



SCHOOL READINESS

A Conceptual Framework

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School Readiness: a conceptual framework

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Abstract

While school readiness is gaining currency around the globe, there remain many issues linked with a cohesive understanding of the concept and its applications to improve the learning and development of all children, the quality of schools, and the participation of families and communities. The aim of this paper is to provide the latest evidence and knowledge on school readiness within an easily understandable framework relevant to the lives of young children in the majority of the world. To that end, this paper focuses on three basic yet critical questions: What is school readiness? Why is school readiness important? And what are the consequences of inaction?

This paper presents a broad concept of school readiness, describing in detail three dimensions: children's readiness for school; schools' readiness for children; and families' and communities' readiness for school. It then proceeds to provide a rationale for the importance of school readiness, not just for individual children, but also for societal and national development more generally. Finally, the paper makes a strong case regarding the costs of inaction for children, families, communities and countries, and addresses international strategies for action.

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Introduction

Through a combination of national social policies and international articulations including the Millennium Development Goals (MDGs), the Education for All (EFA) goals and the World Fit for Children (WFFC) targets, countries are working to ensure universal access to quality basic education. However, worldwide evidence highlights the persistence of inequity in enrolment, attendance, learning outcomes and achievement based on gender, poverty, geographical location, ethnicity, health status, conflict and natural disasters which all play a role in defining which children attend what kind of school and for how long. Most early dropouts and repeaters at school are disadvantaged students. In addition, the intersection of poverty, location, disability, the lack of a formal identity and HIV/AIDS have created multiple and complex barriers to school entry and learning. Growing concerns at the crux of these alarming issues centre around three fundamental questions: Are all children entering school with the social and cognitive skills and competencies needed to achieve in school? Are schools equipped and ready to provide optimal learning environments for all children? Are families and communities ready to help their children make a smooth transition into school?

Globally, school readiness is gaining currency as a viable strategy to close the learning gap and improve equity in achieving lifelong learning and full developmental potential among young children. It does so by considering all children, especially the vulnerable and disadvantaged, including girls, children with disabilities, ethnic minorities and those living in rural areas. School readiness supports the adoption of policies and standards for early learning, expanding the provision of opportunities beyond formal centre-based services to target those who are excluded. School readiness has been linked with positive social and behavioural competencies in adulthood as well as improved academic outcomes in primary and secondary school, both in terms of equity and performance. In addition, school readiness has been garnering attention as a strategy for economic development. Approaches to economic growth and development consider human capital as a key conduit for sustained and viable development, the inception of which begins in the early years.

The simplicity of the term 'school readiness' belies the complexity of the concept and its relevance for development. In part, the challenge of understanding school readiness lies in the exponential expansion of the science and knowledge on the topic. But this growth in information has not been disseminated equitably or widely, and many regions of the world do not have access to the latest information. The lack of equitable access to new information has led to multiple understandings of school readiness, and at times, to practices based on outdated models. Efforts are required to cull the latest knowledge and circulate it widely in an equitable, timely and effective manner to influence practice and policy around school readiness.

The global audience needs a clear, comprehensive explanation of school readiness that considers its increased importance for individual and societal development, the burgeoning of knowledge on the topic and the current inequitable distribution of this knowledge. The quality of school readiness programmes is also an equity issue. There are profound benefits to future employment prospects but without attention to quality school readiness in marginalized settings, it will be difficult to close the gap in access and learning achievements within countries. Quality does not have to be massively unaffordable and can be cost-effective. It depends on the interaction between facilitators, parents and particular dynamics within the organized learning centers. Poverty may undermine the ability of a family to support an early childhood development (ECD) programme but socio-economic status needs to be seen in context. The aim of this paper is to provide the latest evidence and knowledge on school readiness within an easily understandable framework that has relevance to the lives of young children in the majority of the world. To that end, this paper focuses on three basic yet critical questions: What is school readiness? Why is school readiness important? And what are the consequences of inaction?

