

# Quality in Early Childhood Education: an International Review and Guide for Policy Makers

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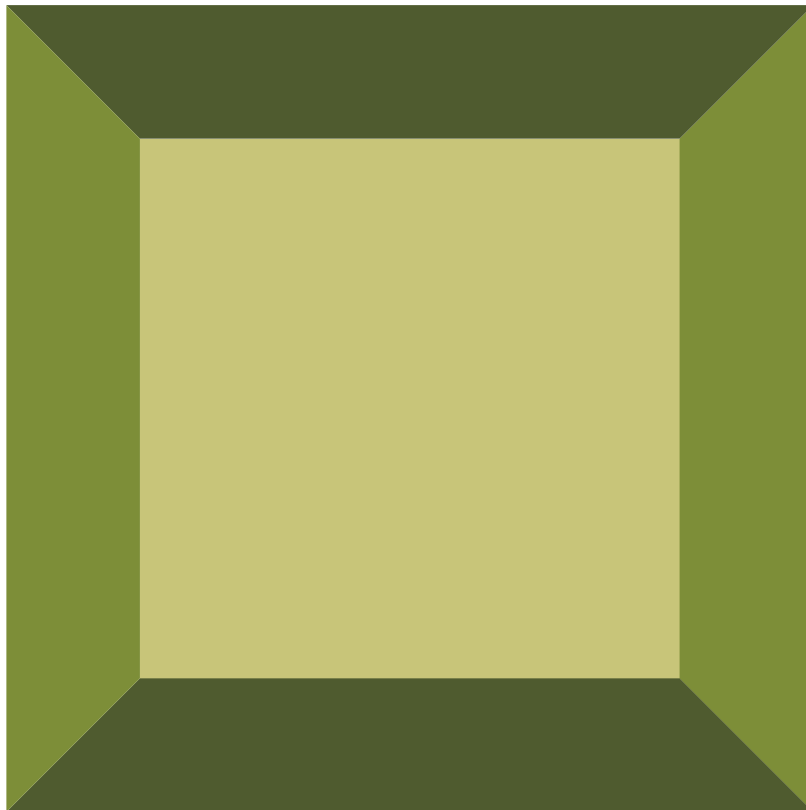
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The views and opinions in this publication are solely those of the authors.

# FOREWORD

The recently adopted United Nations Sustainable Development Goals call upon Member States by 2030 to “ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education.” In this regard the UN is correctly responding to the plethora of research studies that demonstrate the criticality of early childhood development in predisposing children for success in school and indeed in many other spheres of life.

We know from recent research that both the quantity and quality of care and interactions that a child has in the very early years can have a significant impact even on the physical development of the brain. A study by scientists at the University of Southern California recently published in the journal *Nature Neuroscience* revealed that the children of affluent parents had, on average, bigger brains than those from poorer backgrounds. The study noted that the regions of the brain where the differences were most pronounced were those associated with language, reading, memory and decision-making. It is reasonable to conclude therefore that this developmental discrepancy was the direct result of the fact that the children of affluent parents enjoyed higher quality nutrition, childcare and schooling than their poorer counterparts.

Studies such as this raise profound questions about the effectiveness of traditional education policy interventions designed to achieve equality of opportunity and thereby enhance social mobility. At the very least they strongly suggest that if we are genuinely interested in achieving a truly meritocratic society, then we ought to prioritize investment in providing strong community support and quality early childhood education for all

of our young children regardless of the relative income levels of their parents. In this regard, it is important to identify and agree on what we mean by quality early childhood education. This is the purpose of this report, which hopes to serve as a guide to policymakers and practitioners presenting them with a robust review of the science behind early childhood development along with best practice examples of successful interventions in different contexts.

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# EXECUTIVE SUMMARY

**There is strong and consistent evidence that high quality Early Childhood Education (ECE) impacts children's academic development and their emotional and social well-being more powerfully than any other phase of education.**

At the same time, what is understood by high quality is often not well defined. This report argues that, in order to assess and promote quality in ECE, we must identify which aspects of children's early experience and development support and predict high levels of cognitive, academic, emotional, and social functioning in later life.

The report therefore starts with an analysis of what is known from developmental psychology about these key early experiences and developments. Analysis of developmental psychological research suggests that children who are emotionally secure, curious, and playful, with well-developed oral language and self-regulation abilities, will be most enabled to develop as powerful learners and emotionally and socially healthy individuals.

ECE settings which support these developments are characterized by emotionally warm and supportive social interactions, the provision of developmentally challenging and playful learning opportunities, dialogic and collaborative talk, and support for child-initiated activity and children's autonomy.

Throughout the rest of the report, the quality of ECE and its various elements are assessed in relation to key elements, including international developments in ECE, methods for defining and measuring quality in ECE, and international progress toward quality in ECE. This report then examines a range of alternative ECE approaches, some of which were developed by ECE pioneers in the nineteenth and early twentieth centuries and have steadily risen in popularity in countries all over the world. Next, a range of high quality ECE initiatives across the developing world is reviewed. Finally, the report concludes with sixteen specific policy recommendations in order to ensure the achievement of high quality ECE internationally.

# #1

YOUNG CHILDREN'S  
DEVELOPMENT AND  
LEARNING

# #1 YOUNG CHILDREN'S DEVELOPMENT AND LEARNING

This first section provides a brief overview of the main areas of research in developmental psychology (and the emerging contributions of developmental neuroscience) which relate to the cognitive power and emotional health of young children and have implications for ECE. The psychological journey from babyhood to adolescence is fundamentally one of increasing awareness and control by children of their own mental processes. The growth, development, and learning which comprise this journey enable children to become increasingly independent of adults or, in the language of Vygotsky (1978, 1986), to move from being other-regulated toward being self-regulated.

There is now a vast research literature addressing the emergence and development of self regulation in children. The most widely accepted definition of what is meant by this term in developmental psychology is that offered by Schunk and Zimmerman (1994): "The process whereby students activate and sustain cognitions, behaviors, and affects, which are systematically oriented toward attainment of their goals"(p. 309). The model of metacognition originally developed by Nelson and Narens (1990, 1994), incorporating the complementary processes of metacognitive monitoring and control, has been widely adopted, and evidence has been accrued of young children's much more advanced abilities in these areas than was previously recognized.

For example, observational studies of three to five year old children in the naturalistic contexts of their ECE classrooms, engaged in playful, self-initiated individual and small group collaborative activities, have revealed extensive metacognitive and self-regulatory behaviors. Monitoring behaviors observed included self-commentary, reviewing and keeping track of progress, rating effort and level of difficulty, checking behaviors and detecting errors, evaluating strategies' use, rating the quality



of performance, and evaluating when a task was complete. Control behaviors included changing strategies on a task based on previous monitoring, applying a previously learned strategy to a new situation, repeating a strategy in order to check the accuracy of the outcome, using a non-verbal gesture to support cognitive activity, and various types of planning activities. Many of these behaviors were observed when children were engaged in playful constructional activities or pretence play involving small-world scenarios with dolls and action figures or role play involving dressing up and acting out real world narratives or fantasy adventures (Whitebread et al., 2005, 2007, 2009).

These metacognitive and self-regulatory abilities have been shown to be the most powerful single predictor of learning (Wang, Haertel and Walberg, 1990), to make a unique contribution to learning performance beyond that accounted for by traditionally measured intelligence (Veenman and Spaans, 2005) or early reading achievement (McClelland, Acock, Piccinin, Rhea and Stallings, 2013), and to be a key area of weakness for many children with learning difficulties (Sugden, 1989). The crucial role played by these abilities has been extensively researched in relation to the development of an increasingly wide range of domains, including, for example, mathematics (de Corte et al, 2000), reading and text comprehension (Maki and McGuire, 2002), writing (Hacker, Keener and Kirchner, 2009) and memory (Reder, 1996).

It has also been established that self-regulatory abilities are significantly influenced by children's early experiences, and that, as a consequence, they can easily be encouraged within educational settings (Dignath, Buettner and Langfeldt, 2008). Importantly, practices which support children's self-regulation have been shown to be those that make the processes of learning "explicit" or "visible" (Hattie, 2009, 2012; Whitebread, Pino-Pasternak and Coltman, 2015), engage them in achievable regulatory challenges, and support and nurture their natural playfulness and curiosity (Whitebread, Jameson and Basilio, 2015).

In the remainder of this first section, we set out key findings in relation to children's emotional, social, and cognitive development, the role of language and playfulness in supporting self-regulation, and developmental principles emerging from this body of research supporting high quality ECE.

## **I. EMOTIONAL**

Education at its best is concerned with the whole child, and learning to recognize and manage our emotions, what has sometimes been referred to as emotional "intelligence" (Goleman, 1995), is a fundamental

life skill with enormous implications for a child's development. Cefai (2008) has demonstrated the inextricable links between emotional and cognitive learning. The skills of friendship and the abilities required to work effectively in groups with others, for example, are crucially underpinned by the growing child's understanding and regulation of his or her emotions.

Learning is, by its very essence, a highly emotional process. As human beings, we have evolved to enjoy learning and to be disappointed when we cannot understand something. Our emotional responses to learning powerfully drive our motivation to learn and to make the intellectual effort required to do so. Modern neuroscientific research has demonstrated the strong links in the human brain between emotional and cognitive processes. The limbic system in the brain, consisting of a collection of specialized glands producing hormones, regulates our emotions and is intricately interconnected with the cerebral cortex, which makes consciousness possible, including our conscious awareness and regulation of our emotions (Carter, 1998).

The dominant theoretical framework of research concerned with emotional development and its consequences for behaviour is attachment theory, initially derived from the pioneering work of Harlow (Blum, 2002) and Bowlby (1953). Subsequent research by Ainsworth et al (1978), Schaffer (1996), and others has clearly shown that children form attachments to a number of adults, including their teachers, and that they clearly benefit from such attachments in a variety of ways. What is crucial is the quality of these attachments, i.e. the sensitivity and responsiveness of the adults involved to the child's emotional needs.

Secure attachments with a range of adults, including their teachers, enhance children's ability to deal with the emotional challenges that they inevitably face in preschool. Harris (1989) and Dowling (2000) have provided extensive reviews of the research concerned with young children's emotional development. Young children are engaged in beginning to understand their own and others' emotions and can increasingly benefit from opportunities to experience and discuss them, either through their imaginative role-play with other children or through discussion of stories and real events within educational contexts.

An individual's beliefs about the value of any particular task, his or her emotional response to it (for example, feelings of difficulty), and the reasons attributed to previous success and failure on similar tasks (Dweck, 2000) all impact "goal-orientation" (i.e. the attitude about the goal of the task and ability to undertake it) and thus metacognitive performance (Boekaerts and Niemivirta 2000; Pintrich 2000). This recognition has led Paris and Paris (2001, p. 98) to refer to self-regulated learning

as the “fusion of skill and will.”

Within the self-regulation intervention literature, there has been a marked shift away from the direct teaching of metacognitive skills and strategies to a clearer emphasis on classroom “ethos” and the emotional environment (Boekaerts and Corno, 2005; Lin, 2001). In successful interventions supporting self-regulation in the primary classroom, there is a strong emphasis on practices which promote a positive emotional climate.

