Chapter 15

Transition to School

Child, Family, and Community-Level Determinants

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Transition to school is a complex process for any child and his or her family. Balancing the expectations with excitement, known with unknown, the process of adjusting to school starts well before children actually cross the threshold of the school building. It is not the first, and certainly not the last of the many transitions that humans have to experience through their lives, but it is one of the most important. Successful adjustment to the school environment increases child’s enjoyment of school-based life, including play, education, and social relations with other children and adults.

Children’s school readiness used to be synonymous with the basic cognitive skills required to enter formal education, and utilized as a testable characteristic determining the child’s right to school entry (Meisels, 1999; LaParo & Pianta, 2000). Modern thinking and understanding of child development has moved significantly from this narrow concept (e.g., Kagan, 1992; Meisels, 1999), by encompassing children’s developmental health at school entry under the term of “school readiness” (Janus & Offord, 2007), and acknowledging the complexity of neurological and social processes that contribute to it (Snow, 2006).

Ecological models of child development have long postulated that any individual unit is embedded within larger units that exert reciprocal influences over each other (Bronfenbrenner, 1979). In this chapter, I will first briefly review the biological basis of early development as it impacts outcomes at school entry; second, describe how child and family level characteristics influence children’s outcomes in kindergarten in two countries (Canada and Mexico); and finally, use results from Canada to illustrate how parent-driven engagement of the child and family into the community and school can have a profound impact on broad developmental domains. Throughout, I hope to illustrate the mutual influences of factors at many levels and highlight the ones that first, have strong impact on children’s outcomes in kindergarten; and second, can be targeted at the community level to improve children’s experience in transition to school.
Biological Basis of Early Development

Neuroscientists characterize early brain development as rapid, plastic, complex, and flexible (Shore, 1997). Speed of the early development exceeds any other period in life. It proceeds in waves: different areas of the brain become active at different times and at varying intensity. Babies and children reach milestones sometimes suddenly, sometimes after a prolonged practice. Plasticity allows the brain to recover from a trauma, and in some cases to develop a compensatory mechanism to deal with a deficit. On the other hand, if a child is not exposed to the experience she needs, the particular connection may not develop early enough – or even not at all. This could be simply physiological: a child who was born deaf will not be able to develop speech in the same way a typical child would. However, this also means that there are times when exposure to negative stimuli – or even lack of appropriate stimulation – may have long-term consequences. In some cases, these windows in development are very specific in relation to the skill. This is true, for example, for things like vision and hearing (Kuhl, 2001). It is more difficult to establish whether similar windows occur for more broadly based skills, like emotion regulation for example. In many skills, the plasticity aspect helps if a skill has not developed, but often it could be harder to master the skills outside of the critical period. Studies following up early intervention programs have clearly shown that preschool-level intervention has higher chance to improve children’s outcomes than a later-age intervention (Schweinhart, Barnes, Weikart, Barnett, & Epstein, 1993). Another type of evidence is provided by studies of children adopted from orphanages at different ages. Children who spent more than the first eight months of life in an orphanage exhibited more deviant behaviours and less attachment security than those who were adopted after a shorter amount of time (Chisholm, 1998). Clearly, therefore, a child’s brain reacts to both positive and negative stimuli, and both of those can have long-lasting consequences.

There are striking disparities in what children know and can do at each stage of their development, and these often are clear before they reach kindergarten. The broad range of individual differences among young children often makes it difficult to distinguish normal variations and maturational delays from transient disorders and persistent impairments. These differences are strongly associated with physical, social and economic circumstances and are usually highly predictive of future school success.

School Readiness

The concept that is measurable and focused on the issues reviewed thus far could be described as “school readiness”, or even “readiness for school”. This
zooms in on the qualities necessary for the child to have an enjoyable, successful and fulfilling experience in school. The “school readiness” concept needs to be culturally inclusive, regardless of context. This is especially important in large countries with a dominant language and culture, where there are many other languages and cultures, which may not be perceived as equal – such as Australia, Canada, United States--but also in countries that have culture and customs that differ from these mostly English-speaking countries. While children’s development progresses through the same milestones regardless of their place of birth and ethnicity, there are socially and culturally-influenced variations in encouragement, acceptability, and manifestations of development.