Section 1 provides a definition and description of the multifaceted nature of school readiness. Section 2 lays out the evidence and arguments in favour of school readiness, especially its benefits for marginalized children. Section 3 presents a series of scenarios and potential outcomes, at individual and societal levels, that have been linked with inaction or neglect of school readiness. These questions are answered at an aggregate or population level, as opposed to an individual level. The primary difference is that an individual perspective on school readiness is useful for understanding how to promote and support preparedness of school for a single child. A population-level perspective addresses children collectively and cannot be used to make individual-level decisions. There are different implications for the programmes and policies that serve children.

This paper does not cover the interventions, practices and measurements of school readiness. These important issues merit individual focused attention. Therefore, a subsequent series of papers should be forthcoming on the topics of school readiness practice and assessment. The focus of the current paper is to present a clear and comprehensive model of school readiness built on the latest knowledge, with the aim of ensuring relevance in the majority of the world.

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*).

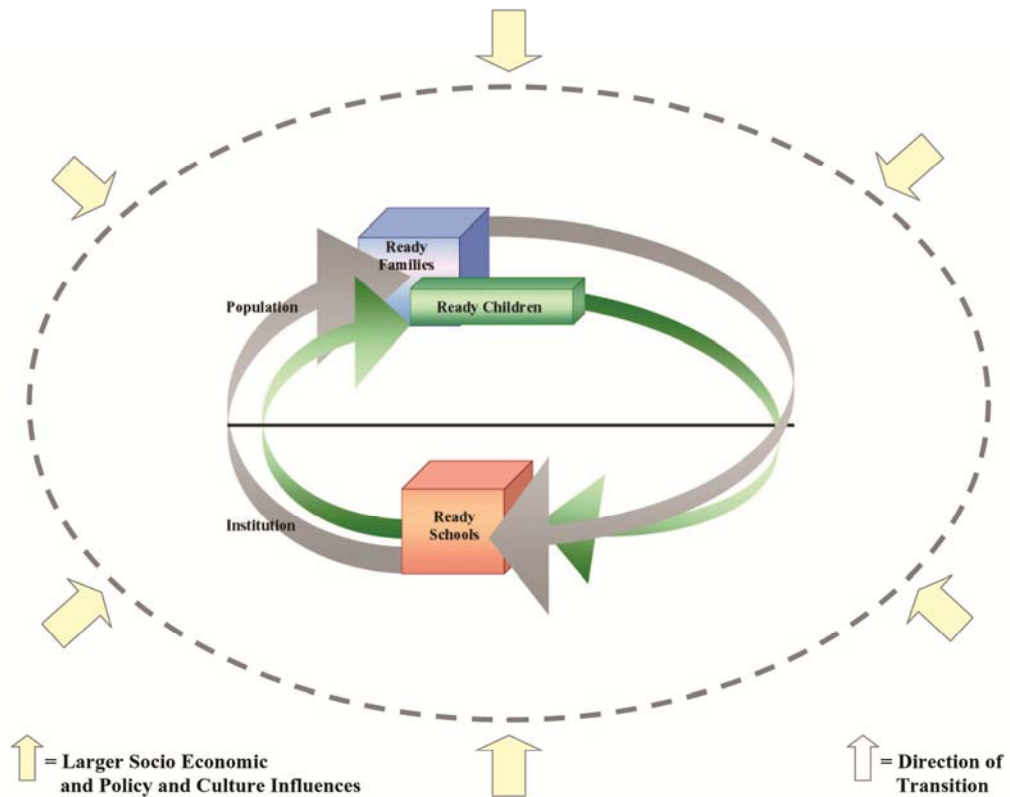


Figure 1: Building Competency/Capacity for Transition to School

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'.

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.



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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

¹The 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 Bredekamp 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 environment³ 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 estimated that 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 birth⁴ (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).

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



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(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.

Section 2: Why is school readiness important?

School readiness is a powerful framework for improving equity in access to education and in learning outcomes, especially for marginalized children. Evidence from UNICEF Multiple Indicator Cluster Surveys 3 shows that the threats to early development are greatest among children living in the poorest households (UNICEF 2012). Such children are less likely to receive support for early learning at home and up to 10 times less likely to attend early childhood education programmes. The importance of such improvement in equity is evident at the individual and global levels. At the individual level, evidence from multiple perspectives (developmental, economic, social constructivist) implicates school readiness⁵ as an important factor in education achievement; children's development and learning; school completion including primary school; and ultimate success in adulthood. At a global level, another claim

⁵ Unless specifically indicated, 'school readiness' is used to denote the composite model including all three dimensions.

that can be implied from the school readiness and education research is its instrumental value in sustaining and promoting the social and economic development of a country.