The dominant theoretical framework in relation to children’s motivation development within educational settings is Self-Determination Theory (SDT) originally proposed by Deci and Ryan (1985, 2008). Extensive research has shown that, as predicted by SDT, teachers’ support of children’s basic psychological needs for autonomy (being in control of, or an active agent in, one’s life), competence (being capable and experiencing feelings of self-efficacy), and relatedness (being valued and loved by significant others) facilitates their self-regulation, academic performance, and well-being (Niemi and Ryan, 2009). Such practices involve, for example, giving children opportunities for decision making, setting their own challenges, assessing their own work, encouraging positive feelings toward challenging tasks, emphasizing personal progress rather than social comparisons, and responding to and training children’s helpless beliefs (Meyer and Turner, 2002; Perry, 1998; Nolen, 2007).

Underpinning all this, however, an emotional climate which is warm, responsive, non-judgmental and in which emotional issues are openly discussed and addressed is fundamental to supporting children to develop emotional well-being, resilience, and positive attitudes about themselves as learners, which are crucial to enabling children to derive the most positive benefit from their educational experiences. Cefai (2008) has produced a very useful review of approaches to promoting children’s resilience in the classroom.

## **II. SOCIAL DEVELOPMENT**

Developing a range of social competencies is a vital part of children’s development, for two clear reasons. Developing social skills is an important aspect of education in its own right but also enables young children to learn with and from adults and other children.

Human beings are essentially social animals and develop a range of social skills and abilities at a very young age. Work by Trevarthen and Aitkin (2001) and Meltzoff (2002) has shown that babies expect other human

beings to interact with them and imitate humans who do so. By the age of 18 months, children imitate others' intentions rather than blindly copying their actual performance. Before they are two years old, many children begin to offer support and help to others (e.g. by touching the person in distress, verbally expressing sympathy, offering comforting objects, or fetching someone else to help).

There are, however, significant individual differences in this area. Dunn et al. (1991) showed that the quality of the child's early social relationships and the extent to which they are discussed and sensitively managed within the family had a significant impact upon early social understanding and developing abilities to form and maintain relationships and friendships with others. There are clear implications here for the kinds of discussions and the value of children working collaboratively together on tasks, which can be valuably supported by teachers during children's early years in school.

Children's friendships have been shown to be particularly important (Dunn, 2004). Friendships provide a powerful context within which children can develop social skills and understandings. Sanson, Hemphill and Smart (2004) have reviewed the extensive evidence that children with well-developed friendship skills approach novel situations with confidence (arising, as we have seen, from secure emotional attachment) and are most able to regulate their behaviour and emotions and to negotiate and resolve disagreements. As regards implications for ECE practice, Howe (2010) has contrasted the poor outcomes for social competencies and friendships arising in classrooms where individual performance is emphasized and children are grouped by ability with the positive social outcomes in classrooms where cooperation is emphasized and working on tasks collaboratively in mixed-ability groups is a more common feature.

The extensive research on styles of parent-child interactions, arising from the classic research of Baumrind (1967) and Maccoby and Martin (1983) has demonstrated the benefits of high parental responsiveness combined with high expectations by the parents of the child. The significance of responsiveness was, of course, independently identified by the attachment research reviewed earlier. "Authoritative" parents are the most emotionally warm and affectionate toward their children. In addition, however, they also set clear and consistent standards for their child's behaviour and convey high expectations for performance. At the same time, they demonstrate clear respect for the child's developing need for autonomy and independence and support the child's adherence to the standards and rules established through discussion and negotiation, explaining their reasoning rather than simply asserting their authority. This style has been shown to support children's developing self-efficacy

and self-regulation and, hence, their success as learners. Authoritative parenting has also been found to be associated with a range of positive outcomes in relation to children's social competence. As children, they most easily make relationships with other children and adults and are generally the most popular amongst their peers. This work provides us with principles which can equally well be applied to the ECE classroom.

### **III. COGNITIVE DEVELOPMENT**

There is not space within this brief review to adequately address the vast literature on children's cognitive development. However, a few strands are worth identifying which have important messages for ECE.

Modern cognitive developmental psychology owes a great deal to the work of Jean Piaget, which was first brought to the attention of the English speaking world by Flavell's (1963) influential overview. Piaget transformed our understandings about early cognitive development through a vast amount of observational studies demonstrating the active nature of children as learners. Subsequent research building on his ideas has clearly established children as "meaning makers" or "little scientists" who actively construct their own understandings of the world (Donaldson, 1978).

In relation to education, what emerges from this area of research is that we need to clearly recognize the difference between teaching and learning. Young children do not passively receive the information we provide for them. They are engaged continually in a process of active interpretation and transformation of new experiences and the information derived from them. If we want to help young children to make sense of their educational experiences, we must ensure that we place new tasks in contexts with which they are familiar and which carry meaning for them.

Beyond this, through a range of newly emerging technologies such as habituation, video observation, eye-tracking, computer modeling, and neuroscientific techniques, cognitive psychologists over the last 30 to 40 years have uncovered an impressive range of processes by which the human brain learns. They have also established that many of these processes are there and fully functioning at birth or mature very quickly during the first four to five years of life, as the brain increases in size fourfold (largely as a consequence of a rapid increase in the number of synaptic connections between neurons in the cerebral cortex).

Goswami (2008) has provided an extensive review of the many experiments which have shown the very early emergence of this range of basic

learning processes. These include “statistical learning” through which young children identify patterns in their experience and actively use them to express themselves (eg; in learning language) or to develop basic concepts and ideas about the physical and social world. This has the clear implication that the role of the educator, at least in part, is not to directly teach the rules or concepts that children need to understand but to provide children with rich, playful, and meaningful experiences from which they can develop their own, much more securely understood ideas. Linked to this is the strong evidence from a range of studies, for example, that children whose preschool model is more instructionally and academically oriented make significantly less academic progress in comparison to children who attend child-initiated, play-based preschool programs (Marcon, 2002).

We noted in the section on social development above that children are very well attuned to learn from others through imitation, as evidenced by the work of Meltzoff (2002) and others. This ability is enormously enhanced as a tool for learning by the ability for imitation which is not only immediate (i.e. carried out while the to-be-copied behaviour is still perceptually available) but also deferred (i.e. performed on a subsequent occasion). Deferred imitation crucially depends upon our ability to mentally represent objects and events in memory. This ability again appears to be present from an early age and to develop rapidly in very young children. Meltzoff (1988) identified deferred imitation in children as young as nine months old. At this age, he demonstrated that they could reproduce novel actions they had observed up to 24 hours later (when presented with the same toy), but later work has shown that by the age of two years children are capable of showing deferred imitation after delays of two to four months.

For the ECE educator, this indicates that practical demonstrations can be very helpful when supporting children’s skill development, particularly as adult modeling often leads to children doing far more than simply copying. For example, in one study with children aged between 27 and 41 months, after an adult acted out a sequence of pretence activities with dolls, the children’s subsequent play with the dolls included many more imaginary acts which were as likely to be novel as they were to be copies of the adult’s activities (Nielsen and Christie, 2008).

## **IV. KEY TRANSVERSAL SKILLS: SELF-REGULATION, LANGUAGE, AND PLAYFULNESS**

Two further mechanisms which powerfully underpin children's learning impact upon them across the emotional, social, and cognitive spheres: children's developing oral language abilities and their playfulness.

The crucial role of oral language in early childhood development is, of course, well established, and a growing body of evidence indicates its relation to the development of early metacognition and self-regulation. An American study of 120 toddlers in New England, for example, showed strong relationships between vocabulary size at 14, 24 and 36 months and a range of observed self-regulatory behaviors, such as the ability to maintain attention on tasks and to adapt to changes in tasks and procedures (Vallotton and Ayoub, 2011).

Three key areas of research in relation to oral language, learning, and development have important implications for high quality ECE. First, investigations relating to episodes of joint attention between adults and young children have indicated that these are crucially important in children's development of their language abilities. Within these interactions, it has further been demonstrated that adults who follow children's interests, rather than attempt to shift the conversation to their own agenda, are far more effective in fostering children's language development (Schaffer, 2004). This has very significant implications for the style of dialogue which is likely to be most productive within ECE classrooms. The EPPE study in the UK, a large longitudinal study of factors leading to effective ECE provision, identified episodes of "sustained shared thinking" between adults and children as characteristic of high quality preschool settings which significantly impacted a range of emotional and cognitive gains, even over-riding the effects of social disadvantage (Sylva, Melhuish, Sammons, Siraj-Blatchford and Taggart, 2004).

In relation to adult-child interactions, within the cognitive sphere, the two key elements in effective "scaffolding" of young children's self-regulation have been consistently identified as the extent of metacognitive talk, including the explicit verbalization by the adult of explanations and strategic questions (Neitzel and Stright, 2003; Robinson, Burns and Davis, 2009) and the contingency of the support offered by the adult (Pino Pasternak, Whitebread and Tolmie, 2010). A series of studies within educational contexts reported by Ornstein, Grammer, and Coffman (2010), has demonstrated that the amount of contingent "metacognitive talk" is a strong predictor of academic outcomes. They demonstrated



that children taught by first grade maths teachers who regularly made suggestions of memory strategies the children could use and asked metacognitive questions aimed at eliciting strategy knowledge from the children, such as 'how could you help yourself to remember this?', showed significantly improved strategy use and ability to remember relevant mathematical facts related to these differences at the end of the first grade, and that these differences were still present at statistically significant levels three years later, at the end of the fourth grade.

On the emotional side, support for children's feelings of autonomy appears to be crucial. Emotional warmth has been found to be generally associated with various elements of children's self-regulation, including persistence on tasks (Pino Pasternak et al., 2010; Suchodoletz, Trommsdorf and Heikamp, 2011). However, there is also some evidence to suggest that, in combination with low cognitive demands, emotional warmth can result in a lack of autonomy and excessive help seeking and less effective development of self-regulation (Pino Pasternak et al., 2010; Puustinen, Lyyra, Metsapelto and Pulkinnen, 2008). The central significance from a motivational point of view of support for children's sense of autonomy emerges from a wide range of studies, both in classrooms and in the home. Over-controlling interactions between parents and children have consistently been related to poor self-regulatory development (Stevenson and Crnic, 2012), while parental support for their children's autonomy has emerged in a number of studies as a key predictor of self-regulation and academic achievement (Mattanah, Pratt, Cowan and Cowan, 2005; Pomerantz and Eaton, 2001).

In a range of classroom-based research, these particular features of social interactions have been placed in the wider context of classroom organization and structures. Perry (1998), for example, has shown that classrooms supporting high levels of children's self-regulation were characterized by challenging and open-ended activities, opportunities for children to control the level of challenge and opportunities for them to engage in self-assessment, autonomy, support, and encouragement of positive feelings toward challenge and emphasizing personal progress and mistakes as opportunities for learning.

Finally, in relation to collaborative group work among peers, there is also a significant body of research investigating the factors which lead to significant learning. Thus, it has been shown that by encouraging young children to use constructive "rules for talk" when they are working in collaborative group, the quality of their talk, their self-regulatory abilities, and their learning can be significantly enhanced (Mercer, 2013; Coltman et al, 2013).



The second area of research investigating the specific abilities and processes which significantly contribute to the early achievement of self-regulation is concerned with children's play. Neuroscientific studies reviewed by Pellis and Pellis (2009), for example, have shown that playful activity leads to synaptic growth, particularly in the frontal cortex, the part of the brain responsible for all the uniquely human higher mental functions.

