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Child Development Assessment in Zambia

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Introduction

This paper presents a summary of the Child Development Assessment in Zambia, completed in 2006 through a study carried out in the nine provinces of the country. The project was a collaborative effort between professors from the University of Zambia, the University of the Incarnate Word in San Antonio, TX, USA and educators from the Curriculum and Development Centre in the Zambia Ministry of Education.

History

This study was sparked by Women's Global Connection, an NGO working in Zambia, who initiated preliminary discussions among professors of the two Universities. The two academic institutions agreed that there was need to bring together early childhood care, education and development stakeholders. As a result, a conference on early childhood care, education and development was convened in Lusaka from 14-17, March, 2005 under the sponsorship of the Catholic Relief Services and Women's Global Connection. The conference revealed glowing gaps in the care, education and development of Children under 7 in the country. In an effort to address the problem, the two academic institutions approached the Ministry of Education to consider their research proposal to document normative data on the growth and development of children below seven years throughout the country as a component of the Ministry's work plan for 2005 – 2006. The Ministry agreed and further proposed that its Curriculum Development Center join the two institutions to form a consultancy and request funding from UNICEF. When approached, UNICEF agreed to fund the research.

African Perspective on Early Childhood Development

The importance of a child in any society can not be over-emphasized. A child in any society can only be compared to a foundation for any building. Early Childhood is the most rapid period of development in human life. For better or worse, the period 0 to 6 years has an enormous effect on the future health, cognitive development, cultural attitudes and productivity of an individual. The traditional education of African children begins at birth and ends at death. The child has to pass through various stages of growth. Traditionally, there was no special school building from the African sense of education for children aged 0 to 6 years. Like any effective system of education, traditional education was based on sound philosophical foundation or principles. These principles underlined both formal and informal practices. They implied that the role of learning and teachings was to equip boys and girls with the skills appropriate to their gender in preparation for their distinctive roles in the society. Children developed a sense of obligation towards the community and grew to appreciate their history, language, customs and values. This is perhaps one of the greatest attributes of traditional education as opposed to western education which tends to alienate young children from their cultural heritage. Traditional education was a participatory kind of education in which children learnt through imitation, initiation ceremonies, work, play, oral literature etc. In this way the learner was productive as he/she learnt and was smoothly integrated into the community. In addition, all members of the society owned things in common and applied a communal spirit and work. Children belonged to the community and every member of the community had a stake in their upbringing. In summary early childhood customary education was holistic or based on multiple learning and society expected a child to grow up and behave according to some accepted norms (Adeyemi & Adeyinka, 2003;

Mwanakatwe, 1968; Kelly, 1991; Kelly and Kanyika, 2000; H. Msango, 1997 as cited in Adeyemi & Adeyinka, 2003; Ocitti, 1971).

Early Childhood Assessment in Zambia

In Zambia, the number of children aged 0-6 is increasing. At present, only a minority have access to any form of early childhood care and education which is a significant factor in primary school retention and achievement (MoE, 1996). Significant papers such as “Educating our Future,” 1996; Early Childhood Care for Survival, Growth and Development, 2000; Orphans and Vulnerable Children in Zambia, Situation Analysis, 2004; Strategy and Impediments Paper on ECD–HIV/AIDS, 2004; Study and Stakeholders Symposium Report on Early Childhood Care Development and Education, EFA Secretariat, 2004; and Education Sector Ministries, 2005 have documented the imperative for comprehensive, directed early childhood development programming for all children below seven years of age in Zambia.

Many developing countries have started to raise their target for early childhood education. In Zambia, the Ministry of Education acknowledges the important role of early childhood education in the multi-dimensional development of young children and has encouraged and facilitated the establishment of programmes to reach children, especially those in rural and poor urban areas (MoE, 1996). As a result of this, a number of early childhood education initiatives have developed over the last few years.

The Ministry of Education plans to continue provision of early childhood care education and development for Children aged 5 to 6. Simultaneously, communities are encouraged to open early childhood learning centers where formal schools are not within reach. This is done in collaboration with the organizations that run community schools. Early childhood will also become an important component of formal education. It has therefore been proposed that the Ministry of Education facilitate an increase in early childhood provision and establish an institutional framework within the education sector to co-ordinate and oversee the implementation of Early Childhood Care, Education and Development (ECCED) that takes into account equity issues:

- a) To develop an appropriate curriculum;
- b) To provide qualified human resources and develop, produce and distribute teaching/learning materials for early learners; and
- c) To provide appropriate infrastructure, facilities and services.

However, it was recognized that in order to implement these above strategies and objectives, a more comprehensive ECCED policy needed to be put in place (MoE , 1996; MoE, 2005).

