Section 1: What is school readiness?

Historically, participants in the field of early childhood development have been reluctant to define school readiness (Saluja, Scott-Little and Clifford 2000). The trend has changed considerably, and there are close to 150 definitions of school readiness suggested by the 'Google Scholar' search application. The definition of children's readiness for school has undergone major shifts during the past four decades. It has changed from a primarily maturational definition to a more socially constructed concept. Former approaches stressed the maturity level of the child that would allow for quiet, focused work as the primary indicator of school preparedness (Gesell, Ilg and Ames 1974; Pandis 2001). More recent approaches stress the bi-directionality between the child and her or his environment (Murphy and Burns 2002). As per these newer perspectives, it is the 'goodness-of-fit' between the child and the environment that supports and promotes optimal development (Graue 1992; Meisels 1995). In other words, school readiness is a product of the interaction between the child and the range of environmental and cultural experiences that maximize the development outcomes for children.

Similarly, the educational approaches in defining school readiness have also undergone a shift during recent years. Some systems use a narrow 'pre-primary' educational approach that stresses literacy and numeracy skills that would align with a primary school curriculum. Other approaches use a 'social pedagogic' approach that stresses a broader preparation for life beyond a school-based curriculum (OECD 2006). The second tradition, found in some Nordic and Central European countries, promotes broader development of children while simultaneously supporting families.

The United Nations World Fit for Children (WFFC) mission statement of 2002 is an excellent example of more current concepts of school readiness, namely, a good start in life, in a nurturing and safe environment that enables children to survive and be physically healthy, mentally alert, emotionally secure, socially competent and able to learn. The WFFC goals highlight the importance of a caring, safe and stimulating environment for the holistic development of young children.

School readiness defined

In this paper, school readiness is defined by two characteristic features on three dimensions. The characteristic features are 'transition' and 'gaining competencies', and the dimensions are children's readiness for school, schools' readiness for children, and families' and communities' readiness for school (*see Figure 1, page 7*).

