





# LINKING EARLY CHILDHOOD DEVELOPMENT TO LITERACY DEVELOPMENT

## **EDUEXCHANGE E-DISCUSSION SUMMARY**

Date of Discussion: March 13-15, 2012

Professor Maureen Samms Vaughan, a Professor of Child Health, Child Development and Behaviour at the University Hospital of the West Indies, and Chairman of the Early Childhood Commission, was the moderator for the recently concluded Jamaica Partners for Educational Progress E-Discussion, EduExchange, held between March 13 and 15. Members were invited to discuss how parents and education systems should go about developing literacy skills in early childhood. The full discussion is available on the <u>Jamaica Partners for Educational Progress</u> website.

#### April 1, 2012

This publication was produced for your review by the U.S. Agency for International Development. It was prepared by Carol Watson-Williams and Alesia Riddell of the QED Group, LLC; and Katherine Curtis of IRG.

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#### **PARTICIPANTS**

We received twenty - three comments for the discussion, for which we thank the following persons:

- o Pauline Bain
- o Janet Brown
- o Christopher Clarke
- o Kamille Dwyer
- o Kristin Fox
- o Early Childhood Education students
- o Elaine Foster Allen
- o Merris Murray
- o Rohan Perry
- o Claudia Riddell
- o Claire Spence
- o Carol Watson Williams

#### Contributors belonged to the following organisations:

- Family Life Ministries
- National Council on Education
- Parenting Partners Caribbean
- Peace Management Initiative
- Shortwood Teachers' College
- University of the West Indies
- USAID/Jamaica
- USAID/ Jamaica Partners for Educational Progress

#### Authors'Acknowledgments...

Thank you to our moderator, Professor Maureen Samms Vaughan. Thank you also to everyone who contributed to the discussion by posting comments and sharing experiences, and resources.

#### **BACKGROUND**

Early childhood development (ECD) is the combination of physical, mental and social development in the early years of life (van der Gaag, 2003). This period signifies the foundational years that determines children's readiness and success in school as well as influence social and economic outcomes in adulthood.

Optimal development is influenced by many factors including pre-natal and post – natal health and well being, nutritional status, and access to stimulation. These factors coalesce to promote the development of the necessary skills needed for literacy acquisition.

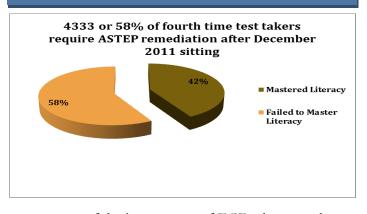
Literacy is one of the key indicators of whether children will be successful in school and life (Centre for Community Child Health, 2008). "Young children, before they have had any formal literacy instruction, display many capacities and skills which can be viewed as directly relevant to their literacy development" (Snow, 2004, p. 5). The extent to which children develop these skills are, in part, attributed to the quality of the home environment where parents are their first teachers and the early childhood education they receive.

Despite the high enrollment in early childhood institutions, many Jamaican children struggle to acquire the necessary literacy skills. In the December 2011, 20, 235 students took the supplemental Grade Four Literacy Test for those who failed in previous sittings, and of that number, 37% were taking the test for the fourth time. At the end of 2011, 58% of fourth time test takers failed to the examination and was not certified as literate. In other words, 4333 students will need special support and intervention through the Alternate Transition Education Programme (ASTEP) (Jamaica Gleaner, March 13, 2012). These facts highlight Jamaica's literacy challenges at the primary level, and underscore the importance of

Learning to read and write is one of the most important predictors of children's success in school and in adult life.

Jamaican parents, in particular, place great emphasis on children learning to read. Many parents believe that children begin to learn to read at school. Yet long before children show any reading and writing skills, they begin to understand concepts of literacy, first with symbols, facial expressions, oral language, objects, pictures and print in their environment in infancy. This ties in with our current knowledge that the critical period of language development, which precedes literacy, is between birth and 3 years, a period when most Jamaican children are in their home environments. Parental beliefs that reading takes place at school, sometimes coupled with parents' own challenges with reading, may limit the provision of a stimulating environment in the home to promote emergent literacy.