Therefore, evidence in this report on the significance of school readiness is presented in two sections: intrinsic benefits and instrumental benefits. Intrinsic benefits address the direct gains to the recipients, i.e., children, families and schools. Instrumental benefits address gains towards the broader development goals of social equity and economic development, mediated by school readiness.

2a. Intrinsic benefits of school readiness

The largest body of work on the intrinsic benefits of school readiness has focused on children's readiness for school, as opposed to ready schools or ready families. Consequently, that is the most detailed information presented in this paper.

Research⁶ has indicated that school readiness is linked to learning, school completion, later skill development, and acquisition of academic competencies and non-academic success (Arnold 2004; Jaramillo and Tietjen 2001; Kagitcibasi, Sunar and Bekman 2001; Pianta and McCoy 1997; Reynolds 2000; Rouse, Brooks-Gunn and McLanahan 2005). Children who enter school 'ready to learn' are more likely to succeed at school, stay in school and achieve learning (Consultative Group on Early Childhood Care and Development 2008). As indicated in the definition of school readiness, learning is a result of a sequential process of skill acquisition. Therefore, academic achievement is based on building on existing skills and mastering new ones. The benefits of school readiness are described at three developmental time points: when the transition to primary school is considered complete, typically around Grade 3, or 8 years of age; in high school or adolescence; and during adulthood.

With respect to primary school outcomes, two sets of results are examined: reduction in drop-out rates, and increased academic achievement and engagement. Initial test results from school readiness interventions in several developing countries demonstrate reduction in primary school drop-out rates. For example, the Government of Cambodia piloted a school readiness programme in the first two months of Grade 1 of primary school that demonstrated positive results for student learning and a reduction in drop-out rates (Nonoyama-Tarumi and Bredenberg 2009). The programme resulted in improved learning, measured by a standardized test. In Myanmar, primary school enrolment was 13 per cent higher for children who had attended early childhood programmes compared to those who had not participated (Save the Children 2004). In Nepal, participation in school readiness programmes was linked with a

⁶ Data on predictive validity of school readiness assessment has primarily been generated in the United States of America. More recent predictive data are coming of age from other developed countries; such data, however, were not available from most other parts of the world.

substantially lower repetition rate in first grade for children compared to the national average (Save the Children 2003).

Data from several studies in developing countries, including Guatemala and South Africa, have demonstrated a positive association between school entry ability and academic performance in primary school and later academic achievement (Liddle and Rae 2001; Stith, Gorman and Choudhury 2003). The multi-site international study uses large longitudinal data sets and examines the association among various aspects of children's readiness for school: academic skills; ability to pay attention; social and emotional development; and reading and mathematics achievements from Grade 3 and/or 8 years of age and beyond. Across the six studies, the strongest predictors of later achievement were reading and mathematics skills and the ability to pay attention.



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These results make a compelling case for promoting school readiness, not only because the associations between school entry and later achievement are so strong in particular for disadvantaged students, but also because the statistical models were controlled for family background and socio-economic variables typically associated with later achievement.

Therefore, the study demonstrated that above and beyond factors known to link to later academic achievement, mathematics, reading and attention skills are a significant correlate of academic achievement (Duncan et al. 2007).

School readiness programs have a great impact on primary school equity outcomes in particular. Evidence abounds that disadvantaged students are those making the most dramatic gains from ECD programmes and in turn from school readiness programs (Arnold et al. 2007). In Brazil, girls from low-income families who attend community-based preschool programmes are twice as likely to reach Grade 5 and three times more likely to reach Grade 8, as compared to girls who don't attend preschool. In Nepal, the implementation of Early Childhood and Care Education (ECCE) increased the girls to boys school ratio from 0.6 to 1 in Grade 1 (Arnold et al. 2007).