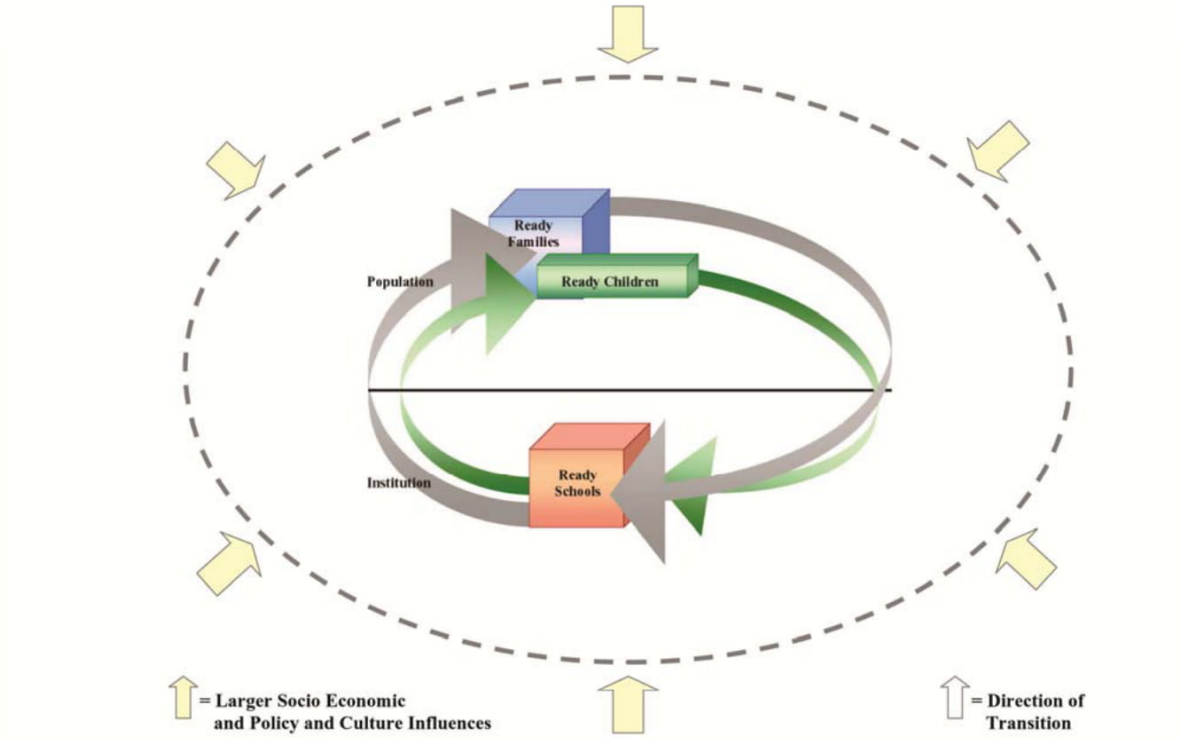

Figure 1: Building Competency/Capacity for Transition to School

The three dimensions of school readiness are:

(1) Ready children, focusing on children's learning and development.
(2) Ready schools, focusing on the school environment along with practices that foster and support a smooth transition for children into primary school and advance and promote the learning of all children.
(3) Ready families, focusing on parental and caregiver attitudes and involvement in their children's early learning and development and transition to school.

All three dimensions are important and must work in tandem, because school readiness is a time of transition that requires the interface between individuals, families and systems.

The term 'transition' has several meanings, depending on the setting, the nature of the cultural and psychosocial adjustments involved, and the role of the actors in shaping their transition

(Fabian and Dunlop 2006; Vogler, Crivello and Woodhead 2008). With respect to school readiness, transition is defined as children moving into and adjusting to new learning environments, families learning to work with a sociocultural system (i.e. education), and schools making provisions for admitting new children into the system, representing individual and societal diversity. In school readiness, the three dimensions are interlinked, building competencies and preparedness in children, schools and families.

Prior to presenting a detailed description of the three dimensions, this paper will address two considerations – culture and public policy – to enhance understanding of the interrelationships between the dimensions. Children, families and schools exist in a larger ecological system (Bronfenbrenner 1979 and 1989) that needs to be considered in the conceptualization of school readiness because of its strong influence on these three dimensions.

This paper's definition of school readiness understands the child, family and school as embedded within social, cultural and historic influences (Rogoff 2003). Rather than seeing culture as a correlate of school readiness, this definition takes a more cultural perspective in which school readiness is understood within the broader, more dynamic sociocultural context (Gardiner and Kosmitzki 2002). By acknowledging the diversity in defining childhood as well as in child contexts, the role of culture is seen as a powerful influence on the school readiness paradigm. Without going into critiques of cultural constructions of children, which would be beyond the scope of this report, the description of school readiness presented here is sensitive to culture, context and diversity (Bornstein, in press; Pence and Nsamenang 2008).

A second influence on the three dimensions of school readiness is a country's public policy landscape. National social policies guide government decisions and actions around a particular set of social issues or problems pertaining to human welfare, public access and social programmes (Alcon, Erskine and May 2002). Typically, health and education systems, as guided by sector policies, have the most direct link to early child development and education (UNESCO 2007). These policies guide provisions for access and quality of programmes, standards, certification and training of staff, and resource allocation to education systems.

A range of social policies also has an indirect impact on the lives of young children. Employment, parental leave, labour, immigration and welfare policies, for example, have all been linked to child outcomes (Kamerman et al. 2003; McCartney, 1990; Minujin, Delamonica and Komarecki, 2006). These policies – at a more central or decentralized level depending on the country's governance system – directly or indirectly influence access to education services for families; determine school curricula and resources; and ensure the quality of services by establishing and promoting credentials. Consequently, school readiness is a product of both the immediate interaction of the three dimensions, and the cultural and policy influences.