Professor Samms Vaughan Early Childhood Commission



promoting language and literacy in the early years. Given the acceptance of the importance of ECD, the central issue in education policy therefore, is how parents and education systems should go about developing these skills.

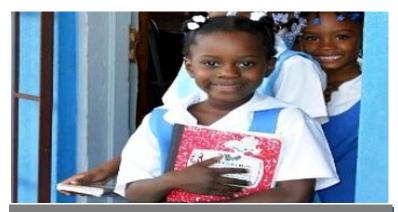
# FACTORS THAT INFLUENCE EARLY CHILDHOOD DEVELOPMENT AND LITERACY ACQUISITION

All participants agreed that children should be exposed to early language and literacy activities in the early years, some suggesting that these activities should begin even prior to birth. Many participants shared that they have been observing their own children and experimenting with the introduction of early language and literacy activities with very positive results. The experiences shared demonstrated the importance of a responsive environment to young children's learning.

Discussants identified several challenges that influence Jamaican children's exposure to early literacy. These were:

- o Limited exposure to Standard English language
- o Insufficient opportunities for stimulation
- Caregivers' level of awareness about the need for, and how to ensure that children receive adequate stimulation
- Adults who, because of their own reading challenges, did not feel they could promote reading in their children

These factors are significant because one of the long term predictors of good literacy outcomes is vocabulary. Children who are nurtured in environments that are characterized by these factors are less likely to likely to have large oral language vocabularies, and therefore are more likely to experience problems learning to read.



Children observe and engage their surroundings, and develop not only their language skills but their comprehension skills. It is through the engagement with their parents that children have an understanding of oral sounds, that a cat is in fact a cat. As you have stated, I don't think many parents are aware of the importance of the home in stimulating early reading. If more parents were conscious of this fact then maybe there would be an improvement in the level pre-skills for literacy that children enter school with.

However, another obstacle is that there are many parents with reading challenges themselves and perhaps won't actually sit with their children and read them a picture book. It's at times like these I remember the Ben Carson's story. His mother was illiterate but taught him the importance of reading.

What can parents with literacy challenges do with their repertoire of skills to encourage a stimulating environment which prepares their children for school? I would say to them, 'continue to engage and impart the knowledge that you have; talk your child about your environment and nature; talk about colours and shape, and sit with your children as they look through a picture book, pointing out animals and expressions'.

A second related point, though sensitive, is how we, as professionals, can empower parents with literacy challenges to create a stimulating environment needed to promote their children's literacy success.

Claudia Riddell

#### **STRATEGIES**

Several strategies, the roles of parents, teachers and communities in supporting early childhood development and useful programmes that have already been implemented in Jamaica were highlighted during the discussion.

Some of the strategies that discussants used to ensure that their child received sufficient opportunities for stimulation included:

- o Reading to child daily
- o Introducing child to concepts such as letters, numbers, colours, shape using toys
- o Taking the child to different places such as the zoo, museum, sporting events etc.
- o Flash cards with pictures eg. truck

#### How do we support parents in promoting literacy activities in the early childhood years?

Discussants agreed that parents should be supported in their roles as promoters of early language and literacy. It was noted that research on parenting in Jamaica indicates that parents "wish to learn about and be supported in their parenting", but despite this, many "feel threatened, even embarrassed to attend parent support classes"

(Maureen Samms Vaughan, March 13, 2012). The strategies identified to support these parents include:

- Promoting activities which all parents, regardless of literacy ability, can participate such as:
  - Listening to jingles and rhymes
  - Playing interactive clapping and hide and seek
  - Providing children with picture books
- Raising parents' awareness about the importance of activities that promote early language and literacy and frequency of engagement
- Having the approach of meeting parents where they are. This involves finding out what they have been doing to promote language and literacy and build on their efforts,
- Using television to promote learning, including literacy and love for reading
- Providing educational materials and audiovisual teaching aids that are relevant to Jamaican children and families
- Creating a structured programme with audio/ visual materials and demonstrations about how to use waste material to promote early learning