A range of experimental psychology studies have consistently demonstrated the superior learning and motivation arising from playful approaches (including child-initiated and teacher guided) as opposed to instructional approaches to learning in children (Sylva, Bruner and Genova, 1976; Pellegrino and Gustafson, 2005; Whitebread, D. Jameson, H. and Basilio, M., 2015). Individual differences in playfulness have been shown to be associated with measures of cognitive development (Tamis-LeMonda and Bornstein, 1989) and of emotional well-being (Berk, Mann, and Ogan, 2006). Christie and Roskos (2006) have reviewed evidence that a playful approach to language learning, as opposed to formal instruction, offers the most powerful support for the early development of phonological and literacy skills.

Within educational research, a range of studies have indicated the relationships between play opportunities, self-regulation, learning, and development. For example, a recent study demonstrated that early self-regulatory skills were significantly related to the amount of unstructured time children experienced within their home context (Barker et al., 2014). In a series of studies with three to five year old children in ECE settings, Whitebread and colleagues showed that at this early age children could be observed developing their skills of intellectual and emotional self-regulation within playful activities (Whitebread et al, 2005, 2007; Whitebread, 2010). A growing number of educational studies suggest that early play experiences enhance young children's academic achievement by supporting the early development of self-regulation (Ponitz, McClelland, Matthews and Morrison, 2009). Children who attend preschools based predominantly upon models emphasizing play rather than academic outcomes have been found to achieve higher scores on measures of self-regulation (Hyson, Copple and Jones, 2007).

The increasingly structured and supervised nature of children's lives in modern societies (half the world's children now live in cities) and the consequent lack of play opportunities is recognized as a serious cause for concern on a number of grounds (Whitebread et al, 2012). Gray (2011), for example, has demonstrated the relationship in the USA between the decline in children's free play and an increase in

child psychopathology.

The accumulated evidence in this area clearly indicates the need for educational provision, particularly in the early and primary years, which affords opportunities for children to play freely, encourages parents to recognize the importance of children's play, and provides playful learning approaches within the school curriculum.

## **V. EMERGING DEVELOPMENTAL PRINCIPLES SUPPORTING HIGH QUALITY ECE**

This first section has reviewed key findings from developmental psychology research which have significant implications for educational practice in ECE classrooms. It is a very brief review of a huge body of research, and many interesting findings and lines of research have been omitted. However, the broad picture of the over-arching significance of supporting children's developing self-regulation, including cognitive, emotional, social, and motivational dimensions emerge clearly. The role of language and communication and playfulness in supporting these developments has also been briefly indicated.

This research presents considerable challenges to ECE practitioners and implies a considerable move away from what might be regarded as a "traditional" model of teaching. However, as reported in many intervention studies, once ECE practitioners embark on this course, they quickly perceive the advances in their children's motivation, engagement with their learning, and progress as powerful learners, and they become enthusiastic advocates of an approach to teaching which has such demonstrable rewards.

# #2

QUALITY IN EARLY  
CHILDHOOD EDUCATION

# #2 QUALITY IN EARLY CHILDHOOD EDUCATION

This section reviews evidence of the importance of establishing high quality ECE, followed by a brief historical review of the development of international ECE policies. Next, approaches to defining and measuring quality in ECE are reviewed, followed by an analysis of progress in OECD and developing countries. Finally, examples of approaches, social entrepreneurial initiatives, and particular schools illustrating elements of high quality ECE are briefly described.

## I. KEY INTERNATIONAL DEVELOPMENTS IN ECE

### Importance of investing in ECE

ECE is a fairly new area of educational research and policy. Traditionally, where they existed, kindergartens and preschools around the world mostly provided child minding services rather than education. However, at the beginning of the 1980s, interest in ECE emerged from research on children's early development showing that their experiences in their early years are critical for later academic achievements and overall well-being.

Evidence now exists from around the world of these long-term benefits. Following on from the original Perry Preschool Project (Schweinhart, 1993), there have been further studies in the US (Campbell, Ramey, Pungello, Sparling, and Miller-Johnson, 2002) and many other countries, including Argentina (Berlinski, Galiani, and Gertler, 2009), Bangladesh (Aboud and Hossain, 2011), Latin America, sub-Saharan Africa, South and South-east Asia (Grantham-McGregor, Fernald, Kagawa, and Walker, 2014), Ethiopia, Peru, India, and Vietnam (Rolleston, James, and Aurino, 2013). Significantly, much of this evidence has further shown that ECE programs specifically benefit children from low socio-economic backgrounds. For example, results from longitudinal studies, such as the Abecedarian Project (Campbell et al., 2002) in the US, showed that

enrolment in ECE significantly enhanced adult outcomes such as further education, employment, and participation in healthy behaviors and reduced crime rates, particularly in disadvantaged children.

OECD reports, however, have demonstrated that provision alone is not sufficient to achieve these positive outcomes. The quality of the provision is also crucially important. Indeed, while lower quality ECE provision may reduce operating costs and might be an incentive for providers to expand access, the research clearly demonstrates that children are more likely to have language, social, and developmental problems in low-quality provisions. The effects of quality variations are also strongest, perhaps not surprisingly, for children living in poverty and whose parents have little education (OECD, 2001, 2006).

In addition, research carried out by economists has shown that high quality ECE programs have many long term economic benefits (Heckman, 2006, 2011; Heckman, Pinto, and Savelyev, 2013). According to Engle et al. (2011), increasing preschool enrolment to 50 percent of all children in low and middle-income countries could result in lifetime earnings gains of 14 to 34 billion US dollars. High quality ECE interventions targeting disadvantaged children in the US have been shown to have an annual return rate of 7 to 16 percent (Heckman, 2011; Rolnick and Grunewald, 2007). Evidence from developing countries confirms this claim. For example, a study reporting the effects of a randomized intervention carried out in Jamaica in 1986 and 1987 showed that the intervention increased earnings by 25 percent, which was sufficient for the intervention group to catch up to the earnings of a non-disadvantaged comparison group identified at baseline (Gertler et al., 2014). A recent report by the World Bank concludes that “the evidence on the returns to investment in ECD [early childhood development] is clear. [...] Investing in ECD has high potential to help achieve the Bank’s twin goals of eliminating poverty and increasing shared prosperity” (Sayre, Devercelli, Neuman, and Wodon, 2015, p. xiv).

Furthermore, it has been shown that remedial education interventions targeting young school drop-outs or adults with poor basic skills are far more costly than early interventions such as ECE and are of limited benefit. Setting high minimum standards is therefore an investment not only in children but also in the future of society in general (OECD, 2006).

## Development of international ECE goals

Alongside the developing research into the impact of ECE and the various initiatives and policy developments by international governments,

the United Nations has worked throughout the second half of the twentieth century and into the new millennium to establish internationally agreed upon goals for the provision of high quality ECE. We set out the development of these goals in this section and review progress in ECE policies, provision, pedagogy, and curriculum internationally in the next.

The right to education was first recognized by the Universal Declaration of Human Rights (United Nations, 1948). In the Convention on the Right of the Child, Article 29 (1), the State Parties agree that the education of the child should be directed to:

- the development of the child's personality, talents, and mental and physical abilities to their fullest potential,
- the development of respect for human rights and fundamental freedoms and for the principles enshrined in the Charter of the United Nations,
- the development of respect for the child's parents, his or her own cultural identity, language, and values, for the national values of the country in which the child is living, the country from which he or she may originate, and for civilizations different from his or her own,
- the preparation of the child for responsible life in a free society, in the spirit of understanding, peace, tolerance, equality of the sexes, and friendship among all peoples, ethnic, national and religious groups, and persons of indigenous origin, and
- the development of respect for the natural environment (United Nations, 1989).

Following up on the UN's general right to education, UNESCO's initiative World Declaration on Education for All was produced, with more specific education goals (to be achieved by the year 2000) and with an expanded vision of education (World Conference on Education for All, 1990). The goals included:

- Universal access to learning,
- A focus on equity,
- Emphasis on learning outcomes,
- Broadening the means and the scope of basic education,
- Enhancing the environment for learning, and
- Strengthening partnerships by 2000.

These targets were not achieved by the year 2000, but the Education for All (EFA) movement was reaffirmed in that year and six new internationally agreed upon educational goals were designed to meet the learning needs of all children, youth, and adults by 2015. These Millennium Development Goals were set out in the Millennium Declaration (United Nations, 2000) which was agreed to in a summit of 189 world leaders and included the following goals:

- Expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children,
- Ensuring that by 2015 all children, particularly girls, children in difficult circumstances, and those belonging to ethnic minorities, have access to and complete free and compulsory primary education of good quality,
- Ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life-skills programs,
- Eliminating gender disparities in primary and secondary education by 2015 and achieving gender equality by 2015, with focus on ensuring girls' full and equal access to and achievement in basic education of good quality, and
- Improving all aspects of the quality of education and ensuring excellence of all, so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy, and essential life skills.

While, as we will see in the next section, these goals were not achieved by the year 2015, there was considerable progress toward the general primary education enrolment and gender equality at all levels of education. Some positive developments included:

- From 1999 to 2008, an additional 52 million children were enrolled in primary school.
- The number of children out of school was halved in South and West Asia.
- In sub-Saharan Africa, enrolment rates rose by one third despite a large increase in the primary school age population.
- Gender parity in primary enrolment has improved significantly in the regions that began the decade with the greatest gender gaps.

- Government expenditure on education has risen very significantly in recent years in most developing countries (Burnett and Felsman, 2012).

Relatively little has been achieved, however, with regard to pre-primary, early education, and care (Burnett and Felsman, 2012). The vagueness of the goals regarding ECE worldwide and governments in different countries interpreting them in their own way and the overwhelming emphasis placed on participation rather than on the quality of learning have been generally recognized as possible contributing factors to this failure (UNESCO and UNICEF, 2012).

Progress toward universal enrolment has also slowed. This is in part a consequence of the fact that it is increasingly challenging to reach the most marginalized children. Also, in some countries, universal primary enrolment has lost momentum as a political priority, in part precisely as a result of success so far and the perceived need to shift focus and resources to other education levels (Burnett and Felsman, 2012).

In addition, as noted by Burnett and Felsman (2012) the quality of education remains alarmingly low in many countries with millions of children still emerging from primary school with reading, writing, and numeracy skills far below expected levels. It has also been recognized that current aid levels for basic education fall far short of the \$16 billion estimated to be required to meet the EFA goals (UNESCO, 2011). An argument has been made by some that, in contrast to the health goals, to an extent the unambitious nature of the education millennium goals contributed to the inability to attract greater resources. As has been reported by a number of commentators in this area, the evidence has slowly mounted and become very clear that the quality of programs is key to improving the cognitive and socio-emotional development of children (Administration for Children and Families, 2002; Britto, Yoshikawa, and Boller, 2011; La Paro, Pianta, and Stuhlman, 2004; Paulsell, Boller, Hallgren, and Mraz-Esposito, 2010; Yoshikawa, 1994).