With respect to high school outcomes and academic achievement, the links to school readiness have also been established (Rouse, Brooks-Gunn and McLanahan 2007). Data from several

developing countries, including Brazil, Jamaica and the Philippines, indicate a strong association between early skills and later high school completion, controlling for a host of influencing factors such as family income and education (Grantham-McGregor et al. 2007). These results implicate early childhood and school readiness interventions in sustained positive school achievement outcomes. High-quality preschool experiences have been linked with improved high school graduation rates (Reynolds et al. 2001). These results are reported from a longitudinal study of close to 1,000 low-income African-American families and children who took part in the Chicago Child-Parent Centers. The results indicate that children who participated in this early education programme stayed in school slightly longer and were more likely to graduate from high school.

The links to later primary school and high school with school readiness can be understood based on the conceptualization of school readiness, i.e., the high degree of interrelatedness between domains of development and the temporality of their convergence. With respect to academic achievement, children who do poorly in kindergarten and primary grades are more likely to do poorly in high school, which influences high school graduation (Nagin and Tremblay 2001; Brooks-Gunn, Rouse and McLanahan 2007). Poor academic functioning in school has been associated with such behaviour problems as class disruption and difficulty in socializing with peers, which in turn affects students' ability to benefit from the learning environment.

With respect to adulthood, similar research has been clear in demonstrating that children who enter school ready to learn and transition smoothly into a primary school learning environment are more likely to be employed as adults (Rouse, Brooks-Gunn and McLanahan 2005). This longitudinal evidence has been generated from early childhood and pre-primary programmes that have shown long-term effects of economic productivity and good health in adulthood linked to school readiness (Schweinhart et al. 2004). These results are made even stronger when we take into consideration the population that participated in this pre-primary programme: low-income African-American children who were assessed to be at high risk of school failure and longer-term poor education and employment outcomes. The pre-primary intervention demonstrated the power of school readiness by improving education and economic performance for a population at risk. Giving children a good start not only counters the worst effects of poverty, but may also be the most effective means of halting cross-generational poverty (Arnold et al. 2007).

2b. Instrumental advantages of school readiness

Thus far, this section has focused on the significance of school readiness for children through their academic careers and adulthood. We now turn our focus to discerning the significance of school readiness for economic development and social equity in society. By way of introduction,

the arguments in favour of school readiness are prefaced by a brief introduction to the human capital approach to economic growth theory.

As the central mechanism for sustained growth and national economic development, economic theories that grew out of the Great Depression and World War II have focused on the role of production and the stock of human capital rather than physical or structural capital (Azariadis and Drazen 1990; Lucas 1988; Nelson and Phelps 1966; Mankiw, Romer and Weil 1992). Human capital is expressed primarily in the combination of two factors: health and education,⁷ which are closely linked (UNDP 2004). For example, greater health capital improves education outcomes – as child health is one of the main predictors of school readiness (Grantham-McGregor 1995; Pascoe et al. 2007) – and returns on investment – as a result of an educated workforce. By the same argument, greater educational capital improves health outcomes because education is needed for the development of basic health skills and for the training of health personnel. In addition, demographic trends show countries with lowered health and education capital also are among the least developed in the world. Therefore, the interrelationship between health, education and development is intimate and linked at several levels. This interrelationship begs the question of how a country builds human capital. School readiness is proposed as one such strategy, as described by the evidence-based logic model.

Return on investment can be estimated for such factors as reduction in education costs, increase in human productivity and income, and benefits to society. Investment in school readiness has been linked with internal efficiency of primary school education costs (Consultative Group 2008). Given that children who attend preschool are more likely to succeed in school and less likely to repeat grades, drop out or require special education, cost reductions in education budgets are realized. With newer costing models, investment in school readiness has been linked with less waste of resources in primary school.

With respect to earning profiles, productivity and participation in active citizenship, the school readiness return on investment in human capital has been quite substantial in developing countries. For example, the earnings profiles by levels of education increase on a linear trajectory, after taking into consideration the direct and indirect costs.⁸ Income gains from higher levels of education have been established in the developing world (Psacharopoulos 1994). Studies from 51 countries demonstrate on average a 9.7 per cent increase in wages with each year of schooling (Grantham-McGregor et al. 2007). This data is supported by the evidence presented in the previous section that school readiness is one of the main predictors of later school achievement and learning. School readiness clearly demarcates the path for individuals to higher education, leading to earnings benefits. A greater earning citizenry contributes to the economic growth of a country.