About 13 years ago, I tried to introduce a programme, which was being done at Boston Medical Centre in the USA, to some Jamaican paediatricians. The programme is called "Reach out and Read", the essence of the programme is that every time a child visits the clinic between age 6 weeks and 3 years the doctor introduces an age-appropriate book and demonstrates to the parent how to use it. In addition, while the children and parents wait to be seen by the doctor, a volunteer reads to them and introduces simple activities with paper, crayons and toys. The result is that the parents learn how to stimulate their children and the children begin to learn and enjoy books. The home will also be enriched because there will be at least 8 books for the child. The Jamaican paediatricians liked the idea but clearly stated that their clinics were too full and they did not have the time. I tried to introduce the programme through the parish library in a project that was being proposed for St. Catherine but this also did not materialize. Last year, I mentioned the idea to another paediatrician who has encouraged me to write a proposal for a pilot. I have not yet had the time to begin the writing process but is seems as if 'the fullness of time' has come.

Pauline Bain Family Life Ministries

# What strategies should be used by teachers in the classroom to stimulate language and literacy development in young children?

Several classroom strategies for early childhood professionals to support language and literacy development were identified. These were:

- o Labeling of objects in the classroom
- o Read aloud strategy, which gives children the opportunity to make predictions about what will happen next in the story
- o Listen to children's stories and encourage the use their imagination, creativity and prediction
- o Library centres in classrooms
- O Use the mother tongue to develop Standard English.
  - Do not 'put down' children for their use of Jamaica Creole
  - Model the appropriate use of the language
  - > Teach them how to code switch
- Print rich schools and classrooms
- o Encourage parents to get involved by getting them to read to read billboards, signs etc
- o Engage children in conversation in order to develop their language
  - Eircle time could be used to encourage children to talk about what they saw on the news
  - Invite children to draw and then talk about what they have drawn
  - Ask children to write about their pictures
- o Singing, poems, jingles that allow children to practice using the English language structures.
- o Games that require dialogue

#### Labelling strategy in action

"My experience as it relates to teaching, particularly at the early childhood level is very limited; almost non-existent. However I have found, through my own interaction with my child that the labelling of objects and the displaying of words help significantly to stimulate learning. When my son could recognise letters and was learning about their sounds, I was concerned how he would make the transition from being able to recognise letters to being able to read. I sought the advice of trained teachers and also conducted my own research, and one of the main recommendations was the labelling of objects and the open display of words. I labelled objects that my son used on a daily basis and on the wall I pasted cards with words he heard regularly. From the first day I put the labels on display, I found he naturally gravitated towards them. He saw the letters, but the sequence was not familiar. This made him very curious. Each time he went towards a card or a labelled object I would say the word, then begin to breakdown the word by using the sound of each letter. Over time I have found that he is able say the word and also identify them when on display in other areas, whether books or other places."

Kamille Dwyer

#### **Support programmes**

#### Parent Places Initiative

The objective of the Parent Place Initiative is to to identify, coordinate and build on existing efforts within Jamaica to strengthen and support parents in their increasingly difficult task of raising children. It has been conceptualized as a comfortable and attractive 'one-stop-shop' for parents to access parenting information, courses and workshops, mentoring support from other parents among other services. "Any community-based organisation concerned to support parents (churches, schools, NGOs, clinics....) can apply to be certified as a Parents' Place, which is simply a "branded" comfortable space for parents to come for parenting information and workshops and courses on parenting, but also can provide many other services that parents/guardians in the community might want--skills training programmes, adult literacy classes (or self-teaching computer literacy programmes), recreational activities for families...the options are wide open, depending on community needs and interests" (Janet Brown, March 15, 2012)

The requirements for approval as a Parents' Place are:

- o The community must want it.
- O A community group or organisation must lead in planning with parents what activities they want.
- There must be a space for parents to get information and to meet in groups.
- O At least one parenting course must be offered (20 hours or more) per year.
- o A coordinator must be secured (paid or voluntary) to operate the Parents' Place

At the launch, seven Parents' Places were established. They are:

- o All Saints Anglican Church, Kingston
- o Clarendon Early Childhood Resource Centre, Four Paths
- o DRB Grant Early Childhood Resource Centre, Montego Bay
- o Hope for Children Development Company, Kingston
- o RISE Life Management, Kingston
- o The Source, Savanna-la-Mar
- o The YMCA, Kingston

For more information on what becoming a Parents' Place means, e-mail: parentsplaceja@gmail.com.