Recognizing these challenges, however, the Millennium Development Goals were succeeded by the Sustainable Development Goals set out in 2015 in a document entitled *Transforming Our World: the 2030 Agenda for Sustainable Development*. The SDGs were first formally discussed at the United Nations Conference on Sustainable Development held in Rio de Janeiro in June 2012, and a final document was adopted at the UN Sustainable Development Summit September 25–27, 2015 in New York, USA. This document sets out the following goals, which have a much clearer focus on quality and how to achieve it:



- By 2030, ensure that all girls and boys have access to quality early childhood development, care, and pre-primary education so that they are ready for primary education.
- Build and upgrade education facilities that are child, disability, and gender sensitive and provide safe, non-violent, inclusive, and effective learning environments for all.
- By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially the least developed countries and small island developing States.

## II. DEFINING AND MEASURING QUALITY IN ECE

### Defining and researching indicators of high quality

How governments and other policy-making institutions define high quality education differs across countries, societies, and cultures. According to UNESCO (2015), quality of ECE should “reflect local values and perspectives on young children’s development as well as scientifically established predictors of their cognitive, language, and socio-emotional development.” This is clearly in line with the position we developed in Section 1 of this report. However, in practice, the current proposed universal Education for All indicators of quality, developed by UNESCO and reflecting much of the recent literature in this area, involve a much wider range of indicators, including space and furnishing, personal care routines, listening and talking activities and interactions with children, program structure, relationship with parents and staff, and response to staff professional development needs (UNESCO, 2015; UNESCO and UNICEF, 2012). These various indicators are predominantly categorized as either related to (i) structural or (ii) process quality.

Structural quality examines features of the ECE setting which enable high quality processes to be put in place. Features of structural quality are more easily defined and measurable in comparison with process quality and are thus more likely to be the more heavily regulated aspect of ECE quality (Phillips and Howes, 1987). For the same reasons, the vast majority of the research on ECE quality has been carried out on structural aspects. These include a long list of factors such as staff/child ratio, group size, teacher qualifications and training, stability of staffing, staff wages, indoor and outdoor play provision, health and safety, scheduling of time, meeting of staff needs, curriculum, educational space, and materials.

Process quality concerns the dynamic aspects of ECE programs. It refers to the effects of ECE experiences which the child encounters in ECE settings. Process quality reflects the social, emotional, and physical interaction the child has with materials, peers, and teachers on a daily basis (Tietze, Cryer, Bairrão, Palacios, and Wetzel, 1996). This also includes the handling of everyday personal care routines.

Process quality has been found to be more predictive of child outcomes such as well-being and developmental outcomes than structural quality (Litjens and Taguma, 2010; Peisner-Feinberg et al., 1997; Whitebook, 1989). However, this statement must be considered with caution given the interplay between both aspects of quality. For example, there are limits to what even the highest quality teacher can achieve with limited resources. Process quality examines practices and educational interactions between the child and practitioner as well as the child's interactions within his or her environment. A child who experiences high-quality ECE processes is thought to reap the benefits of superior language, intellectual, and physical development as well as advanced social skills and self-regulatory abilities. The teacher in this situation would provide positive interactions, attention, support, guidance, and a variety of enriched play experiences and learning opportunities in a safe environment. Examples of specific indicators of process quality include teacher practice and instruction, interactions between the child and caregivers, child and peer interaction, child and material/environment interaction, personal care practices, and parent and community participation.

Process and structural quality cannot, however, be viewed as two separate entities. Rather, there are overlaps and interactions between these two aspects of ECE quality. Research has been carried out to identify the nature of the relationship between structural and process quality in order to help policymakers identify focal areas for quality improvement (Cryer, 1999). Indicators of structural quality such as staff/child ratio, teacher qualifications, and wages have consistently been observed to be significant predictors of process quality (Phillipsen, Burchinal, Howes, and Cryer, 1997). ECE settings where these structural indicators are regulated have consistently shown better process quality scores than unregulated centers. Regulated settings were more likely to show more sensitivity and be more responsive to children than unregulated settings; quality assessments have found 13 percent of regulated settings to provide inadequate care while 50 percent of unregulated settings were found to provide inadequate care (Helburn, 1995; Galinsky, 1994). Cryer (1999) suggests that multiple aspects of structural quality must be simultaneously considered in order to show improved effects in process quality.

Evidently there are numerous factors to be considered when evaluating the quality of ECE provision. A brief review of those factors which have been shown to contribute to high quality ECE and to the positive outcomes for children discussed in Section 1 of this report will be set out below.

### **The physical environment**

The first area to be considered is the physical environment of the child. This refers to the location, accessibility, safety, building, indoor and outdoor spaces, play and teaching materials, equipment, and so on. Some of the main conclusions from research in this area are as follows:

- The quality of the environment is strongly linked to the quality of learning outcomes (OECD, 2012).
- A combination of indoor and outdoor play involving opportunities for a wide repertoire of play opportunities is beneficial (OECD, 2012).
- Resources should be accessible and suitable for the emerging interests of the child and be open-ended for multiple possible uses .
- Well-defined spaces and boundaries are associated with more positive classroom interactions and more time spent exploring the materials, equipment, and facilities (Prochner, Cleghorn, and Green, 2008; Zaslow, Martinez-Beck, Tout, and Halle, 2011).
- ECE settings should provide a good standard “space per child,” as this contributes to lower levels of stress for the child (Honig, 2002).
- The richest outdoor play spaces are often natural and unplanned, consisting of adventure playgrounds in which children can use surrounding natural resources to organize, create, and build their own environments and activities (Bartlett, 2002; Hartle and Johnson, 1993).

### **Staff qualifications**

One of the most prominent indicators of quality is teacher education and training (Blau, 2000; Mc William, Ridley, and Wakely, 2000; NICHD Early Child Care Research Network,, 2002). Pianta et al. (2005) found that teachers’ education, training, and experience with four year olds significantly predicted classroom quality. Van leer (2008) found that teachers with more than a Bachelors degree had higher scores on the ECERS teaching and interaction scale (see next section) than teachers with an Associates degree. However, it has also been argued that experience gained within ECE settings might contribute to the skillset in delivering a high quality ECE program (Early et al., 2007). In line with this, research has also found that classroom quality is higher in

classrooms of at least moderately experienced teachers (Phillipsen, Burchinal, Howes and Cryer, 1997). Beyond this, ECE practitioners with specific training in ECE and children's development have been found to engage in more interactions with children and have been rated as more positive and less authoritarian in their instructional style (Arnett, 1987; Roupp et al., 1979). Children of such teachers have been found to have greater social, language, and cognitive abilities as opposed to children of teachers without specific training (NICHD Early Child Care Research Network, 2000). Systematic in-service training has also been shown to be a stronger predictor of program quality than teacher education and experience when it includes i) active workshops, ii) a curriculum model providing both theory and application, iii) multiple workshop sessions, iv) classroom visits with observations, and v) feedback and opportunities for teachers to reflect upon learning and shared experiences (Phillipsen, Burchinal, Howes and Cryer, 1997).

### **Leadership**

In addition to teacher quality, it is essential that the backbone of the operation, the leader/principal/head teacher/director and administrative staff provide teachers with the support and guidance they need to do their jobs. There is a dearth in research regarding quality of leadership; however, the little research that exists suggests that a high quality leader should provide guidance to staff and students, take responsibility, show confidence and professionalism, communicate to a high standard, build strong relationships, have the ability to meet staff needs and be flexible in thought and behavior, provide a vision for the direction of standard of the center, and participate rather than dominate decision making (Morgan, 2000; Scrivens, 1999; Rodd, 1996).

### **Ratio and group sizes, teacher-child interaction, and stability of care**

A range of factors associated with the quality of social interactions in the ECE classroom also make a crucial difference to children's ECE experience and are associated with improved outcomes. Research in this area has shown that:

- Lower staff/child ratios are associated with higher process quality, while higher ratios are associated with lower process quality (Burchina et al., 2002). Larger group size is also associated with lower process quality. For three year olds, the maximum class size recommended is 18 with a child to teacher ratio of 9:1, and for four year olds the maximum class size is 20 with a slightly higher ratio of 10:1.
- Teachers' interactions with children in smaller groups are more responsive, warm, and more emotionally supportive (NICHD

Early Child Care Research Network,, 2000).

- Teacher-child interactions and relationships play an integral role in child development and academic achievement (Gerber et al; 2007; Mashburn et al., 2008; Rimm-Kaufman, Curby, Grimm, Nathanson, and Brock, 2009).
- High turnover of staff can have a negative impact on children when their attachment bond with the teacher is broken; in centers with high staff turnovers, a low level of child adult-interaction has been found (Phillips, Scarr and McCartney, 1987) and high staff turnover can lead to more aggression and behavioral problems in preschool (Howes and Hamilton, 1993; McCartney et al, 1997).

### **Duration and dosage of provision**

While there are mixed research findings about the impact of program intensity (part-time or full-time), the duration of program participation seems to be more consistently associated with long-term intellectual gains and future achievement (Love et al., 2003; Melhuish et al., 2004). Positive signs of increased duration include greater vocabularies, word analysis, and math achievement and better memory ( Belsky, Vandell, Burchinal, Clarke-Stewart, McCartney, Owen, and The NICHD Early Child Care Research Network., 2007; Glass, 2004). Higher “dose” programs also have more visible long-term impacts, as they more often reduce “fade out” effects (Euridice, 2009). However, some literature has pointed to the potential negative effects of non-maternal care on child attachment and security during the first months or years of a child’s life, noting increased chances of externalizing aggression and disobedience (Belsky et al., 2007). However, such negative behavioral problems are relatively short-lived and can be reduced through good quality and consistent care (Love et al., 2003).

### **Parental and community participation**

In order to ensure the best quality ECE, families and teachers must work together in many aspects of promoting child development, socialization, and education. Through this cooperation, the child experiences continuity both at home and in the ECE settings. By encouraging parents to become involved early on, greater parental involvement in later primary and secondary school is also likely. By establishing strong relationships with parents, teachers can better understand the child, involve parents in the learning process, and provide them with information/ referrals to other services. Parents can also provide their views and insights on the education of the child and, together with the teacher, design the best possible curriculum for the individual child’s needs (Mitchell, 2007). Quality involvement of parents can lead to home support

of children's learning, such as reading with their children, capitalizing on natural opportunities for learning, and making learning materials available at home, too. Parental engagement, especially in ensuring high-quality children's learning at home and communicating with ECE staff, is strongly associated with children's later academic success, high school completion, socio-emotional development, and adaptation in society.

### **Curriculum/teaching and learning processes**

Curriculum is a key determinant of quality ECE. It refers to the content and methods used for learning and development and serves as the foundation on which pedagogy is developed. The term "pedagogy" refers to the clarification of objectives, "What to teach?" and the processes for how it should be taught (UNICEF, 2012). There are many aspects of quality to consider when assessing ECE goals, contents, and pedagogical practices (Litjens and Taguma, 2010). A high quality, well-implemented ECE curriculum should provide developmentally appropriate support and cognitive challenges that can lead to positive child outcomes (Frede, 1998).

There is still little uniformity in the type of curriculum approach for the youngest and oldest children in ECE which raises questions of the relevance, age-appropriateness, etc. of curricula. Areas of official curricula which receive the most official focus are academic areas such as math and literacy, especially in countries where assessments are carried out early on during primary school. It has been argued that a high quality curriculum should give equal precedence to both cognitive and social development and view each as complementing the other. A combined curriculum with this approach would contribute to high quality ECE and improved social behavior (Bennet, 2004; Siraj-Blatchford, 2010). Sweden is considered to have a high-quality ECE in part because its curriculum places the same value on social and cognitive learning (Sheridan et al., 2009; Pramling and Pramling Samuelsson, 2011).