Child Development Assessment for Zambia (CDAZ)

It was hoped that the results of the study would assist this policy development and help in planning and designing curriculum materials and programmes for early childhood care, education and development. The research process of this study, as well as its findings, offer multiple opportunities for teachers, parents and guardians to grow in their understanding and response to young children throughout Zambia. It offers a base-line for assessing development patterns in local communities. Children under 3 years of age should be assessed at least semi-annually and children between 3-6 years should be assessed annually. These assessments will provide valuable information for correct interventions by teachers and parents/guardians. The information from this study can also draw attention to the needs of young children to policy makers and be used as a guide for programmatic and curriculum development at regional and national levels.

Conceptual Framework

This study was based on the conceptual framework of the United Nations General Assembly Special Session on the Child (*A World fit for children---2002*) under which 180 countries agreed that every child should have a good start in life and should have a nurturing, caring and a safe environment to survive and to be physically healthy, mentally alert, emotionally secure, socially competent and able to learn (UNICEF, 2002). Health and physical growth are essential, but so, too, is a child's psychosocial development in these earliest years. When the development is holistic, progress in one area affects progress in the others. Any significant gap can have a negative impact on life long development of the child (Young, 1985).

The effectiveness of interventions to promote growth and psychological development of children ought to be directed at children or their caregivers and preferably integrated as a package of services that support the holistic development of the child. Community based services that meet the needs of children are vital to early childhood development and they should include attention to health, nutrition, education, water and environmental sanitation in homes and communities. The approach promotes and protects the rights of the young child's survival, growth and development. This study was also based on the understanding that early childhood programmes are now recognized as a powerful economic investment (Heckman, 2008). Investments in early childhood development will not only pave the way for improving individuals' health, mental and physical performance but also help in a major way to minimize or even prevent a host of related problems, including juvenile delinquency, teen pregnancy, social violence and HIV/AIDS.

Literature Review

Early childhood development programmes that comprehensively address children's basic needs, (health, nutrition, emotional and intellectual development), foster the development of capable and productive adults (Schweinhart, Montie, Xiang, Barnett, Belfield & Nores, 2004). And, early interventions can alter the lifetime trajectories of children who are born poor or are deprived of the opportunities for growth and development available to those more fortunate (Young, 1985). The economic returns to investing in young children are high. But, there is an even more compelling reason for underscoring the importance of the early years: Early interventions help children escape poverty. Among the world's 6 billion people, 2.8 billion live on less than US \$4 a day and 1.2 billion live on less than US\$2 a day (World Bank 2000). Within every country, there is a massive imbalance between rich and poor. Disparities in children's development mirror these economic disparities, and poverty is associated with poor social indicators, especially for poor children. Without the basic nutrition, health care, and stimulation needed to promote healthy growth, many poor children enter school not ready to learn. These children do poorly in class, repeat grades and drop out at a high rate. They are at a disadvantage when they enter the workplace, earning the lowest wages, and as parents, pass their poverty on to their children. Giving children a better chance is not only vital for attacking the worst effects of poverty,, but also may be an effective way of breaking the relentless, vicious cycle of poverty transmitted across generations. To meet the goal for universal primary education, poor children must be given a fair chance to benefit from school. In unequal societies that have high levels of poverty, a level playing field even at age six, or by the time a child enters school, may already be inaccessible for poor children. By intervening early, ECCED programmes offer all children the possibility to full benefit from school and success in the marketplace. Frost, Wortham and Reifel (2005) argue that the physical development of a child is affected by appropriate nutrition. Children who experience

prenatal malnutrition and malnutrition after birth grow to be smaller in physical dimension. Kagan, Kearsley and Zelazo (1978) indicate that deprivation and malnutrition can also result in delays in acquisition of basic skills. Cultural differences affect motor development (Sharrocks-Taylor & Hargreaves, 1999). Berger (2000) observes that in Uganda it is believed that infants in the Baganda community are advanced in their motor development because of their mothers' commitment to train them in basic skills early in life. The children experience a formal handling routine according to the tradition of their culture to insure that infants grow up to be strong, healthy and active. Children move through a developmental progression in acquisition of motor skills (Gallahue, 1993). The progression includes the reflexive movement phase, rudimentary movement phase, the fundamental movement phase and the specialized movement phase; the sequence of the appearance of these phases is universal but the rate of acquisition of motor skills varies from child to child. Preschool children gain precision in fine motor development. Children use their hands and fingers between the ages of three and five; they acquire control of their finger movements and become proficient in using small materials as they advance in age. They are able to grasp and control objects as they learn to work with them. For example they are able to handle and manipulate small blocks, brushes and pencils. They use fine motor skills in self help to dress themselves and button their clothes as they grow up.