#### Rovers Cargiving Programme (RCP)

This programme plays a critical role in reaching parents and children where they are and simultaneously increases the opportunities for children to receive stimulation (Merris Murrary & Christopher Clarke, March 14, 2012). It "is a rural home visiting, early stimulation and parenting initiative, which was designed to provide enrichment to young children and their parents through training and deployment of a cadre of young caregivers called Rovers. The RCP serves approximately 1,445 children up to the age of 3 years in 3 rural parishes of Jamaica. It is designed to promote the development, health and nutrition of children, the self-esteem and child rearing knowledge and practices of the parents, as well as to assist with income-generating activities for families. Secondary school leavers are recruited as rovers to work in the areas in which they live. They are trained to demonstrate and teach the parents stimulation activities and child rearing practices. Parenting education sessions are also provided away from the homes in group settings by a professional" (UNICEF). Evaluations of RCP show that children who benefit from the programme have significantly higher development quotients compared to non – beneficiaries in similar circumstances.

The Roving Caregivers' Programme (RCP) captures the major gap i.e. the birth to three age cohort in the ECD sector. The RCP works simultaneously with parents and children, NB. the involvement of parent is critical in this process. The programme targets children in extremely at risk situations (inner city, violenceprone, deep-rural and low literacy level communities. Evaluation of RCP is done by UNICEF. Recommendations for replication were made by the Taskforce on Educational Reform as far back as 2004. The community involvement is compatible with the evolution of the three-six component of the ECD programme. The RCP lends itself to the partnership that can be forged with NGOs, the Church and other community groups. Additionally the programme benefits Rovers who are usually young adolescents in that many of them have identified and pursued career paths. An incredible spin-off effect. The exposure to the conditions of participants in the programme reinforces the stark realities of teenage pregnancies, and the consequences of unplanned parenting, early dropout of the formal education system and extreme poverty.

A major gap in the readiness programme is that the majority of the early childhood cohorts start the readiness programme with learning deficits as a result of inappropriate early stimulation. An effective strategy is therefore to target children in the birth to three with the greatest need. In so doing, this will level the playing field by providing adequate and appropriate exposure for the majority of children, birth to three and three to six. The net result would be improved readiness at grade one.

Merris Murray
National Council on Education



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A Rover engages toddler in fun activity while her mother and sister look on in interest

#### Community Health Aide programme

This is an early stimulation programme that was developed in Jamaica by the Tropical Medicine Research Institute (TMRI) at the University of the West Indies. The programme delivered by community health aides, who trained to provide support for parents of children 0-3 years. The programme's objective is to improve mother-child interaction, increase stimulation and play.

This intervention involved weekly home visits for 30 minutes by community health aides who "demonstrated play activities involving the mother and child" and "parenting issues were discussed". The community health aides followed a structured curriculum. Homemade toys and books and materials in the home were used to reduce the cost of the intervention. The toys were left in the homes each week and exchanged at each visit (Powell, Baker-Henningham, Walker, Gernay, & Grantham-McGregor, 2004, p. 2). The work of the TMRI demonstrated that this intervention can be successfully integrated into existing health services.

Literacy development is impaired by learning deficits, which is attributable to insufficient stimulation of the child during the early years. All three support programmes aim to bridge the gap between parents' awareness and knowledge of what they ought to do to ensure that their child is adequately stimulated and properly nutured.