Beyond this, some clear evidence of pedagogical practices which impact positively on children's emotional, social, and cognitive development have emerged from the research:

- "Social pretend play" and "child-initiated play" lead to better co-operation, self-regulation, and interpersonal skills (Bodrova and Leong, 2010; Nicolopoulou, 2010).
- Children are more competent and creative across a range of cognitive areas when they are given a choice of different, well-organized, and age-appropriate activities (CCL, 2006).
- Implementing such activities in small groups can encourage

greater autonomy (Eurydice, 2009; Laevers, 2003) and provides more space for spontaneous or emergent learning (NIEER, 2007).

- Arts activities can boost children's attention, improve cognition, and help children develop their mental representation abilities i.e., how to think about what they cannot see (Litjens and Taguma, 2010).
- Consultation with children to elicit their perspectives and their active input in decision making can increase their self-esteem and foster social competence (Broström, 2010; Clark et al., 2003; Sommer et al., 2010).
- In order to maximize learning, development, and social outcomes, ECE curricula should combine child-initiated with teacher-initiated content and activities (Sheridan, 2011; Sheridan et al., 2009).

## Measurement of quality

With a growing emphasis being placed upon the importance of quality ECE programs, stakeholders strive to ensure that complementary programs of the highest quality are being implemented to ensure the best possible outcomes for participating children. ECE services must meet a minimum standard of quality in order to have a positive impact on development and society (UNICEF, 2012). In order to establish ECE services of high quality, a variety of instruments have been developed and tested to measure quality. Research indicates that instruments developed to measure quality in ECE can be used reliably and demonstrate validity also. Consequently researchers have been using such instruments with confidence all over the world (Whitebook, 1989; Peisner-Feinberg et al., 2001; Zill et al., 2003).

Some such instruments may be all-encompassing and assess the overall structural and process quality of ECE, while others have been developed to assess one specific indicator associated with quality ECE. Some instruments evaluate ECE quality for all children in the group, while others assess the quality of the individual experiences of children. There are also a number of instruments which focus specifically on either the learning environment, teacher quality, parent/guardian participation, leadership, system-level indicators of quality, the teaching and learning process, school readiness outcomes, and the curriculum.

The most widely used instrument is The Early Childhood Environment Rating Scale – Revised (ECERS-R), (Harms, Clifford and Cryer, 1998). ECERS-R is the most widely used measure of ECE quality in both research



and educational settings (Sakai, Whitebook, Wishard and Howes, 2003) and examines both structural and process quality. First developed in the USA by Harms and Clifford (1983), it has been adapted nationally and proven to be a valid and reliable measure in contexts all over the world in countries such as Sweden, Great Britain, China, Korea, Hong Kong, Israel, Australia, and New Zealand (Tietze et al., 1996; Harms et al., 1998; Sheridan and Schuster, 2001). ECERS-R (revised version) was updated in 1998 in response to researcher feed back and to changes in ECE and also to include aspects pertinent to children with disabilities and to incorporate cultural sensitivities. There is a new version, ECERS-3 in development at the time of writing. A complementary supplement to ECERS-R, ECERS-Extension (ECERS-E) has also been developed to provide greater insights and evaluation of quality aspects associated with curriculum.

A sister measure of ECERS-R is the Infant Toddler Environment Rating Scale-Revised edition (ITERS-R), (Harms et al., 2003). Similarly to ECERS-R, it is used to assess universal aspects of ECE pertinent to child development. However, it is suitable for use with much younger children, from birth to 30 months.

The Observational Record of Caregiving Environments (NICHD Early Child Care Research Network, 2000) served as a foundation for the development of the widely used Classroom Assessment Scoring System or CLASS (Pianta, Paro and Hamre, 2008). ORCE was developed to assess process quality of individual children's ECE across different settings such as home or centers and also across a wide age span (Pugh and Duffy, 2013). Parental and professional ECE care of individual children can be evaluated with this measure as well caregiver-child interaction. CLASS has mainly been used with US samples. It has also been used by Finland, and there has been preliminary use with German samples also. In contrast to ECERS, CLASS focuses on process quality by measuring the emotional and instructional climate of the classroom.

Similarly, Classroom Practices Inventory or CPI (Hyson, Hirsh-Pasek and Rescorla, 1990) has also been used to assess the emotional climate of the ECE classroom. The overarching aim of this tool is to assess whether classroom, curriculum practices, teacher behaviour, child activities, and teacher-child interactions are developmentally sensitive and appropriate. While previous instruments alluded to the caregiver-interaction relationship, a number of instruments assess the aspect of process quality in greater depth. One such instrument is the Individualized Classroom Assessment Scoring System or inCLASS (Downer, Booren, Hamre, Pianta and Williford, 2011). inCLASS measures children's classroom engagement in interactions with teachers, peers, and tasks



(Williford, Whittaker, Vitiello and Downer, 2013).

A widely used measure of the quality of the relationship between caregivers and children and the type of interaction ECE teachers have with children is the Caregiver Interaction Scale or CIS (Arnett, 1989). This observational tool rates the emotional climate, discipline style, and sensitivity and responsiveness of the teachers with the children.

A number of tools have been developed with greater emphasis on teaching and learning processes and teacher quality. One notable tool is the Early Childhood Classroom Observation Measure or ECCOM (Stipek and Byler, 2004). ECCOM focuses on the approach rather than the content of the instruction as well as the social climate and classroom management. The PQA or Preschool Program Quality Assessment -2nd Edition (High/Scope Educational Research Foundation, 2003) aims to evaluate quality of best practices in ECE and to identify staff training needs. Originally developed by High/Scope, it is used both in High/Scope centers and in any ECE program which is center-based. PQA scores are significantly related to child developmental outcomes.

### **III. INTERNATIONAL PROGRESS TOWARD QUALITY IN ECE**

#### OECD countries (OECD 2012, 2014)

In most OECD countries, education begins for most children before the age of five with over 84 percent of four year olds being enrolled in ECE and primary education. Over the past decade, many countries have increased their focus on ECE, resulting in the extension of compulsory education to lower ages in some countries (despite evidence suggesting that a later school start is more beneficial; Whitebread and Bingham, in press), free ECE, universal provision of ECE and care, and the creation of programs that integrate care with formal pre-primary education. Publicly funded pre-primary education tends to be more strongly developed in the European countries of the OECD. Private expenditure varies widely between countries, ranging from five percent or less in some countries to 25 percent or more in others. As a percentage of GDP, expenditure on pre-primary education accounts for an average of 0.6 percent of GDP with significant differences between countries.

With respect to staff/child ratio, across 19 OECD countries, on average, it is regulated that a kindergarten or preschool staff member can have, at most, 18 children, while a child care staff member can have approximately

seven children at most in a child care center. Family or domestic care services tend to be regulated with stricter staff/child ratios, but there is little data available on family day care. The average ratio, among the countries with available data, is 1:5. Staff/child ratio is also an important indicator of the resources devoted to pre-primary education. Another indicator of quality often reported is “space per child.” In general, indoor space requirements in OECD countries are largest for family day care, followed by child care centers and kindergartens/preschools.

Regarding staff education, OECD countries have a wide range of qualifications for staff working in the ECE sector. Kindergarten/preschool teachers generally have higher initial education requirements than care center (nursery) staff or family care staff, while some countries have a unified qualification for all workers. Initial education for kindergarten/preschool teachers is often integrated with that of primary school teachers to ensure smooth transition for child development. Professional development tends to focus on I) pedagogies and instructional practices, II) curriculum implementation, III) language and subject matters, IV) monitoring and assessment, and V) communication and management. Common challenges that OECD countries face in establishing a high-quality workforce include I) raising staff qualification levels, II) recruiting, retaining, and diversifying a qualified workforce, III) continuously up-skilling the workforce, and IV) ensuring the quality of the workforce in the private sector.

Unlike developing countries, most OECD countries have a curriculum or learning standards from age three up until compulsory schooling. As regards to the content, Nordic countries specify what is expected from staff rather than prescribing expected child outcomes, while Anglo-Saxon countries tend to take an outcome-based approach. Many OECD countries focus on literacy and numeracy in their learning framework, despite the evidence that an early start in these areas does not predict long-term outcomes and can be potentially damaging, particularly for children from disadvantaged backgrounds (Whitebread and Bingham, in press). A growing body of recent research highlights the importance of “play” (Whitebread, Basilio, Kuvalja and Verma, 2012); some countries incorporate it as a separate subject area, while others embed it in other content areas. A few countries have included newly emerging elements aligned with school curriculum such as ICT.

In recent years, a growing number of OECD countries have made considerable efforts to encourage quality in ECE. Different countries are at different stages of policy development and implementation. Regardless of a country’s stage, research has suggested five key policy levers to be effective in encouraging quality in ECE:

- Setting out quality goals and regulations
- Designing and implementing curriculum and standards
- Improving qualifications, training, and working conditions
- Engaging families and communities
- Advancing data collection, research, and monitoring

## Developing countries

Unlike OECD countries, developing countries in Africa, Asia, the Middle East, and Latin America still struggle to meet basic ECE goals defined by UNESCO and UNICEF with the focus remaining on access to education (UNESCO, 2014a,b,c andd). However, since the Dakar Education World Forum in 2000, significant progress has been achieved in these regions. Of the six goals agreed upon at that forum, gender equality and increased primary enrolment rates have seen the most improvement, although the latter remain modest.

However, within this overall picture, there have been great differences between the developing countries and regions. For example, the pre-primary education gross enrolment ratio (GER) in Sub-Saharan Africa increased barely by ten percent in ten years from 18 percent in 2000 to 28 percent in 2010 (Sub-Saharan Africa 2013 EFA Report | Global Education for All Meeting, 2014), placing the region behind all other regions in the world. Palestinian Authority Territories showed a drop of 38 percent in their GER, and Iraq's GER has been negligible at only 3.8 percent. The wars in Iraq and Syria and the Palestinian on-going turmoil are key factors impacting children's access to pre-primary and government efforts to provide such programs in these countries.

On the other hand, as a result of state plans to increase GER, Algeria achieved a large expansion in ECE enrolment, from two percent in 1999 to 75 percent in 2011 (UNESCO, 2014a). Also, there was a significant increase in access to preschool education in Latin American and Caribbean countries. From 2000 to 2010, GER rose from 52 percent to 66 percent in this region, which places it in a relatively favourable position in international terms (Araujo, Lopez-Boo, and Puyana, 2013; UNESCO, 2014b).

One of the most important indicators of quality ECE, teacher qualifications, remains a major issue in developing countries. Overall, the proportion of teachers trained to national standards is particularly low in pre-primary education. Although the number of teachers at this level has increased

by 53 percent since 2000, in 40 of the 75 countries with data, less than 75 percent of teachers are trained to the national standard (UNESCO, 2014d).

Recent policy reports emphasize the importance of ECE quality (Britto et al., 2011), especially the importance of quality in early childhood teaching (UNESCO, 2015). What is particularly relevant for developing countries is the finding that the poorest and most at risk children have the most to gain from good quality ECE services and that achieving equitable access to them can reduce inequality in their societies (Engle et al., 2011). Despite these findings, negative conditions, such as remote geographical areas, low teacher salaries, lack of training programs, materials, and resources, and the paucity of trained teachers frequently hamper efforts to introduce or implement minimum acceptable standards in ECE contexts in these countries.