1a. Children's readiness for school

What does being ready for school imply? The response varies by the respondent. Parents typically stress pre-academic skills and knowledge (Diamond, Reagan and Bandyk 2000; UNICEF 2004), while primary school teachers tend to stress social and emotional aspects (Docket and Perry 2003). This variation in emphasis suggests that a broad range of developmental skills and abilities encompass 'ready for school'.

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Children's readiness for school in this section refers to all children, especially the vulnerable and disadvantaged, including girls, children with disabilities, ethnic minorities and those living in rural areas. In addition, readiness for school is different from readiness to learn.[1] While readiness for school implies being prepared to succeed in a structured learning setting, readiness to learn is a characteristic from birth. All children are born ready to learn (Kagan 1999). This learning occurs prior to entering school and extends beyond the walls of a classroom to daily life.

The three levels of definitions for children's readiness for school are: the basic minimum skills, holistic conceptualization and the latest research. By the simplest definition, a child who is ready for school has the basic minimum skills and knowledge in a variety of domains that will enable the child to be successful in school. These minimum standards set the bar for what children should know and be able to do, so they enter school ready and eager to learn, thereby enabling a successful transition into a primary school learning environment (Lara-Cinisomo and others 2004). Success in school is determined by a range of basic behaviours and abilities, including literacy, numeracy, ability to follow directions, working well with other children and engaging in learning activities (Rouse, Brooks-Gunn and Mclanahan 2005).

Broader definitions of school readiness are holistic and include five domains linked with later school performance and behaviour: physical well-being and motor development; social and

[1]The same argument is often used to differentiate between school readiness and developmental readiness.

emotional development; approaches to learning; language development; and cognition and general knowledge, including mathematics (Kagan, Moore and Bredenkamp 1993).

Aspects of the social and emotional domain include sustained attention, emotional regulation, following directions, social relationships and social cognition (McCabe et al. 2004; Raver 2004). Language and literacy take oral language and emerging literacy into account (Britto, Fuligni and Brooks-Gunn 2003; Snow, Burns and Griffin 1998; Whitehurst and Lonigan 1998). And math skills include early understanding of mathematical concepts, measurement logic and pre-numeracy skills (Ginsburg, Lee and Boyd 2008; Sophian 2004).

Attitudes towards learning, such as task persistence, attention, creativity, initiative, curiosity and problem solving, are also known to be important for school readiness. Based on these concepts, school readiness is a holistic way of looking at children's preparedness for school. Not limited to one area of development or functioning, readiness embraces the interrelationships between skills and behaviours across domains of development and learning (Denton 2000; Schoen and Nagle 2004).

More recent data on school readiness stress the importance of understanding the interrelationships between the domains and not just the domains themselves. This evidence emphasizes the time-sensitive relationship of the development of these skills to a child's later school achievement (Snow 2007) and underscores the importance of taking into consideration more global perspectives on readiness. It should be noted, however, that the data upon which these recent conceptualizations are based primarily comes from the United States of America (Kammerman 2008), except for the global perspectives trend.

Contemporaneous associations between domains of school readiness, based on correlational data, suggest either a high degree of association between domains, for example, reading and mathematics, for which r=0.73[2] (Denton and Geremino-Hausken 2000) or mediated association, in which a third factor contributes to competence in two areas (Snow 2007). For example, neurophysiological maturation plays an important role in young children's adjustment to school due to its influence on executive functions such as being able to regulate behaviour and control emotions (Blair 2002). As per these data, school readiness is a combination of three domains: learned behaviours such as knowing colours and shapes, counting numbers and saying letters of the alphabet; attitude and emotional competence, as in listening to directions, being interested in learning and behaving in a socially acceptable manner; and developmental maturation, including fine and gross motor development and sitting still for an appropriate period of time.

[2] A correlation coefficient ranges between -1 and 1 with 0 implying no relationship. The closer the coefficient is to 1 the more positive and strong is the association between the two variables.