Unlike the Parent Place Initiative, the RCP and Community Health Aide Programme are home visiting programmes. Dr. Kerida Scott – McDonald identified 12 elements of quality that characterizes successful home visiting programmes. These are:

- 1. Linkage of childcare supports with family supports
- 2. Recognition of women's multiple roles as mothers, home-makers, and income earners
- 3. Transfer of skills to the client and household
- 4. Flexibility in service delivery
- 5. Acknowledgement of family configuration and building on existing networks for children
- 6. Sustainability of the programme's play materials
- 7. Strong referral systems and access support
- 8. High Staff retention
- 9. Documentation
- 10. Strong feedback and monitoring systems
- 11. Research orientation leading to action
- 12. Proactive measures to ensure sustainability

#### RELATED RESOURCES

Bardige, B.S. & Segal, M.M. (2005). *Creating an environment that enhances emergent literacy*. Available from <a href="http://jamaica.kdid.org/groups/eduexchange-linking-early-childhood-development-ecd-literacy-development/creating-environment">http://jamaica.kdid.org/groups/eduexchange-linking-early-childhood-development-ecd-literacy-development/creating-environment</a>

An environment that enhances emergent literacy gives children a sense of trust and assurance even as it excites their wonder and invites them to explore. Whether it is in a home, a school, or a community setting such as a library or play space, an environment that supports emergent literacy is full of possibilities for imagining and opportunities for pretend play. It provides children with not only a wealth of spoken and written words but also many opportunities to engage in reading, writing, singing, and storytelling activities.

Setting up these kinds of environments for infants, toddlers, preschoolers, or mixed-age groups is usually a three-step process:

- 1. Create a safe and comfortable setting that supports relationships and invites exploration. Rooms for toddlers and preschool children should include spaces for quiet and active play, for intimate gatherings, and for larger group activities.
- 2. Furnish the rooms with equipment, books, and materials that are appropriate for the developmental age or stages of the children.
- 3. Make the environment "print rich." Add decorations and learning materials that demonstrate various functions of print and that provide the children with multiple opportunities to explore print in various forms. Post signs and symbols that show children and adults what the environment offers and that invite their participation, reflection, conversation, and play.

This is an excerpt from Building Literacy with Love: A Guide for Teachers and Caregivers of Children through to age 5 by Betty S. Bardige and Marilyn M. Segal.

Chrisler, A. & Ling, T. (2011). What works for early language and literacy development: Lessons from experimental evaluations and intervention strategies. *Child Trends*. Available from www.jamaica.kdid.org

This Fact Sheet reviews fifteen experimentally-evaluated programs and intervention strategies that were primarily focused on improving early language and literacy skills. The review does not include comprehensive early childhood programs or early intervention strategies that may produce literacy and language outcomes, such as Even Start, Head Start, the Carolina Abecedarian Project, Tools of the Mind, or Ready to Learn. In addition, this Fact Sheet is not an exhaustive list of effective early language and literacy programs and interventions. Rather, it is an overview of experimentally evaluated programs and intervention strategies that have been identified for Child Trends' database of random assignment, intent-to-treat studies of social interventions for children and youth – LINKS (Lifecourse Interventions to Nurture Kids Successfully).

Christie, J.F. & Roskos, K.A. (2009). Play's potential in early literacy development. *Encyclopedia on early childhood development*. Available from <a href="http://jamaica.kdid.org/groups/eduexchange-linking-early-childhood-development-ecd-literacy-development/plays-potential-earl">http://jamaica.kdid.org/groups/eduexchange-linking-early-childhood-development-ecd-literacy-development/plays-potential-earl</a>

Play in the preschool years has the potential to provide young children with a highly engaging and meaningful context for learning essential early literacy concepts and skills. The potential exists because theoretically, dramatic play and literacy share higher order, cognitive processes such as imaging, categorizing and problem solving. Research interest in a play-literacy connection appeared as early as 1974, but surged during the 1990s – most likely inspired by new insights into the foundations of literacy before schooling. Play, as a developmentally-appropriate activity, meshed perfectly with emergent literacy, a new insight on literacy development, and the play-literacy

connection became one of the most heavily-researched areas of early literacy learning and instruction in the late 20th century.