Staff training and qualifications are inconsistent across and within countries (Mathers et al., 2014), often resulting in the uneven provision of quality care (Centre for Early Childhood Education and Development, 2013; Karuppiah, 2014). Relying on insufficiently trained staff can lead to disappointing results. In general, the low pay and status of early childhood workers undermines the possibility of recruiting and retaining high-caliber staff (Karuppiah, 2014). High staff turnover also damages the relationships which are important for children's development (Gialamas et al., 2013; Mathers et al., 2014). Just as for the OECD countries, the involvement of parents and community in the ECE in developing countries is emphasized as one of the most important indicators of quality ECE.

Overall, the differences between rural and urban areas continue to be significant in many developing countries, and it seems that governments have yet to take part in sharing the responsibility for ECE and providing affordable or free ECE as a long-term investment. In addition to necessary government involvement in ECE programs, social enterprises, which directly involve community, mothers, and families in the process of ECE, have been shown to be a successful model of delivering ECE programs. Two examples are Lively Minds in Ghana and Uganda and Kidogo in East Africa. Another non-government initiative, Big Push, was launched in 2013 by UNESCO, aiming to support selected Sub-Saharan African countries to initiate a process of redefining EFA priorities and developing sustainable acceleration efforts for the period 2013-2015. As part of that initiative, the Indigenous Early Childhood Care and Education curriculum framework was introduced. It is an innovative framework developed by the International Institute for Capacity Building in Africa, which emphasizes the socio-cultural contexts of child care in Africa. It is designed to address the perceived lack of resources for conventional models of ECE by encouraging the creative use of local resources. It

aims at helping countries develop modalities that make access to ECE services in general and at community levels in particular easier and systemic, through the involvement of the adults within the households, extended families, and communities. The modules are grounded in socio-culturally appropriate child-bearing, education, and care principles, and practices are adapted to the local context of the child and the family, employing the child's mother tongue or local language as well promoting the use of local play materials (Sub-Saharan Africa 2013 EFA Report | Global Education for All Meeting, 2014).

## IV. INTERNATIONAL EXAMPLES OF QUALITY IN ECE

### Significant approaches with international impact on ECE

Over the past few decades, there has been increasing recognition of the idea that formal and more traditional educational approaches are not the most appropriate settings for young children to learn in. A number of alternative ECE approaches have steadily risen in popularity with facilities becoming established in countries all over the world. Notable approaches discussed here are Montessori, Steiner, Reggio Emilia, High/Scope, Forest schools, and Tools of the Mind. A common strand observed in these approaches is the emphasis put on the child as the active learner with the teachers acting as collaborators, facilitators, and partners in the learning process. While a traditional classroom might see the teacher leading most of the learning process with some room for independent learning and exploration, these alternative approaches tend to be more child-led. Children are encouraged to be self-directed learners and engage in dialogue and discussion with teachers and peers at all stages of the learning process. While these approaches share similar outlooks, the types of ECE experiences offered vary by curriculum, ethos, and environment.

High/Scope facilities focus on providing the child with active, hands-on experiences with peers and teachers, materials, activities, and ideas. The five key experiences are creative representation, language and literacy, initiative and social relations, movement and music, and logical reasoning (OECD, 2004). Most activities take place indoors in "interest areas" organized around specific kinds of play such as art or house. The day is organized into a "plan-do-review" sequence in which children make a plan for the day, carry it out, and reflect upon their discoveries with teachers and peers.

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**NOTABLE APPROACHES DISCUSSED HERE ARE MONTESSORI, STEINER, REGGIO EMILIA, HIGH/SCOPE, FOREST SCHOOLS, AND TOOLS OF THE MIND. A COMMON STRAND OBSERVED IN THESE APPROACHES IS THE EMPHASIS PUT ON THE CHILD AS THE ACTIVE LEARNER WITH THE TEACHERS ACTING AS COLLABORATORS, FACILITATORS, AND PARTNERS IN THE LEARNING PROCESS.**

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Reggio Emilia places the child and teacher as researchers in the learning process (Edwards and Gandini, 2015; Hall, Cunneen, Cunningham, Horgan, Murphy and Ridgway, 2014). The child actively generates questions and hypotheses about the world and carries out projects to test his or her theories. Projects are conducted following the interests of the child. Each part of this process is documented using multiple symbolic languages such as art, drawing, music, print, and drama. The power of cooperation with others is stressed as an important factor for learning (Soler and Miller, 2003). Dialogue with others is proposed to provide the child with an appreciation of others' perspectives and ideas and raise his or her awareness of the importance of sharing, discussing, and reflecting upon ideas (Edwards, 2002). Through this shared collaboration, children mold their personalities and direct their projects and learning.

Forest schools place importance on learning in the outdoor environment and introduce children to navigating their learning by interacting with the natural environment. As with Reggio Emilia, the teacher is the surrounding environment, which encourages curiosity and exploration. Learning is self-directed and adapted according to the child's active interest in situations, experiments, and problem-solving issues which occur in the forest (Maynard, 2007). Forest schools are shown to increase the self-esteem and confidence of the children, improve their ability to collaborate with others as well as increase their awareness of others' minds, and increase motivation, concentration, physical motor skills, and language development (O'Brien and Murray, 2007). Moreover, children show an enhanced understanding of their environment and how their actions may impact their environment (Knight, 2011; O'Brien, 2009).

Montessori classrooms provide a slightly more structured aesthetic environment in which books, toys, and materials have been carefully selected to support independent learning. Children engage in long

periods of free activity where they can self-select activities within this “prepared environment.” Real world activities requiring practical skills and using self-correcting materials are used (Edwards, 2002; Harris, 2008). Books with fantasy are introduced at the later age of five or six. Children’s independence, self-direction, ability to make decisions, self-esteem, sensorial, and practical skills take precedence over formal education goals (Montessori, 2014). Classes generally consist of mixed age groups allowing children to learn from expert peers and expose them to the levels they will reach. Older children are reminded of how far they have come and also have the opportunity to act as leaders. Children tend to work independently or within small mixed groups.

The Steiner approach is more structured than the previous approaches. This approach is designed to improve children’s concentration and prepare them both physically and emotionally for learning while offering opportunities for creative and imaginative play (Nicol, 2007). The curriculum is designed based on the children’s stages of development which Steiner proposed occur in seven year phases (Uhrmacher, 1995). In this approach, teachers lead and model group activities and appropriate behavior for children under the age of seven to imitate and do. Imaginary play is considered crucial to the physical, academic, and emotional development of the child. Exploration and constructive and creative play are encouraged as well as oral language stories or songs. Play is energetic and balanced with periods of rest (Moran, John-Steiner and Sawyer, 2003)

The final approach, Tools of the Mind, directly targets the development of self-regulation. The main focus of the curriculum is promoting children’s ability to regulate their social-emotional and cognitive behavior, to improve attention, concentration, and memory, to use symbolic representation, and also to build a foundation of early arithmetic and literacy prerequisites (Bodrova and Leong, 2007). Self-regulation and symbol use is taught through structured play activities (Barnett, Jung, Yarosz, Thomas, and Hornbeck et al., 2008). The child is active in his or her selection of activities and play and is aided by the teacher in creating a play plan. An element of direct teacher instruction is seen in Tools of the Mind, but a greater emphasis is placed on guiding the children to learn to use tools to facilitate their learning.



## NGOs and social entrepreneur initiatives worldwide

### **Playeum Children's Centre for Creativity**

*www.playeum.com*

Asian culture places much importance on early academic training with parents seeing little developmental value in play (Parmar, Harkness and Super, 2004). To counter the lack of time children in Singapore have for creative play experiences, Playeum has established centers for creativity and play in which children can access high quality learning through the medium of play programs. Playeum proposes that the lack of play and child-led experiences leads to children losing a sense of self and being able to think independently and creatively. While it is not the only center to provide an outlet in which young children can play, it stands out as the only establishment in which children have the freedom to lead their own open-ended creative experiences. Their pedagogy is child-centered, active, collaborative, cross-cultured, and play-based. It is most closely aligned with that of Reggio Emilia. Adults are not viewed as teachers; rather they are facilitators to nurture and encourage the child's activities and ideas. The values of the center are as follows: experiential learning through art and play, the freedom to create, engaging family and community, innovative environments, equal opportunities, and self-directed learning. Key learning outcomes are to increase children's interest and engagement in learning, to support self-expression, social and emotional well-being, collaboration, and also to encourage creativity and multiple problem-solving methods and ways of thinking. In addition to directly targeting these aspects of development, Playeum also carries out workshops with parents and teachers and within the community advocating the importance of play.

### **Centre for Inspired Teaching**

*www.inspiredteaching.org*

The aim of this initiative is to provide quality educational experiences by transforming the way educators teach, understand, and think about their student's abilities. Teachers in all stages of their careers are targeted and trained to provide high quality, engaging instruction and become "instigators of thought" rather than "information providers." It is proposed that every student has the ability to be a great critical thinker and should spend the majority of his or her time engaging in activities which encourage critical thinking. Rather than telling students what to think, the Centre helps them learn the critical skill of how to think.

Students learn through independent work and collaboration with peers and are expected to develop a great depth of understanding of the material they are covering which is then assessed in a multitude of ways. Using



an inquiry-based approach, student's questions form the basis of the curriculum by asking, investigating, and answering the questions. The learner's role is to "wonder, experiment, and learn," while the teacher's role is to "observe, plan, and instigate." Key learning outcomes are to enable students to excel in the four I's: Intellect (to become academic and self-directed learners), Inquiry (the student as a researcher), Imagination (the student as a creative, resilient, and resourceful thinker), and Integrity (the student's ability to stand up for beliefs, listen to others, and make confident decisions). This is achieved by teachers 1) viewing the student as an expert such that the student's ideas and voice should be evident in every lesson, 2) ensuring mutual respect between student and teachers, 3) ensuring students have purpose, are persistent, and take action, 4) maintaining a passion for the job and the learning process, and 5) using a wide range of evidence for learning. Research undertaken by the Centre shows this innovative approach results in high achieving students and a positive classroom climate with positive relationships for students with teachers and peers and teachers who bring about a sustained change in classrooms, schools, and communities.

### **Sesame Street Preschools**

*[www.sesameschoolhouse.in](http://www.sesameschoolhouse.in)*

Sesame Schoolhouse preschools have been established in ten cities across India. They were established in response to the observation that teaching styles in India were not developmentally sensitive or appropriate for young children. They cater to young children from age one to six years and offer four programs depending on the age of the child: Parent-Toddler, Playground, Nursery, Prep I and Prep II programs. They also offer afterschool programs which promote critical thinking, communication, and collaboration skills as well as socio-emotional development. The approach is child-centered in a fun, imaginative learning environment, which involves the Muppets from Sesame Street. Muppets are used to enhance the learning experience and explain difficult concepts in simple ways through interaction, laughter, and storytelling. As well as basic literacy and numeracy, there is also an emphasis on developing skills as critical creative thinkers and instilling confidence and communicative abilities. Parents are also encouraged to become involved and continue the learning process at home.

