in safe, secure and protective environments. The approach informs teachers about use of democratic approaches to instruction, about content, practices, and the creation of a stimulating social and physical environment. Developmental interaction regards the child as a maker of meaning who is actively engaged in making sense of the world. Teachers help children expand their understanding of themselves and their surroundings through extensive curriculum that builds on the children's questions and concerns while teachers thoughtfully add their own questions to enrich and deepen the children's inquiry.

Neuroscience (the scientific study of the nervous system) also provides compelling theoretical evidence that attempts to explain the importance of ECD programmes. According to the MCEECDYA (2010), early experiences can have a long-term effect on wellbeing, including the physical and mental health, learning and behaviour. The model further notes that a large proportion of human brain development takes place after birth as a result of interactions with the environment. The impact of early experience has

a greater influence than heredity on development. The first three years are the period of the most rapid growth. Critical to note is the view that early experiences either enhance or diminish innate potential, laying either a strong or a fragile platform of brain development on which all further development and learning of the person, the body and the mind is built. This theoretical framework cautions that the longer children spend in adverse environments, the more resistant to recovery are the effects.

According to Irvine (2000), good nutrition (pre- and post-natal), and experiences that are repeated, consistent, predictable and nurturing are very important to expressing the underlying genetic potential of each child and therefore, optimal brain development and function. The quality of relationships and learning environments for infants and toddlers at ECD centres is critically important. A number of studies conclude that parental or community involvement in ECD is what provides the primary influence on children's development. Parenting practices such as reading to children, using complex language, responsiveness, and warmth in interactions are all associated with better developmental outcomes.

A lack of positive relationships, inadequate supervision of and involvement with children are strongly associated with children's increased risk for behavioural and emotional problems. It is the 'poverty of the parent-child experience...that leads to poor child outcomes rather than poverty of a material kind' (Scott, in Lexmond & Reeves, 2009). It therefore implies that teachers and caregivers must fill in the close relationship gaps that may be evident. The following key messages for ECD teachers, caregivers and parents were distilled from a review of the neuroscience research:

- The first five years last a lifetime,
- Good nutrition, health, and exercise are critical,
- Children are born ready to learn,
- The best learning happens in nurturing relationships,
- The brain develops through use,
- Children's wellbeing is critical to brain development and learning,
- Children learn through being engaged and doing,
- Children learn from watching and copying,
- Children's self control is critical for learning, responsibility and relationships,
- Children learn language by listening to it and using it,
- Children are born ready to use and learn mathematics.

These key messages will only be of benefit to children if they are applied as principles that drive the teaching and learning at ECD centres. ECD teachers, caregivers and parents must create learning spaces that nurture the children, where the children are loved, talked with, played with and are well nourished; where they can socialise and explore and are kept safe from chronically chaotic or abusive environments.

Finally, this section focuses on what probably is the most promising model in ECD programme, the Child-Friendly ECD centre model. The underlying ideology and key principles that drive the defining characteristics of Child-Friendly ECD centres in different contexts can be harnessed into a comprehensive guideline with illustrative practical examples, the great promise of this approach to quality can be fully realized in the form of a consolidated Child-Friendly ECD centre model. As a tool for planning quality basic education, this model would greatly enhance the chances of achieving the Education For All goals and the education Millennium Development Goal. A consolidated Child-Friendly ECD centre model promises a more participatory and comprehensive approach to planning for quality education. For example, stronger links between ECD centres and their communities is seen as the source of strength in raising the quality of facilities. The same stronger links will make it more likely that communities will identify with and be supportive of their ECD centres, ultimately strengthening the process of providing quality basic education for all children.

The Child-Friendly ECD centre model focuses on the well-being of the whole child, including attention to the different needs of different groups according to such factors as their gender, physical ability and socio-economic status. The model helps address disparities that stem from home and community backgrounds, creating a more level playing field for all learners to achieve their full potential through education. Child-Friendly ECD centres model demands high and specific standards for structures, personnel and behaviours of those involved with ECD. Buildings must be structurally stable, weatherproof, accessible to all children, and climatically comfortable. Fresh, potable water should be available, a separate space should be provided with water and soap for children to wash hands. The classrooms need fresh air circulation to avoid heat and excessive humidity.

As can be noted above, Child-Friendly ECD centres model advocates for the development of the whole child. According to the model, there is little point in providing the opportunity for a child to enroll in ECD if the quality of the education is so poor that the child will fail to acquire critical life skills.