Children play with language at a very early age. Garvey (1977), observed that before talking begins, a child plays with bubbling sounds. This is followed by production of a variety of sounds between 6 and 10 months of age. At one year of age, a child learns to engage in long periods of vocalization of single syllable and later on double syllable words. The child at this stage is using play with sound to accompany pretend play with objects. Parents and caregivers also follow the lead of the child in communicative language play. A child imitates the parent or caregiver vocalization as attempts to acquire the language skills (Frost, Wortham, & Reifel, 2005).

Research Methodology

This study aimed at documenting normative data, over a three month period, on the growth and development of children aged 0-72 months in Zambia. Both qualitative and quantitative research paradigms were used in this study. The target population comprised children aged 0-72 months from all the nine provinces of Zambia, parents/caregivers. Nine Provincial districts were selected from the nine provinces of Zambia: Chipata, Kabwe, Kasama, Lusaka, Livingstone, Mansa, Mongu, Ndola, and Solwezi. In order to ensure equal representation of the population, the study sites were categorized into rural and urban settings in all the nine districts. There were 1,913 observations made in this study. The analyzed sample consisted of 1,790 observations of 895 children.

Selection of research assistants was purposively done in order to involve people with experience and expertise from various backgrounds. Thus the team of research assistants included Health workers; Community workers; Provincial Education Officers; Pre-school teachers and Administrators. A total of seventy two research assistants (that is eight from each province) participated in this study. The research assistants underwent intensive training for at least five days in their respective provinces. This was to ensure that assistants were comfortable and conversant with the administration of the instrument. Each consultant was assigned a province for the purpose of training the assistants and monitoring the data collection exercise. Data collection was done in two phases, from May 8-12, 2006, and July 17-22, 2006. Research assistants were paired during the data collection process. The pair of researchers independently observed and recorded the individual child's behaviour

simultaneously and at no point did the raters compare their observations. This was done for the purpose of ensuring independence of observation and inter-rater reliability of the CDAZ instrument.

Data were coded according to age groups and domains by means of the Statistical Package for Social Sciences (SPSS). Descriptive analysis was used to present the variables in frequencies and percentages. Cronbach's alpha, Cohen's kappa and Pearson R correlation were used for instrument reliability and inter-rater reliability of the CDAZ instrument.

CDAZ Instrument

The Child Development Assessment for Zambia (CDAZ) was developed and used in this study. This instrument was designed by a team of consultants comprising early childhood experts from Zambia and the USA. The instrument was divided into seven age levels; 0-6 months, 7-12 months, 13 -24 months, 25 - 36 months, 37 - 48 months, 49 - 60 months, and 61- 72 months. There were six domains for each age group, namely; Interpersonal Skills; Gross Motor Development; Fine Motor Skill Development; Receptive Language Development; Expressive Language Development and Self Help Skills with a total of 178 items to be assessed. Piloting of the instrument was conducted at a private school in Lusaka.

CDAZ Validity and Reliability

Face validity was assured by having the instrument designed by ECCED experts in Zambia and by pilot testing the instrument in Zambia before the study. The CDAZ instrument was designed and carefully compared to other valid and reliable instruments for ECCED, such as the Denver II Developmental Rating Scale (1990) and The New Portage Guide: Birth to Six (2003) and then reviewed by Early Childhood experts in Zambia for content validity. The results of this study have determined initial construct validity. However, the instrument will need to be administered repeatedly over time to accurately assess construct validity.

Internal consistency is a measure of how well a set of items measures a single unidimensional latent construct. Cronbach's alpha was used with this instrument for two points of consistency: (a) the extent to which the items in each domain were related to each other and (b) the overall internal consistency of the CDAZ instrument as a whole. Cohen's kappa was used to determine the degree of inter-rater reliability in this study to evaluate the measure of agreement between the two researchers observing the same child for each item in every domain.

Main Findings of the Study

1. A major objective of the study was to establish a set of basic norms to use in assessing children 0-72 months in Zambia within the six domains listed above. The study accomplished that goal. This study proved to be a good beginning in establishing developmental patterns of young children. There is however, need for further research in the area of child development in the country.
2. The assessment instrument (C-DAZ) that was used to collect the data in this study has proved to be reliable and culturally appropriate for Zambian children. It is recommended for use as a guide in assessment and not as a diagnostic tool.
3. The study also provided preliminary documentation on the current developmental stages of children between 0-72 months across the nine provinces. Analysis of the data determined similarities and variances among the children across the country. But

in general, children fell within the developmental range appropriate for their age group. There was one domain, fine motor skills, in which there was considerably less ability demonstrated by children across all age groups and across the provinces. Two other domains, interpersonal development and expressive language also showed a potential gap in development. These areas might provide special ground for future research.

Conclusion and Recommendations

The development patterns in Zambian children aged 0 – 72 months have been established. An assessment instrument has also been developed. The findings that have been obtained indicate that although the C-DAZ has proved to be reliable and culturally appropriate for Zambian children. The instrument needs to be administered repeatedly over time to strengthen its construct validity as an assessment tool. Further, the instrument should not be used as a diagnostic tool but rather as a guide.