A second aspect of the newer concepts of school readiness is temporality, or understanding of the developmental trajectory of the foundational skills described above. School readiness skills are considered to be cumulative in that there exists a hierarchy of achievement based on mastering earlier goals, i.e., they build on earlier learned skills and behaviours. In this sense, readiness combines learning and development because achieving simpler skills allows for the acquisition of higher and more complex skills (Bowman, Donovan and Burns 2001). Children entering primary school, for example, need to have a working vocabulary in order to master reading skills. In other words, learning achievement in school is the product of a process of acquiring skills from birth. Advanced skills build upon the mastery of former skills.

A third aspect of the newer concepts is the inclusion of global considerations. In a preliminary analysis of school readiness standards conducted through the Going Global project on the Early Learning and Development Standards (ELDS) on data from *N*= 5 countries, new domains of development and learning in addition to the traditional set of domains were noted. In particular, moral development, national pride and appreciation of diversity are included as important aspects of children's readiness for school (Kagan and Britto 2007) that have not been seen in traditional models of school readiness. It is important that these global contributions to the conceptualization of children's readiness for school are recognized, because they indicate a broader preparation for school and highlight the unique characteristics that cultures and countries deem important for children to adapt and succeed in larger education contexts.

1b. Schools' readiness for children

The second component of the school readiness paradigm is schools' readiness for children, also known as 'ready schools'. Schools' readiness for children is defined in terms of the aspects of the school environment that support a smooth transition for children (and their families) into primary school and advance learning for all children (Pianta and Kraft-Sayre 2003). Although this component is the most recent addition to the school readiness model, it is gaining rapid importance for the reasons listed below.

Education experiences prior to primary school are varied and disparate across the globe (UNESCO 2007). But they do have one characteristic in common: Most early childhood care and education programmes differ greatly compared to the education philosophy, teaching style and structure of primary school. Creating continuity and maintaining learning expectations for children between early learning and primary school environments is a defining characteristic of ready schools (Lombardi 1992). The greater the gap between the early childhood care and education system and the primary school system, the greater the challenge for young children to transition from an early learning to a primary school environment.

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Overall, it is the quality of the school environment[3] that has been linked with higher rates of student retention and lower drop-out rates from primary school, especially for girls (Lloyd, Mensch, Clark, 2000). Quality is defined by several characteristics linked with ready schools, including sufficient time devoted to learning in the classroom, adequate supply of learning materials such as books and teaching aids, and effective teaching, pedagogic practices and teachers' competence. Research studies have demonstrated that the most positive perceptions of classroom structure and overall school environment by children in Grade 1 have been linked with greater academic engagement, a mediator of preventing dropout (Valeski and Stipek 2001). In the least developed countries where a majority of the world's children reside, it is estimatedthat only 65 per cent of students who enrol in Grade 1 reach Grade 5 (UNICEF 2006). In part, this consequence has been linked to poor-quality primary school environments. Poorly trained teachers, poor facilities and the oldest classrooms have been linked with drop-out rates in Grades 1 and 2. Improving the quality of ready schools is an important aspect in maintaining school enrolment.

Other important characteristics of quality include the practices schools use to bridge the cultural divide between home and school cultures (Shore 1998). This divide is the greatest for children whose first language is not the same as the language of instruction at the school. Research from several countries has demonstrated the importance of the medium of instruction in determining a child's education attainment; most societies are multilingual, and the education system uses the official government language as the medium of instruction (UNESCO 2003 and 2005). In environments characterized by poverty, the problems of learning are compounded when the language used in school is not a child's first language, and the chances of dropout increase correspondingly – particularly affecting, for example, low-income, minority and vulnerable children (Auerbach 1989; Ladd 1996). In countries with higher rates of illiteracy, if the medium of instruction in school is a language that is not spoken at home, the chances of dropping out increase substantially. These children may be most at risk for poor education outcomes because of the poor connections between home and school cultures (Jencks and Philips 1998; Lapointe, Ford and Zumbo 2007). Schools can bridge this gap by working with

[3] Although they are significant determinants of preventing school dropout, dimensions such as school fees and access as characterized by distance to school are not covered in this paper because they are traditionally not considered within the readiness paradigm.

parents and incorporating culturally responsive practices, including using the first language of the child (Villegas and Lucas 2002).