### ***Challenges Facing ECD Implementation in Zimbabwe***

The Second Report of the Portfolio Committee on Education, Sport, Arts and Culture on the Provision and Development of Early Childhood Development (ECD) in Zimbabwe which was presented to Parliament on 18<sup>th</sup> November 2010 highlights the challenges faced by the Ministry in the promotion and development of Early Childhood Development as follows:

- Lack of appropriate infrastructure and furniture,
- Inadequate teaching and learning material,
- Exceeding the official teacher/ pupil ratio of 1: 20 leading to overcrowded classes,
- System's dependence on paraprofessionals,
- Long distances from home to centre/ school (over 3km) especially in rural and resettlement areas,
- Inadequate and unsuitable accommodation for ECD children,
- Issue of many unregistered centres as much as the registered ones- Implied here is that unregistered centres continue to suffer the disadvantage of not receiving government allowances particularly in rural and resettlement areas.

In view of the above challenges, the Committee made a number of recommendations and chief among them was that there is urgent need to provide adequate, appropriate and child friendly infrastructure, furniture and play equipment at ECD centres. This study focused on the assessment of progress that schools and communities have made towards development of adequate, appropriate and Child-Friendly infrastructure, furniture and outdoor play areas at ECD centres in Bindura District of Zimbabwe.

### **Statement of the Problem**

The rationale behind the implementation of ECD programmes is clear. The children going through the programme would become the drivers of the economy in the next few years of their lives. In order therefore, that the education of these young ones be the best ever they can get, this study sought to assess the made progress towards development of adequate, appropriate and Child-Friendly infrastructure, furniture and outdoor play areas at ECD centres in Bindura District of Zimbabwe.

### **Research Questions**

The study set out to find answers to the following questions:

- What is the level of availability of infrastructure, furniture and play area equipment at ECD centres?
- How suitable/appropriate for ECD children is the infrastructure, furniture and play equipment at the ECD centres?

### **Purpose of the Study**

The study sought to determine the adequacy, appropriateness and Child-Friendliness of infrastructure, furniture and outdoor play areas equipment at ECD centres in Bindura District of Zimbabwe.

## **2. Methodology**

The study adopted the descriptive survey design since it was suitable in dealing with people's perceptions on existing conditions at ECD centres. Surveys can be used to collect a lot of data with relatively small expenses and that data comes from the real world situation. The study employed a multi-technique approach to data collection in order to obtain a holistic view of the ECD teachers on the adequacy and suitability of the infrastructure, furniture and outdoor play areas at ECD centres. A combination of the self-administered questionnaires and interviews, as data collection instruments, was therefore, employed.

The instruments were pilot-tested on respondents drawn from the study's population, but separate from the study sample. The questionnaire was designed to gather the following data categories:

- Bio-data of respondents,
- Assessment of infrastructure adequacy and suitability,
- Assessment of furniture adequacy and suitability, and
- Assessment of outdoor play area facilities' availability, adequacy and suitability

The interview schedule consisted of structured questions of a similar nature to the questionnaire. The main purpose of the interview was to validate the self-completed questionnaire responses.

### **Population and Sample**

The population of the study consisted of all ECD teachers in Bindura District, Mashonaland Central Province of Zimbabwe. Stage sampling was adopted where 60 ECD were first selected from urban, resettlement, communal and mine areas to provide participants of the study. There were 98 ECD teachers in the centres. further proportional random sampling was then repeated to choose 60 ECD teachers.

## **3. Presentation of Results**

### **Bio-data of Respondents**

Respondents were asked to indicate their gender the distribution of the final sample by gender is shown in Table 1 below.

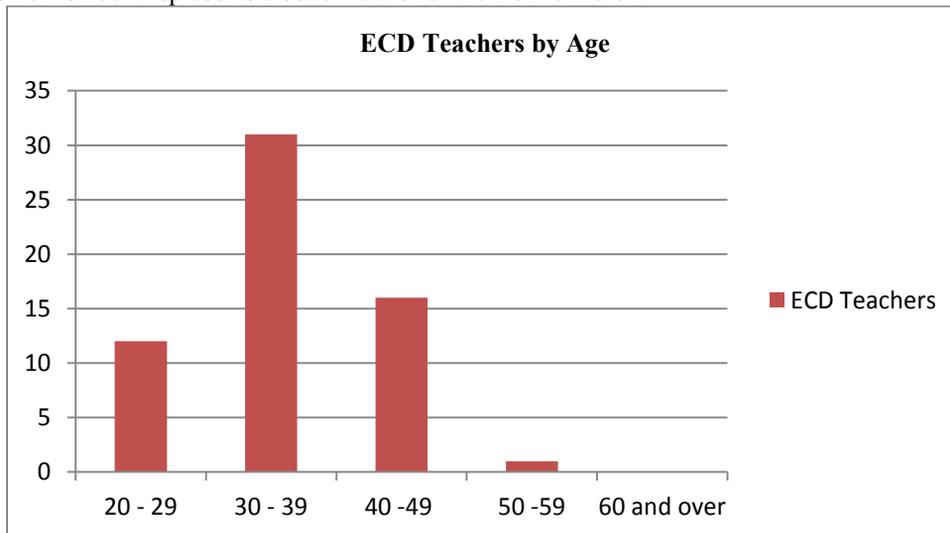
**Table 1: Final Sample of ECD Teachers by Gender**