Based on the findings, the following are the main recommendations of the study:

1. The Ministry of Education should endeavor to repeatedly administer the CDAZ instrument over time to increase and strengthen its construct validity.
2. The Ministry of Education, line ministries and NGOs should provide adequate support for parents and teachers to help children develop in fine motor and self-help skills. The Ministry is encouraged to develop and disseminate manuals in parenting education and that programmes be under-taken to sensitize all stakeholders in the use of the manuals throughout the provinces.
3. The Ministry of Education, UNICEF, UNZA, and NGOs should collaborate in a significant way to promote the use of the instrument and ECCED materials in Zambia.
4. The Ministry of Education and NGOs should find ways of utilizing the 72 research assistants who collected data in the provinces. The 72 Research Assistants demonstrated commitment and tremendous potential to contribute in early childhood activities in their local communities

References

- Adeyemi, M. B, & Adeyinka, A. (2003). The principles and content of African traditional education, *McGill Journal of Education*, 35(4), 425-439.
- Berger, K.S. (2000). *The developing person through childhood* (3rd ed.). New York: Worth.
- Frankenburg, W. K., Dodds, J., Archer, P., Shapiro, H., & Bresnick, B. (1990). *Denver II developmental rating Scale*. Denver: Denver Developmental Materials Inc.
- Frost, J. L, Worthan, S. C. & Reifel, S. (2005), *Play and child development* (2nd ed.). Upper Saddle River, NJ: Merrill Prentice Hall.
- Gallahue, D. L. (1993). *Motor development and movement skill acquisition in early childhood education*. New York: MacMillian Publishing Company.
- Garvey, C. (1977). *Play*. Cambridge: Harvard University Press.
- Heckman, J. J., Schools, Skills, and Synapses. IZA Discussion Paper No. 3515 Available at SSRN: <http://ssrn.com/abstract=1139905> or DOI: 10.2139/ssrn.10.1111/j.0042-7092.2007.00700.x
- Kalusa W.T. (2000). Indigenous Education in Pre-Colonial Africa in H.T. Msango, E.C. Mumba & A. L. Sikwibele, *Selected topics in philosophy and education*. Lusaka, University of Zambia. 24-31.
- Kagan, Kearsley, & Zelazo. (1978). *Infancy: Its place in human development*.

Cambridge: Harvard University Press.

Kelly J. M. (1991). *Education in a declining economy: The case of Zambia 1975-1985*. Washington, DC: World Bank.

Kelly, M. J., & Kanyika, J. (2000). *Learning achievement at the middle basic level. Summary report on Zambia's national assessment project 1999*. Lusaka: Examinations Council of Zambia.

Lewanika, I. Mbikusita, Katwishi S. M., & Kazunga M. (2000). *Early childhood care for survival, growth and development on behalf of MoE/UNICEF Lusaka, Zambia*.

Ministry of Education. (1977). *Educational reforms: Proposals and recommendations*. Lusaka: Government Printer

Ministry of Education. (1996). *National policy on education: Educating our future*. Lusaka: Government Printer

Ministry of Education. (2005). *Strategic framework for implementation of education for all*. Lusaka: Government Printer.

Mwanakatwe, J. M. (1968). *The growth of education in Zambia since independence*. Lusaka: Oxford University Press.

Ocitti, J. P. (1971). Cultural conditionally and aid to education in East Africa. *International Review of Education*, 41, 177-197.

Portage Project. (2003). *The new Portage guide: Birth to six*. Retrieved February 10, 2007, from http://www.portageproject.org/pdf/npg_b-6.pdf

Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W.S., Belfield, C. R., & Nores, M. (2004). *Lifetime effects: The High/Scope Perry Preschool study through age 40*. Ypsalanti, MI: High/Scope Press.

Sharrocks-Taylor, D., & Hargreaves, M. (1999). Making it clear: A review of language issues in testing with special reference to the National Curriculum Mathematics Tests at Key Stage 2. *Educational Research*, 41(2), 123-136.

United Nations (UNICEF). *General Assembly 27th Special Session on children: A World fit for children* (Supplement 3. Document A/S-27/19). Retrieved February 10, 2007, from <http://www.unicef.org/specialsession/documentation/documents/AS27-19-Rev1E.pdf>

World Bank. (2000). *World Development Report (WDR) Attacking Poverty 2000/2001*. Retrieved February 10, 2007, from <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/0,,contentMDK:20194762~pagePK:148956~piPK:216618~theSitePK:336992,00.html>

Young, J. (1985). The cultural significance of children's playground activities. *Alberta Journal of Educational Research*, 31(2), 125-138.