Early Childhood Commission. (2008). A reader friendly guide to the national strategic plan for early childhood development in Jamaica – 2008 to 2013. Available from <a href="http://jamaica.kdid.org/groups/eduexchange-linking-early-childhood-development-ecd-literacy-development/reader-friendly-guid">http://jamaica.kdid.org/groups/eduexchange-linking-early-childhood-development-ecd-literacy-development/reader-friendly-guid</a>

This Reader Friendly Guide to the National Strategic Plan (NSP) for Early Childhood Development is a publication of the Information, Education and Communications Department of the Early Childhood Commission.

George Brown's School of Early Childhood .(2008). Early *Childhood development: From standards to practice*. Available from http://jamaica.kdid.org/groups/eduexchange-linking-early-childhood-development-ecd-literacy-development/best-practices-early

Appropriate and inappropriate practices were identified in a checklist. This Best Practices document has been divided into the following sections: (1) Best Practices for Working with Families, (2) Best Practices for Interactions and Relationships, (3) Best Practices for Schedule, Routines and Transitions, (4) Best Practices for Environments, (5) Best Practices for Planning for Curriculum

George Brown's School of Early Childhood was awarded a 5 year Association of Canadian Community Colleges project in 2003 funded by the Canadian International Development Agency (CIDA). Their partners on the project include; the Early Childhood Commission, Ministry of Education and Youth (MOEY), Shortwood Teachers' College, UNICEF/ Jamaica as well as P.A.C.E. Canada.

Graham – McGregor, S.M. Powell, C.A., Walker, S.P., & Himes, J.H. (1991). Nutritional supplement, psychological stimulation and mental retardation of stunted children: The Jamaican Study, *The Lancet, 338, p. 1-5* 

Justice, L.M. & Pullen, P.C (2003). Promising interventions for promoting emergent literacy skills: Three evidence – based approaches, *Topic in Early Childhood Special Education: A journal of Hammill Institute on Disabilities*, 23(3), p. 99-113

The decade of the 1990s saw a tremendous increase in research studying the value of emergent literacy intervention, particularly for meeting the needs of children at risk. Such studies have documented the positive effects of adult—child shared storybook reading, literacy-enriched play settings, and structured phonological awareness curricula for enhancing the emergent literacy skills of young children. This article defines emergent literacy, discusses the meaning of evidence-based practice, and describes three promising evidence-based approaches for emergent literacy intervention.

Pelletier, J. (2011). Supporting early language and literacy. *What works? Research into Practice*, 37. Available from <a href="http://jamaica.kdid.org/groups/eduexchange-linking-early-childhood-development-ecd-literacy-development/supporting-early-lan">http://jamaica.kdid.org/groups/eduexchange-linking-early-childhood-development-ecd-literacy-development/supporting-early-lan</a>

The time of early childhood prior to Grade 1 is a qualitatively unique developmental period for language and literacy learning. This monograph addresses the question of how parents and educators can support young children in becoming literate learners. It begins by summarizing current research on literacy development and then offers some practical research-based strategies for those who work with young children in school settings.

Roopnarine, J. (June 2005). The Roving Caregiver Program in Jamaica: Its theoretical and research foundations and efficacy. Bernard van Leeder Foundation – A report

This report focuses on some deceptively simple questions posed by the Bernard van Leer Foundation regarding the Roving Caregiver Program (RCP), a home-visiting parent stimulation program that offers services to rural poor Jamaican families: (1) What are the theoretical underpinnings of the RCP? (2) Is there congruence between the conceptual aspects of the RCP model and the services delivered? (3) What is the overall efficacy and potential generalizability of the RCP? (4) What are the strengths and limitations of the RCP? and (5) What recommendations can be made to further strengthen the program?

Scott - McDonald, K. (2002). Elements of quality in home visiting programs: Three Jamaican Models. In M. Eming Young (Ed.), From early childhood development to human development (p. 233 - 253). Washington, DC: World Bank

An examination of three home visiting programs in Jamaica for increasing the access of poor families to early childhood interventions and for building social capital., including the Roving Caregivers Program, serving the needs of children of teenage mothers and families, the Community-Based Rehabilitation Program, assisting young children with disabilities and the Malnourished Children's Program addressing the nutritional and psychosocial needs of children admitted to the hospital for malnutrition.