⁷ Although it includes other human capacities that can raise the productivity of a country.

⁸ For arguments on quality of education, not just quantity and earnings, see Behrman and Birdsall (1983).

Societal benefits, in general, have also been calculated based on school readiness. Data from three of the largest developing regions of the world, sub-Saharan Africa, Asia and Latin America, demonstrate high rates of return on investment in education. These social returns on investment for primary school education, i.e., benefits to society accounting for public costs of education, are 24 per cent for sub-Saharan Africa, 20 per cent for Asia and 18 per cent for Latin America compared to 14 per cent for the developed world (Psacharopoulos 1994). In summary, when equity in access to early education and learning is improved, greater economic benefits accrue to individuals themselves and collectively to society. Societal benefits of school readiness include promotion of the universal right of all individuals to education, a greater social justice and social cohesion, a better efficiency of education systems, better health outcomes, poverty reduction and higher growth. Those societal benefits can only be partially economically valued; therefore, we would expect the actual social returns on investment to be even higher.

School readiness lays the foundation for educational success and achievement. Consequently, the significance of school readiness is noted both as an intrinsic benefit in improving education outcomes for children by completing primary school, staying in high school and productivity in later adulthood. In addition, instrumental benefits are noted for society as the result of human capital created through a strong foundational start.

Section 3: What are the consequences of inaction?

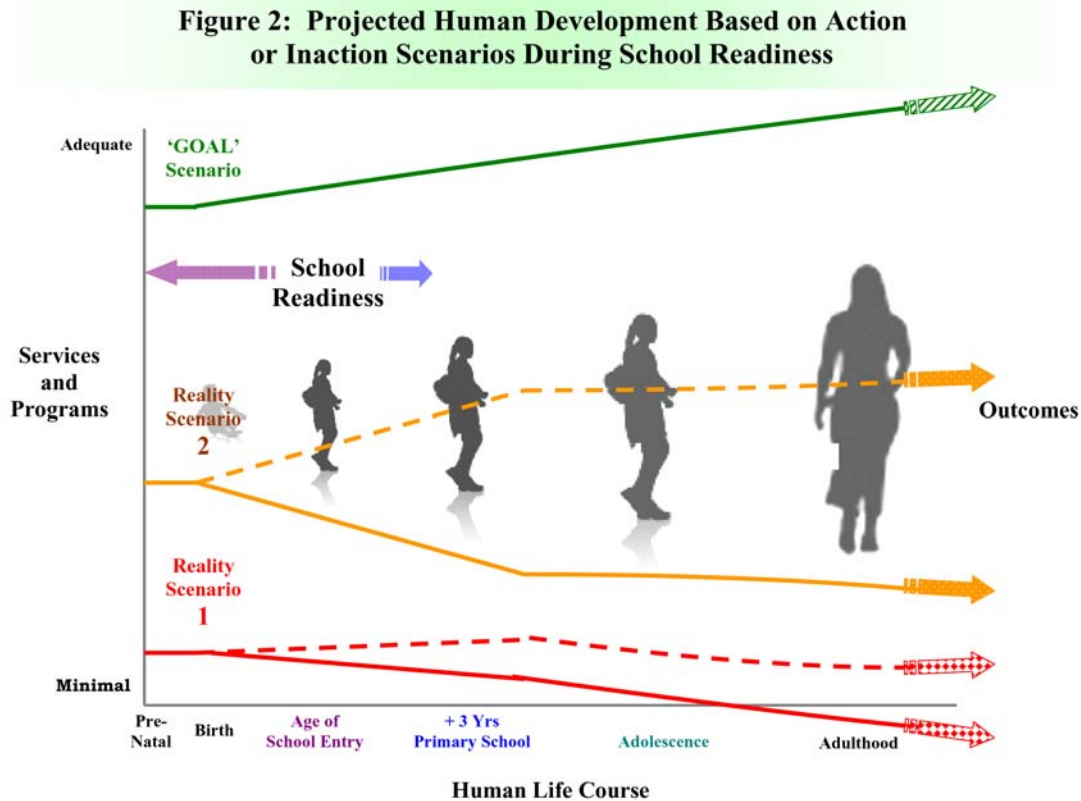
The significance of school readiness described in Section 2 provides a compelling argument for action. However, inaction with respect to access, policies, and provision and quality of programmes and services does not leave the situation as status quo. Detrimental consequences of inaction have been noted. It is important to understand the ramifications of inaction because it can lead to negative effects for both individual education achievement and social progress. Thereby, the call to action is clear. In this section, consequences of inaction are addressed at three levels: for individuals, for society and for international development.