The shift in the age between 5 and 7 years has been termed as “the age of reason and responsibility”, the transition between the preschool and the school-age child (Sameroff & Haith, 1996). Children’s ways of thinking and behaviour changes dramatically in this period, acquiring the precursors of later maturity. Rogoff, Sellers, Pirotta, Fox, and White (1975) investigated the roles and expectations of children in 50 communities across the world. They found that these change dramatically in the period between 5 and 7, when children are given increased responsibility for various culture-appropriate tasks (e.g., tending animals, caring for younger children, helping in household chores, etc.), which required trust and independence. Moreover, it was in this age-range that children were expected to become “teachable”. Indeed, it is not a simple coincidence that in many countries the age range between 5 and 7 is the time when children start school. Therefore, “school readiness” is a convenient shortcut to children’s developmental health at the cusp of early years and school-age development. A measurement taken at school entry is a convenient marker for the 5- to 7-year-old age range.

During the first few years, development occurs in many domains all at once. When a parent cuddles a toddler while reading a story, this event provides social, emotional, linguistic, cognitive, and possibly even moral or regulatory experiences. Divisions into domains are approximate at the early stages: some issues can clearly be labeled as one or the other, but they contribute to the child’s development in their totality. By the time one can talk about being ready for school, the developmental domains crystallize to a certain extent, and it is possible to distinguish several domains that are highly relevant to child’s success at school (Doherty, 1997; Kagan, 1992). These are: physical health and well-being, social and emotional competence, approaches to learning, cognitive and language competence, and communication skills.

In many ways, the term “school readiness” is a shortcut to – or a snapshot of - the outcome of the transition process. Children face many transitions in their lives, but this one – from home, or even preschool – to school, where they assume the full role of the student is probably the most dramatic and potentially traumatic one for many children, especially in the
face of serious systems discontinuities between the preschool and school environments (Kagan & Neville, 1996). In most western countries, children start kindergarten at age 5 – thus, Grade 1 at 6 – and there are many places that offer an earlier version of kindergarten, the junior kindergarten at age 4. The transition to school does not all happen on the first day; there could be some consequences of the events of that day (Pianta & McCoy, 1997), but the process of adjustment to the new environment, learning about learning and about the teacher, and about the school, takes time. The starting point before Grade 1 is a combination of what the child brings to school as an outcome of his or her first five years in his family, in the neighbourhood, in an idiosyncratic combination with the child’s age and gender, and the school practices towards easing the transition process (Meisels, 1999). Since these tend to be similar across the school divisions, it is fairly safe to assume that children bring with them a much larger proportion of variance than could be accounted for by schools. So what has to be captured by the concept of school readiness is really that “whole child” view of their adjustment for formal education as it is offered by the school system. It cannot be an assessment of one skill, ability or social competence. It has to be a combination of many, set in a developmental perspective, sensitive to differences between and within children as they pertain to different skills (Love, Aber, & Brooks-Gunn, 1994; Meisels, 1999), and in a context of early experiences. For example, if adults do not talk to a pre-verbal child, she will not develop adequate language skills, even though she has the propensity to do so, as development is an interactive process, and not simply a maturational one.

While much of the detailed research on transition to school has been carried out in the developed world, there is a consistent, international theme that flows through our understanding of which children, through no fault of their own, have difficulties in making the transition in adjustment to school. Inadequate nutrition, absence of a caring early environment, and health issues are common factors for school difficulties in any latitude. These children are the ones who need schools and educational systems to be there for them – simply because no one else will. Schooling is the most universal service that children have access to – albeit some of them briefly – and it behooves us to ensure that it is delivered in a way that would increase a child’s success for a happy transition and a fulfilled life.