<b>Gender</b>	<b>No of Respondents</b>	<b>%</b>
Females	57	95
Males	3	5

The distribution was expected to depict female dominance at this level of the primary school. The distribution in Table 1 above shows 95% of sample was female ECD teachers with only 5% being male. Similar trends are found in the grades ones and twos classes.

The bar graph below shows a significant concentration of ECD teachers in the 30 – 39 years age group (52%). This is followed by 26% who were in the 40 – 49 years group, and 20% falling in the 20 – 29

years group. The high frequency of middle-aged ECD teachers could be explained by output of teachers' colleges who recently embarked on the training of ECD teachers. It is seen as an encouraging development since it represents a better future for the ECD children.



**Figure 1: Bar Graph Showing the Distribution of Respondents by Age**

**Adequacy and Suitability of Infrastructure, Furniture, and Play Area Equipment**

In order to determine the adequacy and suitability for use by ECD children of furniture, infrastructure and play area equipment, the respondents were asked to rate the condition of these aspects at their centres.

**Table 2: Assessment of Toilet Facilities (N=60)**

Assessment of Toilet Facilities	No. Of Respondents	% of Total
Toilets are adequate	45	75
Toilets are inadequate	15	25
Toilets are suitable for ECD children	9	15
Toilets are unsuitable for ECD children	51	85

The results show that toilets are mostly available in adequate numbers although the structures are rated as unsuitable to ECD learners. Thus, while respondents found the facility generally available in accordance to the statutory requirement, the toilets were unsuitable to ECD learners. Most, if not all, ECD centres in the District have been located at primary schools and existing facilities are expected to serve the children. The basic requirements, however, differ in some respects making them unsuitable for ECD children.

**Table 3: Assessment of Classrooms (N=60)**

Aspects Assessed	No. Of Respondents	% of Total
There are adequate classrooms	13	22
Classrooms are inadequate	47	78
Classrooms are suitable for infants	26	43
Classrooms are unsuitable for infants	34	57

Seventy-eight percent of the respondents said classrooms were inadequate while 57% rated the classrooms as unsuitable for use by ECD children. The main aspects that were considered were the floors,

roofs, and ventilation. Respondents commented that the most structures were poorly ventilated and lacked safe floors and roofs for ECD learners.

**Table 4: Assessment of Kitchen/Cooking Areas and Furniture (N=60 )**

Aspects Assessed	No. Of Respondents	% of Total
Kitchen/cooking area is suitable for food preparation	11	<b>18</b>
Kitchen/cooking area is unsuitable for food preparation	49	<b>82</b>
There is adequate furniture	18	<b>30</b>
There is inadequate furniture	42	<b>70</b>
Furniture is suitable for ECD children	7	<b>12</b>
Furniture is unsuitable for ECD children	53	<b>88</b>

Table 4 shows that both kitchens and furniture were available but most in unsuitable states for ECD children. This implies that the majority of learners sit on unsafe floors as reported. The kitchen area is considered one of the critical areas where hygienic meals are expected to be prepared for children. Reports that they were unsuitable, often represented by open spaces with cooking points, may expose the food to contamination.

#### Assessment of Outdoor Play Area Equipment

When respondents were asked to indicate whether or not certain play area equipment was available at the ECD centre, they reported a very favourable situation as shown in Table 5 below.

**Table 5: Assessment of Play Area Equipment (N=60)**

Equipment	Available	% of Total	Unavailable	% of Total
Swings	47	78	13	<b>22</b>
Slides	54	90	6	<b>10</b>
Climbing frames	31	52	29	<b>48</b>
Crawlers	9	15	51	<b>85</b>
Rocking horses	2	3	58	<b>97</b>
Sand baths	57	95	3	<b>5</b>
Water play areas	0	0	60	<b>100</b>

Swings, slides, climbing frames, and sand baths were reported as being available to almost all ECD centres. These play equipment are mainly designed to develop children's gross psychomotor skills and it is encouraging to find out that even those centres in rural areas of the District have made useful improvisations of the equipment. However, 85% and 97% of centres said they had no crawlers and rocking horses respectively. It is assumed that such equipment existed at the elite private centres.