Ready schools share several characteristics with UNICEF's child-friendly schools (CFS) (UNICEF 2009). Common to both is the mission of providing all children with a high-quality learning environment that offers appropriate levels of instruction and is safe, secure and inclusive. In an approach similar to CFS, ready schools promote a social learning environment where the relationship between teachers and children is critical for the development of social, ethical, emotional, intellectual and physical competencies (Shore 1998). The specific aspects of the teacher-child relationship might vary across cultures, but it has been proposed that responsive, mutually respectful and reflective teaching is always a central element for enhancing child learning outcomes.

Finally, child-friendly schools are child-centred and focus on characteristics that are most beneficial for children's holistic development and comprehensive learning. CFS environments are child-centred in teaching and learning; healthy (incorporating nutrition, deworming and vaccination programmes); hygienic (providing clean water and environments and sanitation); safe (regulating school construction and playgrounds); protective (banning punishment, abuse, or violence) and particularly gender-sensitive. Child-friendly schools are inclusive, stemming from the principle that all children have the right to education, thereby ensuring school practices are fair, transparent and non-discriminatory in order to reach the most marginalized children. These schools seek to involve the child's environment – family and community – thereby linking the three dimensions of school readiness.

1c. Families' readiness for school

The third dimension of the school readiness paradigm is families' readiness for school. Prior to entering school, the family is the most important context for development. The family, as an institution, has been broadly defined as a co-residing social unit. With reference to school readiness, family is understood as those members who co-reside with the young children, including biological and non-biological caregivers, siblings and extended family members. In understanding the issues of families' readiness for school, the most studied factors have been parenting practices, attitudes and knowledge, which are summarized below.

Supportive parenting and stimulating home environments have been shown to be among the strongest predictors of school performance during primary school and beyond (Bradley and Corwyn 2005; Burchinal et al. 2002; Morrison and Cooney 2002; Richter 2004; Rogoff 2003; Werner and Smith 2001; Whiting and Edwards 1988). Although the school readiness literature typically focuses on a couple of years prior to primary school entry, families prepare their

children for school right from birth[4] (Brazelton and Greenspan 2000). The care provided for development through antenatal visits, breastfeeding and early stimulation behaviours for newborns and infants are early indicators of parenting practices that promote the learning and development of children (WHO 1999).

In this section, the most prominent characteristics of families linked with school readiness are presented. Poverty, a strong co-factor of parenting practices, is discussed in its relationship to school readiness. Other family characteristics are described in terms of parenting beliefs, attitudes and practices. Also discussed is the importance of acknowledging the role of fathers in the transition to schooling.

Poverty's effect on a young child's development is strongest during the earliest years and when impoverished conditions persist. Some evaluations suggest that at school entry, children from disadvantaged backgrounds could already be years behind their more economically advantaged peers (Brooks-Gunn, Britto and Brady 1999). But such effects on school readiness are mediated through several factors, including the home environment (Duncan and Brooks-Gunn 1997). Given the strong influence of the home on young children's learning and development, a breakdown in the abilities of low-income families to modify the effects of poverty may inhibit school readiness. Children may not receive the stimulation they need or learn the social skills that prepare them for school (Hart and Risely 1995; UNICEF 2009a). Problems may appear when consistent daily routines, supervision and care for siblings are absent (Hyman 2006; McLoyd 1998). The parents of these children may also lack support.