School readiness, measured in kindergarten, allows for considering an outcome for which children have to live in a neighbourhood for several years, thus adding the validity for measuring the actual contribution of neighbourhood. In addition, the kindergarten age is a fascinating one to study: these children are at an important developmental junction in transition to grade school and their developmental outcomes can still be attributed to the history of their first five years.
The Offord Centre at McMaster University in Hamilton, Canada, houses an extensive national database on the developmental status of Canadian kindergarten children. This database is used to investigate the research questions. In many communities in Canada standardized data on children’s readiness to learn at school are collected with the Early Development Instrument (EDI). A number of other countries have also adapted the EDI (Janus et al., 2007; Janus, Brinkman & Duku, 2010). The EDI is completed by teachers and provides kindergarten outcome measures in the domains of Physical Health and Well-being, Social Competence, Emotional Maturity, Language and Cognitive Development, and Communication and General Knowledge (Janus & Offord, 2007). Four of those are further divided into subdomains. Table 1 outlines domains, subdomains, and examples of items.

Table 1. Domains, subdomains, and sample questions on the EDI.

<table>
<thead>
<tr>
<th>EDI Domains</th>
<th>Subdomains</th>
<th>Example items</th>
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<tbody>
<tr>
<td>Physical Health and Well-being</td>
<td>Physical readiness for school day</td>
<td>arrives to school hungry</td>
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<tr>
<td></td>
<td>Physical independence</td>
<td>has well-coordinated movements</td>
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<tr>
<td></td>
<td>Gross and fine motor skills</td>
<td>is able to manipulate objects</td>
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<tr>
<td>Social Competence</td>
<td>Overall social competence</td>
<td>able to get along with other children</td>
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<td></td>
<td>Responsibility and respect</td>
<td>accepts responsibility for actions</td>
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<td></td>
<td>Approaches to learning</td>
<td>works independently</td>
</tr>
<tr>
<td></td>
<td>Readiness to explore new things</td>
<td>eager to explore new items</td>
</tr>
<tr>
<td>Emotional Maturity</td>
<td>Prosocial and helping behaviour</td>
<td>helps other children in distress</td>
</tr>
<tr>
<td></td>
<td>Anxious and fearful behaviour</td>
<td>appears unhappy or sad</td>
</tr>
<tr>
<td></td>
<td>Aggressive behaviour</td>
<td>gets into physical fights</td>
</tr>
<tr>
<td></td>
<td>Hyperactivity and inattention</td>
<td>is restless</td>
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<tr>
<td>Language and Cognitive Development</td>
<td>Basic literacy</td>
<td>able to write own name</td>
</tr>
<tr>
<td></td>
<td>Interest in literacy/numeracy and memory</td>
<td>interested in games involving numbers</td>
</tr>
<tr>
<td></td>
<td>Advanced literacy</td>
<td>able to read sentences</td>
</tr>
<tr>
<td></td>
<td>Basic numeracy</td>
<td>able to count to 20</td>
</tr>
<tr>
<td>Communication Skills and General Knowledge</td>
<td>(No subdomains)</td>
<td>able to clearly communicate one’s own needs and understand others</td>
</tr>
<tr>
<td></td>
<td></td>
<td>shows interest in general knowledge about the world</td>
</tr>
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</table>

Concurrent Determinants of Kindergarten Outcomes in Canada and Mexico

Kindergarten teachers in Canada and Mexico assessed children’s kindergarten outcomes in the five developmental domains measured by the EDI, and parents provided additional information on children and families. Janus and Duku (2007) explored variables in five risk areas: socioeconomic status (SES), family status, child health, parent health, and parent involvement for their
contribution to children’s kindergarten outcomes. In a series of logistic regression analyses, the strongest indicator from each of the five areas was retained and entered into final regression. The same methodology was used for both the Canadian and Mexican sample, except for the parent health and parent involvement as the indicators used in the Mexican parent survey contained too much missing data (Gaskin, Duku, & Janus, 2009). However, participation in a government-funded early child care program, which requires parental involvement, called Centro del Desarrollo Infantil (CENDI), was added to the regression model in the Mexican sample. In total, 2196 Canadian 5-year-olds contributed to the data from Canada, and 1672 Mexican 5-year-olds contributed to the data from Mexico.