## 4. Discussion of Results

Evaluation of ECD programmes operating in developing countries show considerable consistent outcomes for participating children. Several longitudinal studies demonstrate the substantial long-term impact chief among them being improved nutrition and health, cognitive development and school achievement, higher school enrolment, less repetition, fewer dropouts, help for the disadvantaged and reduced social inequality, and a positive effect on female labour force participation, (The World Bank Group, 2011; The Northeast Michigan Community Service Agency, 2012; American Institutes for Research, 2009; Jonsson, 2009, and Irvine, 2000). The attainment of these outcomes pre-supposes availability in adequate quantities of suitable learning materials at ECD centres. Several children appear not to be experiencing good learning standards at ECD centres in the District, and could be learning under risky environments. They are failing to be in safe, protective shelter, and lack adequate, suitable furniture,

including being exposed to harsh weather conditions. Health matters at several ECD centres show evidence of operating below minimum standards as meals are said to be prepared under unsuitable cooking areas.

Play is the main component of early childhood stimulation. Play is an opportunity for all the significant activities that enhance good development to take place. Play strengthens the social bonds between children and develops new physical and sensory skills. It is, therefore, important that outdoor play areas are well-equipped and safe. The findings of the study present encouraging progress towards achievement of child-friendly play areas at ECD centres. Safe, improvised equipment can go a long way in addressing the children's needs as far as play areas are concerned.

A number of developing countries, including Zimbabwe, have adopted programmes that are multifaceted, including feeding, micronutrient supplementation, immunization, child growth monitoring, child care services, mental stimulation for children, as well as training of parents in parenting skills. When some ECD centres report of unavailability of, or unsafe and unsuitable cooking areas one, begins to fear for the children as such conditions put them at risk. According to Alderman, Hoddinott and Kinsey (2006), early malnutrition weakens children's physical and cognitive potential and even their non-cognitive traits such as motivation and persistence, so it may turn out to be costly for the future health, educational attainment of the children.

## 5. Conclusions and Recommendations

The study concluded:

- There is inadequate provision of appropriate infrastructure and furniture at most ECD centres,
- The toilet facilities and kitchens/cooking areas are generally inadequate and unsuitable,
- There is evidence of significant progress in the development of outdoor play areas equipment.

The following recommendations were raised:

- The need to provide adequate, appropriate and child friendly infrastructure, furniture and play equipment,
- Schools should mobilize communities to actively participate in developing child-friendly centres,
- Government and local authorities should consider more ways of assisting ECD centres to develop into child-friendly learning spaces.

## References

- Abdazi, H. (2007). Absenteeism and beyond: Instructional time loss and consequences. *World Bank Policy Research Paper No. 4376*. Working Paper Series. Washington, DC: World Bank.
- American Institutes for Research. (2009). *UNICEF Child Friendly Schools Programming: Global Evaluation: Final Report*. Washington: AIR.
- Attig, G. & Hopkins, J. (2006). *Assessing child-friendly schools: A guide for programme managers in East Asia and the Pacific*. Bangkok: UNICEF East Asia and Pacific Regional Office.
- Bernard, A. K. (1999). *The child-friendly school: Concept and practice*. Draft, prepared for the Education Section. New York: United Nations Children's Fund.
- Irvine, J. (2000). *South Asia and Basic Education: Changing UNICEF's Strategic Perspectives on Educational Development and Partnerships. Prospects, 30 (3), 297- 311*.
- Jonsson, U. (2009). *From Poverty Reduction to Disparity Reduction, or From Basic Needs to Human Rights. Presentation to the International Conference on Child Policies and Disparities*. Cairo, Egypt: January 2009.

- Ministerial Council for Education, Early Childhood Development and Youth Affairs (MCEECDYA), (2010).
- Parliament of Zimbabwe. (2010). *The Second Report of the Portfolio Committee on Education, Sport, Arts and Culture on the Provision and Development of Early Childhood Development (ECD) in Zimbabwe, Presented on 18<sup>th</sup> November, 2010.*
- Roberts, J., Jurgens, J., Burchinall, M., (2005) “The Role of Home Literacy Practices in Preschool Children’s Language and Emergent Literacy Skills,” *Jnr. Of Speech, Language and Hearing Research*, Vol. 48, 345-359
- Shapiro, E., & Nager, N. (1999). *The Developmental-Interaction Approach to Education: Retrospect and Prospect. Occasional Paper Series.* New York: Bank Street College of Education.
- UNICEF & Department of Social Development, Republic of South Africa (2006). *Guidelines for Early Childhood Development Services, Pretoria.*
- UNICEF. (2009). *Child Friendly Schools Manual.* NY: UNICEF.
- UNICEF. (2008). *The state of the World’s Children .* New York: United Nations Children’s Fund.
- World Bank. (2010). *World development indicators 2009.* Washington, DC: Author.