Learning is fostered through play, movement, and exploration. The curriculum is influenced by Piaget and Howard Gardner and is aligned with the national curriculum which covers the developmental domains of cognition, language, and social, emotional, physical, and creative development. Pedagogy draws upon Montessori and Reggio Emilia

approaches and combines this with the Sesame Street approach. Educators must have a university degree and training in ECE. They are trained with the Sesame Street philosophy and methodology and provided with continuous support, training, and professional development.

### **Lively Minds**

[www.livelyminds.org](http://www.livelyminds.org)

Founded in 2008, Lively Minds carries out work in Ghana and Uganda in response to the lack of and inadequate preschool facilities available. The aim is to improve all aspects of education by providing and assisting in the provision of facilities, including toys, other play resources, and training. In order to create a sustainable model, mothers are trained to carry out educational play schemes within their communities for three to five year olds. Free community-run play centers are set up with the following goals in mind: encouraging children to learn through play, promoting hygiene education, and training volunteers to run the centers by carrying out best practices of educational play. Mothers are educated on child development and learning and taught to utilize local materials in their environment as learning resources. Using these simple materials, they are trained to teach children numeracy, literacy, and creative thinking skills through play. Children are encouraged to explore and become independent, school-ready thinkers. Key learning outcomes include school readiness, higher cognitive functions, numeracy, literacy, creativity, socio-emotional skills, language development, motor skills, and hygiene.

This initiative has led to improved socio-emotional skills among children with teachers reporting better moods and social behavior alongside greater confidence in the children. It has also positively impacted parenting skills and child stimulation at home with volunteer mothers providing 70 percent more cognitive stimulation and play activities with the children after three months of running the play centers. Mothers also report improved confidence and self-esteem as well as improved relationships with their children. Improved relationships between parents and schools are also reported.

### **The Madrasa Pre-School Programme**

[www.educationinnovations.org/program/madrasa-early-childhood-programme-mecp](http://www.educationinnovations.org/program/madrasa-early-childhood-programme-mecp)

The Madrasa Pre-School Programme was first established in 1986 in Kenya by the Aga Khan Foundation to help parents in rural Muslim communities improve the overall level of educational achievement of their children and to help parents provide a positive and early start for children. The idea is to work with local educators, community leaders,

and parents to support locally owned and run ECE centers in Kenya, Uganda, and Tanzania. A holistic approach to early childhood development is taken, guided by a curriculum which integrates key religious values and teachings. Originally mainly Muslim, children and adults from other faiths also attend now.

The ethos is that children learn through exploring, experimenting, discovering patterns, and building relationships with one another and with teachers and communities. Teachers use the local environment to find learning resources. Centers consist of learning areas including block areas, book area, sand, water, shop, and home and so on. Volunteers for teacher training are selected by the communities. Students of this project have been found to make better transitions than their peers and continue to perform well in later development also.

Centers train teachers, school administration, and management and provide ongoing support and helps raise awareness in the community regarding Early Childhood Development. They also collaborate with governments and other organizations regarding good practices and policy in ECE and development. Aga Khan Education Services works closely with other agencies on a wide spectrum of issues, including curriculum development, nutrition, and increasing access to quality education.

### **Right to Play**

*[www.righttoplay.org.uk](http://www.righttoplay.org.uk)*

This humanitarian and developmental initiative trains local volunteers such as community leaders and teachers as coaches to deliver play programs in disadvantaged, war-stricken, diseased, and impoverished nations such as Africa, the Middle East, and South America. The areas of child development targeted are education, health, and potential to build peaceful communities.

Safe environments are created in which social, emotional, and physical development is fostered through the use of sports and play. Programs are tailored to and identify the individual needs of the community context which require extra targeting, for example, education and health. After play lessons end, the coaches guide the children through the learning objectives and ensure their understanding of the lesson by promoting discussion in which they 1) Reflect (reflection upon the game), 2) Connect (make parallels between the game and a similar situation in their own lives), and 3) Apply (discuss how to apply what they've learned within the games to their lives).

Right to Play proposes improved quality of education in school as a result of their programs with more open lines of communication between students and teachers, higher attendance rates, and increased active engagement in lessons. In addition, student interactions show improvements with better teamwork, communication, and decision making skills. Students also show greater confidence and leadership skills individually and become aware of their role in society and how they can make a difference.

## International case studies of ECE schools

### **The Riverside School, Ahmedabad, India**

Doing Good AND Doing Well

[www.schoolriverside.com](http://www.schoolriverside.com)

Riverside is a non-profit school for children of three to 17 years of age. Preschool is a part of the school, and each grade has about 26 to 28 three to four year old children with a 1:13 staff/child ratio, with English as the official school language. The school has a reputation for academic excellence and for turning out well-rounded, compassionate citizens. Metacognitive and independent thinking and learning are encouraged from kindergarten on. Riverside promotes arts, empathy, collaboration, team-work, digital literacy, and design thinking.

The school's in-house curriculum emphasizes teaching transferable skills of problem and conflict solving in different life situations and focuses on quality of learning and student well-being. It promotes an "I CAN mindset," which consists of four principles: Feel (transforming helplessness into empowerment), Imagine (brainstorming ways to take the current situation to a preferred state for the self and others), Do (making a change with courage and determination) and Share (sharing the story to inspire others).

Riverside is secular in its admission policy and ensures its student body comes from diverse social, economic, and ethnic backgrounds with 25 percent coming from underprivileged backgrounds. Family and community provide a context for the learning process and are seen as equal partners in that process.

All teachers in Riverside have a Bachelors degree. They design and implement programs using the Play-Way method, experiential learning and sensorial experiences to nurture curiosity and develop the skills and attitudes of preschoolers all the while keeping in mind the cognitive, physical, social, emotional, and spiritual development of the child.

The teacher's role is to create stimulating and safe environments, establish relationships with parents through regular communication, workshops, and home visits, conduct regular observations, and make the learning process transparent. The school has a center which runs training programs for teachers in different stages of their career, which guarantees high quality teaching from kindergarten to secondary school.

The pedagogy is child-centered, and the curriculum is designed to nurture a child's curiosity, creativity, imagination, and thinking predominantly through play. Instruction is limited to areas of skill development and setting routines. Teachers act as facilitators by providing opportunity and guidance. Children are encouraged to engage in divergent thinking, collaborate with peers, assume leadership roles in their areas of interest, and work collaboratively to achieve their goals. Free play and structured activities are carried out in a ratio of 60:40. Teachers also encourage collaborative problem-solving activities.

### **Qatar Academy Early Education Centre and Qatar Academy Al Wakra Preschool, Doha, Qatar**

*Empowering children to achieve academic excellence and become responsible citizens*

*qataracademytest2.fuegodigital.com/early-education-center/early-education-center and www.qaw.edu.qa/pre-school*

Qatar Academy is a group of seven bilingual private schools and consists of students and teachers from diverse nationalities and cultural backgrounds.

The Early Education Center (nursery) serves children from six months to three years old, while Qatar Academy Al Wakra Preschool caters to children from three to five years. Both offer high quality, play-based programs in which the care, education, interests, and needs of the children are prioritized. The local community is served by educating children to become critical thinkers, life-long learners, and globally-minded responsible citizens of high moral values and cultural integrity.

Closely aligned with the philosophy of Reggio Emilia, nursery and preschool programs support social, emotional, cognitive, linguistic, and physical development in young children. Their approach is driven by the so called "Image of the Child" principle, which represents the academy's belief that every child is unique, capable, a risk-taker, social, curious, persistent, sensory, a creative researcher, and a communicator. Programs are bilingual in both Arabic and English. The main purpose of these ECE programs is to support language, cognitive, emotional, social, and physical development using a child-centered, play-based

approach facilitated and guided by teachers. Children are challenged and encouraged to become critical thinkers and contributing members of the Qatari society.

Teaching staff have a minimum of a Bachelors degree and specialized child care qualifications. Staff are offered weekly opportunities for further professional development and are also sent to study Reggio Emilia in Italy, NESAs Conferences, and other professional development conferences and workshops identified as significant to ECE. In an effort to have consistency, nursery and preschool teachers also attend the same training workshops and work closely to ensure a smooth transition from nursery to preschool.

The daily structure is flexible, with time for independent learning, one to one with the teacher or peers, or teacher-led small groups. Children's interests are followed to encourage inquiry, attentive engagement, independence, and balance among social-emotional, physical, cognitive, and language development. Children spend time in the sensory room, outdoors, or in the art studio. The child may also spend time with children from other classes/age levels in another classroom or exploring another environment. Children are also taught strategies to deal with conflict.

A "Creative Curriculum" influenced by Reggio Emilia is in place to provide a flexible program with room for individualization to meet the needs of each child. It is a play-based approach where children are active participants and co-constructors in learning. Nature plays a key role in learning, with many resources available for children to explore. Assessments are developmentally-based and include daily observations and photographic evidence to document learning, which teachers reflect upon and review at the end of day. The nursery and the preschool maintain strong relationships with parents. These are established through daily communications, online resources, and parent education sessions. Children get the opportunity to present their learning to parents in child-led conferences which empower and establish them as independent learners.

## **Anji Jiguan Kindergarten, Anji, China**

Playing, exploring, and experiencing for a meaningful childhood

[www.facebook.com/AnjiPlayWorld](http://www.facebook.com/AnjiPlayWorld)

Anji Jiguan kindergarten employs a unique, playful approach to learning which encourages free thinking and learning, as well as the development of relationships between children and the natural and social environment. It is a public kindergarten, open to families from different social backgrounds. It strongly values the child's connection with his or her surrounding nature and community.

Anji curriculum follows Six Concepts to Liberate Education practices which emphasize the importance of learning through play and which are crucial for ECE: liberation of children's minds (encouraging free thinking and learning), liberation of children's hands (encouraging children to participate), liberation of children's eyes (encouraging children's observation), liberation of children's mouths (encouraging children's expression), liberation of children's space (encouraging relationship with nature and society), and liberation of children's time (encouraging children's choice of activities). The "Anji Play" approach emphasizes the importance of independent learning, well-being, exploration, appreciation, and care, where children are encouraged to play independently so they can enjoy the process of learning. Activities are play-based, with one instructed group activity each day. Time spent in that group varies according to children's ages. Teachers are encouraged to play with children unless children are fully immersed in play. Most children normally prefer working in small groups in which collaboration is encouraged.

The lessons take place indoors and outdoors in real life societal and nature situations. Learning and development is assessed by daily observation, videos, and photos in class, play, and life. Parental participation is encouraged with parents viewed as partners. The extent to which parents become involved in the parents' association, management, pedagogy, and curriculum is at the parent's discretion.

The kindergarten also follows the Live Education principle, which proposes teaching, learning, and improvement in conjunction with the surrounding nature and society. Close contact with nature and the society is promoted, encouraging the combination of knowledge from books and experience from practice.

Staff includes teaching assistants, child-care workers, and qualified teachers, 67 percent of which have an undergraduate degree. The rest of the teaching staff have college diplomas. Teaching staff can avail of regular training, seminars, and further professional training.

The kindergarten and primary school are closely connected and engage in frequent communication and meetings to ensure a smooth transition to school for the children. Primary school teachers and preschool teachers exchange visits in order to deepen mutual understanding of pedagogy of both sides. Observations of the children's performance in primary school also enables improvement of curriculum for the kindergarten also.