In Canada, the strongest SES indicator was income; in Mexico it was maternal education. Each strongly contributed to children’s outcomes: in Canada, a child from a low-income family was 2.016 times more likely to score below the 10th percentile in more than one of the five developmental domains measured by the EDI; in Mexico, a child of mother with low education was 1.759 times more likely to have low scores. The odds ratio values were similar, around 1.8, for family characteristics: in Canada, it was the lack of “intact” status of the family (not the same original two-parent family since child’s birth), in Mexico, lack of mother’s married status had the negative impact. Child’s gender also had similar effect on outcomes: boys in both samples were more likely to score low, although in Canada the odds ratios were higher than in Mexico (2.324 as compared to 1.410). In Canada, child’s health status and age (above mean) also had impact on the kindergarten outcomes, but not in Mexico. Finally, child’s enrollment in the CENDI child care program was also associated with positive outcomes: children attending other programs were 1.440 times more likely to have low scores.

Family status, socioeconomic circumstances and child’s gender proved to have a meaningful association with children’s kindergarten outcomes in both Canada and Mexico. In the next section of this chapter, the parent engagement with a child is briefly reviewed, then examined in several communities in Canada.

**Does Parent Engagement Make a Difference for School Readiness?**

Throughout the preschool years, families create a unique environment fostering their children’s development of learning and exploratory skills, with parents as the main agents. Parental engagement in this process could be represented by direct involvement, as exemplified by the qualities of the parent-child relationship, or playing, reading, singing with the child, or an indirect influence, for example promoting child’s participation in community-based activities, or even attending child care or school events.

Empirical research on parent involvement, largely carried out with older
children, suggests that parental involvement—especially in the child’s school-work—is associated with more positive outcomes (e.g., Domina, 2005; Hango, 2007). However, at a kindergarten level the impact of parent-child activities and children’s outcomes is more challenging to study, which is reflected in a relatively small number of studies. A cross-sectional study of association between parental behaviours, expectations and school involvement with pre-reading and pre-math scores of senior kindergarten children (Hill, 2001) indicated that maternal acceptance and expectations for grades were positively associated with both school readiness measures. Parental home involvement and the teachers’ perceptions of involvement, were positively associated with academic achievement among children studied from grade 1 to grade 6 in the Netherlands (Bakker, Denessen, & Brus-Laeven, 2007). Children of parents considered highly involved in home-based activities with their child had higher achievement in reading and mathematics than those of less-involved parents (McWayne, Hampton, Fantuzzo, Cohen & Sekino, 2004), and they also were reported to have higher social skills, more cooperation, self-control, and pro-social engagement in home and school. School-based transition to kindergarten practices, meant to engage parents and ease the process for families also have been shown to be associated with higher academic scores at the end of kindergarten (Schulting, Malone, & Dodge, 2005). Although the pattern of association was similar for all children, the strength of the correlation was highest for children from families from low SES backgrounds.

When parents of preschool and kindergarten children attend many school activities and volunteer frequently children are more likely to score higher on tests of reading achievement and are less likely to be held back a grade (Miedel & Reynolds, 2000). Parents who believe that being engaged in the child’s education is important and that their involvement with the child and school will impact the child’s learning are the ones most likely to demonstrate high levels of actual involvement (e.g., Wyrick & Rudasill, 2009). Regardless of their motivation, parent involvement matters: not only in education, but also in making it possible for the child to participate in athletics and other organized activities. Children who consistently participated in extracurricular activities during kindergarten and grade one were found to have higher standardized test scores than children who did not, controlling for child and family factors (NICHD Early Child Care Research Network, 2004).

While the central question about the child’s environment in the process of transition is what can be changed or improved about the educational system to make it more welcoming to the ever-younger child, it is equally important to ask about the conditions prior to school entry that may influence the successful adjustment. Drawing on parent information linked to their children’s outcomes in kindergarten I am going to describe the types of parent-child activities that appear to be meaningful in this context.
Empirical Study of Parent Engagement and Children’s Kindergarten Outcomes

Parents of kindergarten-age children in several communities in Southern Ontario in Canada completed a Kindergarten Parent Survey (KPS), (Gaskin, Duku, & Janus, 2008). KPS includes questions on parent activities with children at home, children’s participation in activities in the community (organized or casual), and parent involvement in school. Children’s outcomes were measured using the Early Development Instrument (Janus & Offord 2007). In total, data were available for about 2,800 5-year-olds representing approximately 40% of all kindergarten children in these communities.