3a. Consequences for individuals

The life cycle approach to human development provides a strong model for understanding the consequences of school readiness inaction on individual outcomes. This approach is illustrated in Figure 2 (page 22).

The life cycle is represented on the X axis, and the provision of early childhood care and education, including pre-primary services and programmes, is represented on the Y axis. For

the purposes of making an argument for school readiness, three scenarios are presented, reflecting differing degrees of action and inaction. The projected pathways for the scenarios are derived from empirical research and data, although the pathways themselves do not reflect particular data points (Heckman and Masterov 2007).



The three scenario titles are derived from access, provision and quality of early childhood services and programmes for children from before birth until transition into primary school: Reality Scenario 1 (minimal access, provision and quality); Reality Scenario 2 (some degree of early health services, but less than adequate access, provision and quality of comprehensive early childhood and development services); and the Goal Scenario (adequate access, provision and quality of services from before birth to 8 years of age). A solid 'inaction line' and a dashed 'action line' are presented for each scenario. The inaction line denotes the trajectory if no attention is paid to access, provision and quality of school readiness programmes; the action line denotes the opposite.

Reality Scenario 1 is often the case in most parts of the world where service provision, access and quality is minimal for the earliest years of life (UNESCO 2007). Less than 50 per cent of countries have any formal system for the care and development of children less than 3 years old, if understood within the concept of school readiness. Due to such minimal, low-quality

provisions and high-poverty contexts, children come to school malnourished and stunted (Grantham-McGregor et al. 2007).

Often with inadequate rest, because they are taking care of their siblings (Heymann 2006) and other risk factors, children are ill-prepared to benefit from the school environment – they are not ready for school. This situation is far from ideal. In addition, schools in Scenario 1 are often not ready for children, hampered by overcrowded classrooms, lack of learning materials, inadequately prepared or absent teachers and distances too far for children to travel.

With respect to families' readiness for school, little is known, other than the fact that many families lack information on the importance of a child's early years and school readiness for education completion and academic success. Reality Scenario 1 is a far cry from the optimal 'what should be' conceptualization of school readiness.

Inaction, in the form of lack of services and low quality of services, sets children on a disadvantaged path vis-à-vis academic achievement and social and emotional development. Lack of antenatal care, poor nutrition, low birthweight and lack of routine immunizations has been linked with poorer school outcomes and performance (Grantham-McGregor 1995; Gross, Brooks-Gunn and Spiker 1992). Inaction, in the form of lack of access to school readiness programmes, leads to children entering school without being adequately prepared to participate in individual learning and classroom activities; this adversely affects their learning achievement and school completion and is linked with behavioural problems (Ladd et al. 1999). Inaction often leads children to enter school late or drop out (Nonoyama, Loaiza and Engle 2006), thereby establishing a downward economic and social trajectory in adulthood.

The red, dashed action line for Reality Scenario 1 projects a trend that could be reversed with adequate preparation for the transition to school, enhanced through strong early childhood health programmes. The data for this projection have primarily been drawn from experimental intervention programmes with children at risk for poor education and adulthood outcomes. High-quality programmes have been able to remedy a poor early start and put children on an upward trajectory.

In a randomized clinical trial, low birthweight infants participating in an interaction programme demonstrated sustained benefits on cognition and academic achievement through the first few years of primary school, as compared to control children (Brooks-Gunn et al. 1994). Another eloquent example is the High/Scope Perry Preschool Program, where 40 years later, evidence still points to that upward trend in adulthood (Schweinhart et al. 2004). More recent positive examples come from Bangladesh (Aboud 2006; Aboud, Hossain and O'Gara 2008; Moore, Akhter and Aboud 2008) and Cambodia, where participation in pre-primary programmes

improved school performance and concomitant outcomes (Nonoyama-Tarumi and Brendenberg 2009; UNICEF 2004).