### **Homerton Nursery, Cambridge, UK**

Encouraging independence, building confident learning, supporting problem solving and critical thinking

<http://homerton.cambs.sch.uk/nursery-school/>

Homerton Nursery caters to children between two and four years from over 20 different cultural backgrounds. Giving children choice, developing increasing independence, building confident learning, supporting problem solving, and thinking critically (including leveling questions appropriately) is the overriding philosophy. The learning process is on par with the content of learning here. The nursery uses the characteristics of learning to support children to play, explore, develop motivation and persistence, and use their imaginations and creativity. A great emphasis is placed on the relationship with children's parents, who help teachers in planning more closely according to children's interests.

In Homerton, children are encouraged to be confident learners through playful discovery. Highly qualified and experienced practitioners guide them in making choices, developing their independence, and expanding on their interest in the world around them. The nursery provides stimulating environments and supports children in developing curiosity, playfulness, and a desire to learn. Children are challenged and can take risks within a safe, caring, and secure environment. The nursery plans for children's learning across seven areas. Three prime areas of Personal, Social and Emotional Development, Communication and Language, and Physical Development are fundamental to children's experiences. These support learning in four specific areas: Literacy, Mathematics, Understanding of the World, and Expressive Arts and Design.

Homerton follows the national Early Years Foundation Stage program, which is based on four important principles: 1) a unique child – every child is a competent learner from birth who can be resilient, capable, confident, and self-assured, 2) positive relationships – children learn to be strong and independent from a base of loving and secure relationships with parents and/or a key person, 3) enabling environments – the environment plays a key role in supporting and extending children's development and learning, and 4) learning and development – children



develop and learn in different ways and at different rates and all areas of learning and development are equally important and interconnected.

Highly qualified and trained staff have specific training in language development including for children who speak English as their second (additional) language. By observing play, teachers informally assess a child's development in order to identify opportunities for further learning. To ensure smooth transition to school, the head teachers of the Centre and school meet termly as well as informally. Homerton Nursery also caters to children with special educational needs, who are heavily supported as required by highly qualified and experienced staff who have had training specifically in SEND.

Learning is child-led and planned in conjunction with parental input. Indoor, outdoor, and enrichment activities are carried out e.g. visits to the allotment with planting, growing, cooking, and tasting, music sessions led by a specialist, visits to a neighboring park, special visitors, etc. Teachers join in with children's play and model play. Children play individually and in groups. Overall, collaborative play is encouraged. Children are encouraged to explore and lead their own activities but are also taught specific skills.

Additional examples of high quality pre-schools:

**Blue School, New York City, USA**

[www.blueschool.org](http://www.blueschool.org)

[www.youtube.com/watch?v=RLR1joMAadss](http://www.youtube.com/watch?v=RLR1joMAadss)

**Fuji International Kindergarten, Robina, Australia**

[www.fujikindergarten.com.au](http://www.fujikindergarten.com.au)

# #3

IMPLICATIONS FOR  
POLICY AND PRACTICE

# #3 IMPLICATIONS FOR POLICY AND PRACTICE

The implications of the developmental approach to high quality in ECE can be described in relation to broad educational principles and to the nature and features of the provision, pedagogy, and curriculum of each ECE program or setting.

While there are universal characteristics of high quality ECE, these need to be made relevant to the life experiences of children in the countries and cultures within which they live. Different countries across the world are at very different stages of development in relation to their ECE provision. For some, access must still be a significant issue; however, the provision of low quality ECE can be worse than no provision at all. All countries need to strive toward achieving high quality ECE if their children and their societies are to reap the benefits that this education can bestow.

Key characteristics of high quality ECE emerging from this review include:

- **Principles:** the competent child as a citizen with developmental rights, playful learning, active, self-regulating learners, exploration and inquiry learning, and educating the whole child, including emotional and social as well as cognitive and academic areas.
- **Provision:** time and space for playful learning, outdoor play offering the experience of risk, rich resources supporting children's creativity, generous teacher-pupil ratios, and well-trained practitioners.
- **Pedagogy:** relational, play-based pedagogy promoting self-regulatory development, emotionally warm adult-child relationships, dialogic and collaborative talk, inquiry-based approach, and teachers as facilitators.
- **Curriculum:** rich, well-resourced play opportunities including a wide range of play types based on children's interests and life experiences, child-initiated activities, and avoidance of too early emphasis on formal learning of literacy and numeracy.

As we have seen from a wide range of evidence, achieving this level of quality depends crucially on a range of structural factors which can be directly influenced by governments and other policy-making bodies. Most significant among these are those characteristics listed above under the heading of “provision:”

- the level of qualifications and training of the staff,
- the resource level of the provision, including the physical spaces available, the play materials, and the staff/child ratios, and
- the quality of the relations between the ECE setting and the parents and local community.

In order to achieve these elements in high quality ECE, the evidence would support the following policy recommendations:

- 1.** Pre-school provision should be available and fully funded by the state from the age of six months until children are seven years of age.
- 2.** Educators working in ECE provision should be educated to degree level in evidence-based courses specifically designed to enable them to meet the developmental needs of children in this age range and education should contain training in methods of research.
- 3.** The initial training of educators should be overlapped with that of child health and family support professionals.
- 4.** This initial training should be systematically supported by a structured program of in-service or continuing professional development, with the opportunity for practitioners to gain qualifications at the Masters level.
- 5.** Leaders in ECE settings should be specifically trained in the skills of leadership to the Masters level.
- 6.** A culture of “teacher as researcher” should be supported.
- 7.** Staff/child ratios should be set at 1:4 with the youngest children and no more than 1:10 with six to seven-year-olds.
- 8.** The focus of the curriculum should be on supporting children’s physical, emotional, social, and cognitive development, in the round; while the state might set out broad guidelines reflecting cultural values, the details of the ECE curriculum should be determined by the professional body of educators in any particular setting, so that it can be relevant,

meaningful, and developmentally appropriate for the children in that setting.

**9.** Key curricula priorities should include the development of children's oral language abilities, their emotional awareness and regulation, their social understanding and skills, and their self-regulation abilities.

**10.** Assessment of children's progress should be observation-based and lead to a qualitative profile of the child.

**11.** The state should lay down minimum space requirements per child for preschool settings, including generous indoor and outdoor provision.

**12.** Materials and apparatus in indoor and outdoor spaces should be open-ended, of high quality, and accessible to the children.

**13.** The physical provision and materials in ECE settings should be designed to support the full range of play experiences, including physical play, exploratory, sorting, and constructional play with objects, symbolic play, with the full range of means of expression and communication, pretence and games with rules.

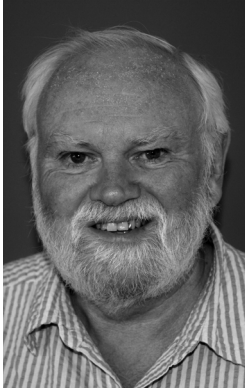
**14.** Structures should be put in place which support parental and community support for ECE settings; the integration of services to families with young children, including education, health, and social services within ECE settings should be supported.

**15.** ECE settings should be required and funded to provide parenting classes to their communities and to employ parental and community liaison professionals.

**16.** ECE practice should incorporate the involvement of members of the community in the work of the educational setting and opportunities for ECE practitioners to take children out of the setting and into the community.

Above all, the quality of the practice and execution of these 16 recommendations will, inevitably, be determined by the quality of the ECE workforce. Enhancing this is a key challenge for governments and one which requires significant financial investment. The evidence from developmental psychology and from economics, however, suggests that this is money very well spent, from which the children will derive the abilities and dispositions to become powerful and emotionally intelligent learners, and the countries of the world will derive a generation of creative problem solvers that we desperately need as we enter the twenty-first century.

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**About the Faculty of Education in the University of Cambridge**

The University of Cambridge is one of the world's oldest universities and leading academic centres, and a self-governed community of scholars. Its reputation for outstanding academic achievement is known world-wide and reflects the intellectual achievement of its students, as well as the world-class original research carried out by the staff of the University and the Colleges. The Faculty of Education is one of the largest groups of educational researchers and teacher educators in the UK. This reflects a strategic commitment by the University of Cambridge to contribute to excellence in all phases of public education, both nationally and internationally. The Faculty has a commitment to conducting research of high quality and practical value. Our research is underpinned by a strong set of values which give it purpose and direction. Particular effort is directed towards the improvement of education with a central focus on teaching and learning, informed by principles of inclusivity and social justice.

## **Acknowledgements**

The authors would like to thank Her Highness Sheikha Moza bint Nasser, Chairperson of Qatar Foundation, and the leadership of Qatar Foundation, for their unwavering commitment to the cause of education globally. It was the vision and guidance of Her Highness that led to the creation of the World Innovation Summit for Education; without her ongoing support, this WISE Report would not have been possible.

The authors would also like to acknowledge members of the WISE team for their dedication and invaluable assistance in the various stages of producing this WISE Report, including in particular Dr. Asmaa Alfadala, Malcolm Coolidge, Salman Khair, and Natalie Lundgren.

This report was made possible thanks to the help and advice from the following individuals:

Ms Neena Mehta, Ms Jahnvi Mehta, Ms Phoram Desai and Ms Archana Todi, educators from The Riverside School, Ahmedabad, India.

Ms Xueqin Cheng, regional director of Anji Play group.

Ms Maryam Hassa Al Hajri, principal of the Qatar Academy Al WaKra and Ms Jo Ellis, assistant principal of the Qatar Academy Early Education Centre, Doha, Qatar.

Ms Harriet Price, head teacher of Homerton Early Years Centre, Cambridge, UK.

Prof Kathy Hirsch Pasek, Temple University, USA, and Dr Roberta Michnick Golinkoff, University of Delaware, USA.

Dr. Pui Wah Doris Cheng, associate professor at Hong Kong Institute of Education, Hong Kong.

Ms Sarah Wolman, head of partnerships at Lego Foundation for North America.

Dr. Pauline Slot, postdoctoral researcher at Utrecht University, Netherlands.

Ms Heyi Zhang and Mr Chenyan Xu, PhD students from the Faculty of Education, University of Cambridge, UK.

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Any errors or omissions remain the responsibility of the authors.

## **About WISE**

Qatar Foundation, under the leadership of its Chairperson, Her Highness Sheikha Moza bint Nasser, established the World Innovation Summit for Education in 2009. WISE is an international, multi-sectoral platform for creative thinking, debate and purposeful action that contributes to building the future of education through innovation and collaboration. With a range of ongoing programs, WISE has established itself as a global reference in



new approaches to education. The WISE Summit brings together over 1,500 thought leaders, decision makers and practitioners from education, the arts, business, politics, civil society and the media.

The WISE Research Reports bring key topics to the forefront of the global education debate and reflect the priorities of the Qatar National Research Strategy.

These publications present timely and comprehensive reports produced in collaboration with recognized experts, researchers and thought-leaders that feature concrete improved practices from around the world, as well as recommendations for policy-makers, educators and change-makers. The publications will focus on topics such as system-level innovation, teacher education, early-childhood education, new ways of financing education, entrepreneurship education, wellbeing, twenty-first century skills and education reform in the Gulf Cooperation Council Countries.

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# WISE would like to acknowledge the support of the following organizations



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