Parents' education goals for their children and their beliefs, attitudes and commitment to education are considered to be crucial for school success (Alexander, Entwisle and Bedinger 1994). Children of mothers with higher education do better at school. Parental beliefs and expectations are often cited as two explanations for the link between maternal education achievement and child learning outcomes (Bornstein and others 2003; Haveman and Wolfe 1995). Parents' perceptions of what their child should be able to do at the age of school entry are frequently oriented towards academic accomplishments such as counting and knowing the letters of the alphabet. Parental commitment to ensuring on-time enrolment for their young children is being recognized as an important aspect of successful school transition (Perez and Gauvian 2009).

The learning environment provided in the home – as indicated by parents' engagement with their children in learning activities such as singing, reading books, telling stories and playing games – is considered to be one of the characteristics of ready families (Britto, Fuligni and

[4] This broad statement alludes to the fact that learning begins at birth, and parents and key caregivers are children's first teachers.

Brooks-Gunn 2002; Forget-Dubois et al. 2009; Bradley, Corwyn and Whiteside-Mansell 1996). In the United States, children who live in homes with greater verbal engagement, interaction, stimulation and support do better in school than those lacking the same degree of interaction (Hart and Risley 1995; Pianta, Smith and Reeve 1991).

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Another aspect of family readiness is how responsive parents are to children's needs and requests for attention. Data from several developing countries indicate that young children whose mothers are more responsive to their developing needs have a larger vocabulary and better cognitive skills, enthusiasm and persistence for learning compared to children whose mothers do not demonstrate the same degree of responsiveness (Eshel et al. 2006). Supportive and responsive relationships within the family are the building blocks of children's social and emotional development required for success in school.

As described above, direct interactions between key caregiving adults in the family and young children have been studied extensively. But less is known about the links to school readiness and the psychological adjustment of individual family members, transmission patterns across generations and children's relationships with older siblings (Cowan et al. 2005). Most studies have focused on children's adaptation to school with less complex family-functioning models, where associations between school readiness and single dimensions such as parenting or maternal mental health are examined (for exceptions, see Werner and Smith 1992). The associations, however, are far more complex and involve several domains of functioning within the family, stressors and supports outside the family, and relationships among family members and community.

Although primary caregiving roles throughout the world are usually assumed by the female head of the household, most typically the mother, the father's involvement in early childhood is increasingly being acknowledged (Britto, Engle and Alderman 2007; Cabrera et al. 2000). Fathers of today are seen on a continuum from cohabitating biological fathers to social fathers or father figures (Hernandez and Brandon 2002; Palm and Fagan 2008; Roopnarine 2003). The father's involvement in the young child's development ranges from traditional roles such as primary provider of income for the child's education, to more contemporary roles in direct caregiving such as bathing, feeding and consistent interactions (Pruett 2000). Patterns of

greater father involvement in early childhood development have been linked with children's language skills, cognition, academic achievement, and social and emotional competence (Cabrera et al. 2007; Downer 2007; Flouri and Buchanan 2004; Lamb 2003). These trends suggest the need not only for more investigation into this association (Cabrera and Garcia Coll 2003), but also the imperative of acknowledging the importance of fathers when considering family readiness for schools.

Summary

In summary, school readiness encompasses children, schools and families as they acquire the competencies required for a smooth transition and interaction with the other dimensions of the paradigm. Of the three dimensions, children's readiness for school is probably the most studied. The focus of 'ready children' has been broadly on holistically defining skills, abilities and attitudes that children require to succeed at school, and the greatest benefits of such interventions accrue to the most disadvantaged children. In terms of 'ready schools', the focus has been on quality and practices that support a smooth transition for children and their families. It should be noted, however, that these practices are primarily derived from and based on school systems in Western and high-resource countries. Little is presently known about the characteristics of ready schools in low-resource and developing countries where the issues of schooling are dissimilar to developed countries. Families' readiness for schools is part of parenting beliefs, attitudes and practices, from birth, that need to be understood within a socio-economic and cultural context as having implications for children's school success.