Overall, the data across developed and developing countries demonstrate that children who are prepared by pre-primary or preschool programmes do better in school. These results are the strongest for those from the least advantaged backgrounds (Engle et al. 2007) and using cost-effective interventions.

Reality Scenario 2 is applicable for many parts of the world where there is a strong national system of early care and development for children until they are approximately 3 years old, but then minimal attention to children until they enter primary school, leaving a gap in services. Although the quality of the services during the first few years of life has not been reported on extensively, it appears to be



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adequate in terms of access and provision. Early intervention sets children on an upward path. But when the continuity of services is lost, these children may 'fall through the cracks' and enter school unprepared to navigate the transition.

Inaction is evidenced in systems lacking continuity between early childhood care and development programmes and the primary school. In such circumstances, the burden of the transition falls on children and families. They are challenged to create this continuity by locating services or making alternative arrangements for their children (Shonkoff and Phillips 2000). The lack of continuity in service provision may lead to school failure and dropout because families and children may be unprepared for the school system.

An analysis of enrolment rates in primary school suggests that even though overall increases are being made, rates of enrolment for children from marginalized communities remains low (UNESCO 2007). A deeper analysis suggests that cultural, social and linguistic difference between families and the mainstream school culture could be implicated in these low enrolment and attendance rates (Auerbach 1989; Boyd, Brock and Rozendal 2004; Ogbu 1981). For example, the language of instruction in school may not be the home language of children. As described in Section 1, language of instruction is a key factor in learning experiences; children whose home language is the same as their teacher's perform better at school (Chiora and

Harris 2001). Therefore, children who lack correspondence between their home language and culture and that of the school are disadvantaged.

Inaction at this juncture continues to breed social exclusion and a debarring of education opportunities for those from minority groups. But action at this stage can address school readiness by creating continuity between systems and addressing the developmental and learning needs of children. Such action would lead to the creation of ready schools with characteristics that bridge the cultural divide between the education system and families by using strategies such as matching the language of instruction with the home language until children have developed basic linguistic and literacy competencies. In doing so, ready schools will succeed in breaking the cycle of social exclusion to ensure that children from all groups, including linguistic and ethnic minority groups, have an equal chance to succeed in primary school, thereby laying the foundation for later academic achievement and probability of employment in adulthood.

Such continuity strategies during school readiness have been found to result in long-term reductions in grade repetition and increases in academic achievement (Campbell et al. 2002). As we know from data presented in Section 2, children on this upward trajectory during school readiness – represented in the chart by the yellow dashed line – are more likely to complete primary and high school and achieve education success.

The Goal Scenario is the topmost trajectory, with strong quality programmes and services for children from the antenatal stage through school readiness that set children on a road to success in school and later adulthood. In some ways, it is the ideal scenario and one to which countries could aspire. This Goal Scenario matches the conceptualization of school readiness and epitomizes a situation that would realize all children's developmental potential, learning, and continued achievement and success.

3b. Consequences for society

The consequences of inaction for society are presented in terms of economic ramifications, addressing the lost opportunities to maximize our resources. Although the return on investment for early childhood and pre-primary programmes is higher than for any other human capital development programme, governments, on average, invest less than 5 per cent of total public spending on education during the pre-primary years.

With a large range noted, some countries of Central and Eastern Europe and the Commonwealth of Independent States, including Belarus and the Republic of Moldova, invest 20 per cent or more. Some Latin American countries and some sub-Saharan African countries

such as Senegal and South Africa invest less than 2 per cent of public funds in pre-primary-age children (UNESCO 2007). In addition, average government spending per pre-primary-age child is 85 per cent of what is spent per child in primary school.

The greatest areas of return on investment are in public savings on lower costs for criminal justice and welfare systems (Klein and Starkey 2004). Children who attend early childhood programmes are prepared for school and are more likely to succeed at school and become earning and tax-paying. The financial investment in early childhood yields increased economic activity and adult human capital development (Heckman and Kruger 2003).

Inaction in investing in the early years of childhood leads to inefficient economic systems. In the data supporting the connection between malnutrition and learning and development, proxy indicators of early childhood learning, such as stunting, suggest a 22 per cent loss in adult income (Grantham McGregor et al. 2007). The economic costs are even higher – up to a 30 per cent loss of income in some countries such as South Africa (Handa and Sharma 2008). These percentages, multiplied by the population of a country and further multiplied by the cohorts of the population who are losing their income potential, have extreme ramifications on the economic costs of inaction in early childhood and school readiness.