Strickland, D. & Riley – Ayers, S. (2006). Early literacy: Policy and Practice in the preschool years. Available from <a href="http://jamaica.kdid.org/groups/eduexchange-linking-early-childhood-development-ecd-literacy-development/early-literacy-polic">http://jamaica.kdid.org/groups/eduexchange-linking-early-childhood-development-ecd-literacy-development/early-literacy-polic</a>

As early childhood education moves front and center in the public policy debate, more attention is being paid to early literacy. Early childhood professionals have long recognized the importance of language and literacy in preparing children to succeed in school. Early literacy plays a key role in enabling the kind of early learning experiences that research shows are linked with academic achievement, reduced grade retention, higher graduation rates and enhanced productivity in adult life. This report synthesizes the body of professional knowledge about early literacy and offers research-based recommendations.

Walker, S.P., Chang, S.M., Powell, C.A., & Graham – McGregor, S.M. (2005). Early Childhood psychosocial stimulation and nutritional supplement on cognition and education in growth retarded Jamaican children: Prospective cohort study, *The Lancet*, 366, p. 1 – 8

Growth retardation affects about a third of children younger than age 5 years in developing countries and is associated with poor development. Previously, we did a 2-year trial of nutritional supplementation and psychosocial stimulation in growth-stunted children aged 9–24months. Non-stunted children were also assessed. Both types of intervention benefited development. Here, we present the effects of these early interventions on cognition and education at age 17-18 years. We did a prospective cohort study of stunted (n=103 of the original 129) and non-stunted children (n=64 of 84) aged 17–18 years and living in Kingston, Jamaica. We had previously randomly assigned stunted children (at age 9-24months) to supplementation (1 kg milk-based formula per week), stimulation (weekly play sessions), both types of intervention, or no intervention. Our primary outcomes were cognition and educational achievement. Analysis was by intention to treat. We noted no significant effects of supplementation. Compared with no intervention, however, stimulation resulted in higher full scale IQ scores (coefficient 0.38, 95% CI 0.06–0.71, p=0.019) and higher scores on the verbal subscale (0.37, 0.07–0.68, p=0.018), Peabody picture vocabulary test (7.84, 0.73–14.95, p=0.031), verbal analogies (0.26, 0.03–0.49, p=0.028), and reading tests (4.73, 1.31–8.14, p=0.007, and 2.7, 1.12–4.37, p=0.001). School dropout rates were higher in the non-stimulated stunted children than in children who were stimulated (29% vs 15%, p=0.078). Overall, stunted non-stimulated participants had significantly poorer scores than the non-stunted group on 11 of 12 cognitive and educational tests. Stunting in early childhood is associated with cognitive and educational deficits in late adolescence, which are reduced by stimulation at a young age.

Williams, S. & Charles, L. (2008). The experience of developing early childhood learning goals and outcomes in the Caribbean and the implications for curriculum development and implementation. *International Journal of Early Years*, 16 (1) p. 17 – 29. Available from http://jamaica.kdid.org/groups/eduexchange-linking-early-childhood-development-ecd-literacy-development/experience-developin

This article describes the regional impetus to early childhood curriculum development in Caribbean Community (CARICOM) countries and discusses its prospects for effective implementation. The historical context in which pre-school education has evolved is outlined. Regional research evidence for the enrichment of early childhood experience and for the priorities for improvement of learning environments for young children is cited. The challenge to build capacity at national level to develop and implement curriculum reform is described in the context of the policy steps taken to create an enabling environment through a regional consensus on Caribbean early learning goals and outcomes. Questions are raised about how effective curriculum reform can be in contexts in which it is not as yet supported by the attainment of other national development goals. The authors argue that the enabling environment has to be strengthened and priority needs to be given to the establishment of regulatory frameworks and mass teacher education.

#### Zero to Three. (2003). Early literacy. Retrieved from www.zerotothree.org

Zero to Three presents information concerning the relationship between early language and literacy development. It is noted that early literacy does not mean early reading and that formal instruction, which pushes infants and toddlers to perform "the actual reading and writing of words" is not developmentally appropriate. Early literacy behaviours and ways to share books with babies and toddlers are identified.