As described earlier, human capital is a growth mechanism for most countries, the foundation of which is set during the early years. By not investing wisely during these phases, not only are economies getting back a lower return on their investment, they are missing out on the most crucial stage of investment. This inaction or inefficient investment strategy may lead to long-term costs for countries in terms of stagnant or lowered economic growth.

3c. Consequences for international development

According to international development frameworks, equity in access to quality education is a route out of poverty. The Education for All goals and the education-related MDGs declare this intention. But countries are facing big challenges in attaining these goals and targets. For example, the universal primary education goal shared by these two frameworks is unequivocal in support for basic education for all children. Low and over-age enrolment, poor attendance and high rates of dropout and grade repetition nonetheless plague national education systems (UNESCO 2007).

There are several high-level strategies in place to address these challenges. The Fast Track Initiative, now the 'Global Partnership for Education' (GPE) and the School Fee Abolition Initiative are meeting with mixed results. In some instances, these initiatives have led to a surge in enrolment, but subsequently, equally high drop-out rates and repetition rates are noted. In

1999, for example, 98 million children were not enrolled in school worldwide. Initiatives have reduced this number to 67 million in 2011. This improvement in enrolment, however, is not mirrored in the percentage of children attending and completing school. An estimated 200 million primary school children in developing countries are struggling to read even basic words (GPE 2011).



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Given these mixed results, and that present initiatives may only be addressing certain aspects of the universal primary education challenge, it is time to look at other evidence-based strategies. Hopefully, the renewed GPE focus on promoting the inclusion of early learning within country education sector plans will ensure the recognition of preschool and school readiness as an integral

component of basic education. This component will improve enrolment and learning achievements for the millions of children, particularly those most disadvantaged, who are being left behind.

School readiness is proposed as an evidence-based complementary strategy to address the challenges in achieving these international goals. The school readiness data demonstrate a strong link with primary school achievement and success (La Paro and Pianta 2000). This link has also been evident in developing countries; children who participate in these pre-primary early childhood programmes are more likely to attend school and succeed at it compared to their peers who have not had the opportunity to participate in such programs (Arnold et al. 2006). In fact, in countries with low levels of access to pre-primary education, UNICEF's school readiness interventions have had a profound effect on girls and other vulnerable children (UNICEF 2011).

This claim is based on further evidence from a multi-country study that examined the association between preschool enrolment and primary school completion (Jaramillo and Mingat 2003). The results of this study indicate that more than two thirds of children who attended some form of pre-primary programme completed primary school, compared to approximately half of those who did not attend such a programme. Similar results were noted for grade repetition; fewer children repeated a grade if they were part of a school readiness experience, compared to their counterparts who were not.

The data clearly call for action in school readiness as a path to meeting the international education targets in a timely and sustained manner. The EFA Global Monitoring Report 2011 estimates that, given current trends, nearly 72 million children will remain out of school in 2015. School readiness has the capacity to prepare children for school, prepare schools for children, and prepare families for this experience, thereby promoting enrolment, sustaining attendance in school and increasing retention rates, key facets of the education goals.

In summary, inaction during this important time in human development could diminish the upward developmental trajectory for individuals, societies and countries. The evidence is clearly in favour of ensuring provision and access to quality services for children and families that support, promote and foster development.

Conclusion

The aim of the paper was to: (i) provide a conceptual understanding of the multifaceted nature of school readiness; (ii) present arguments highlighting its significance; and (iii) put forward evidence to propel action by demonstrating the ramifications of inaction. A discussion of these issues is important for a comprehensive understanding of school readiness. However, understanding in and of itself is not sufficient to guide practice. Evidence and information are required about the optimal strategies for achieving school readiness and techniques for measurement and assessment. Each of these topics merit individual papers, given their breadth and depth. However, failure to mention them would leave incomplete coverage of the topic.

In conclusion, one of the best strategies to ensure development of all individuals, society and countries is through cost-effective school readiness – ready children, ready schools and ready families.

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