Parents were asked about frequency of seven types of home-based activities with their children over the last week: telling/reading a story; teaching letters, words, or numbers; teaching songs or music; working on arts and crafts; playing; taking child along while doing errands; and involving child in household chores. They were also asked about child’s previous year’s participation in the community-based activities, which fell into two categories, casual, available at the “drop-in” basis and not requiring commitment: play-based parent-child programs, family reading programs, recreational programs without an instructor or coach, and faith-related programs; and sessional, organized and likely to require a time commitment: organized team sports, participation in physical activity programs with a coach/instructor, dance, music, and arts programs. These activities were also classified in regard to developmental area into four types: athletic programs (organized and not organized sports, dance), art programs (music and art activities), play/read programs (play-based programs with parents, and reading programs), and faith programs (faith-based programs).

Home-based activities with parents

Frequency of home-based activities was recoded into “minimal”, “moderate”, and “frequent”, based on the summary score for all seven activities (Janus & Graham, 2007). Over 70% of parents reported frequent engagement in activities with their children; 23.4% reported moderate engagement, and only 5% reported minimal engagement. This group of children scored significantly lowest in three developmental domains of the EDI: Social Competence, Language and Cognitive Development, and Communication Skills.

Casual and sessional community activities

Each activity was given a score of either 1 or 0 for participation or no participation respectively. Scores were summed to produce a total score for child participation in either casual or sessional activities.
For both categories, one-fifth of the population participated in no activities (19.6% for casual, and 16% for sessional), and a slightly larger proportion participated in more than three (19% for casual, and 27.3% for sessional). Participation in sessional, organized activities was higher among children who were on track in all five developmental domains on the EDI than among those who lagged behind on one or more (mean 1.8 vs. 1.2, effect size of the difference: 0.343). Regression analyses demonstrated that participation in sessional activities contributed a small proportion of variance to children’s scores in all five domains, while the participation in the casual activities did not (Janus & Graham, 2007).

**Community activities by type**

Mean attendance scores were created, and recoded into “no participation”, “some participation” (mean less or equal .50), and “high participation” (mean greater than 0.50). Most children participated in athletic programs (only about 12% participated in none, and high participation was shown for 43%). In contrast, almost 74% of children did not participate in any art program, while participation in art programs was high for only 4.8%. Distribution of participation frequency in play/reading programs was fairly even: 41.3% in none, 30.7% in some, 28.4% with high participation. The strongest impact of the activities on kindergarten outcomes emerged for athletic activities: children who were doing well in kindergarten had significantly higher participation in such programs (effect size of the difference 0.409).

Athletic activities consistently contributed positively to outcomes in each of the five developmental domains, with the highest beta values in Communication Skills and General Knowledge areas (Sears & Janus, 2007). Participation in faith-based programs also contributed significantly to children’s scores in Language and Cognitive Development and Communication domains. Interestingly, participation in play/read activities had a negative association with both these domains, indicating perhaps that parents were more likely to engage the child in such programs if they perceived difficulty in language/communication areas.

**Overall parent engagement results**

Taken all together, the strongest and most consistent impact on children’s outcomes was due to their participation in sessional activities, in particular the athletically-oriented ones. Parent activities with child at home contributed to children’s social competence, emotional maturity, and language/cognitive development (all analyses were controlled for education and income).

Since the measures used in our studies did not reflect intensity but rather the simple fact of having been involved in at least one of activities listed
on the questionnaire, these results by no means indicate that enrolling children in many organized activities is beneficial for them. Rather, this points out that impact on children’s school readiness can happen through involvement in organized activities that are not necessarily focused on academic achievement. This finding emphasizes and confirms the health and holistic focus of the concept of school readiness used in our approach.

Conclusions

Facilitating transition to school requires a collaborative effort among the teachers, the school, the parents, and the whole community. The dialectical relationships that exist between children and families, and early care or educational institutions such as child care centres or kindergarten are part of the fabric of the transition and ultimately of the process of child’s adjustment. Many years of evidence-based intervention strategies exemplified by the Head Start in the U.S. have not brought the panacea nor yielded all the benefits that were expected. While individual, intense, targeted interventions are documented to have high success (e.g., Schweinhardt, et al., 1993), they are not easy to generalize and implement at the population level.

Through the description of the research on determinants of children’s outcomes as they experience transition to school, I attempted to demonstrate that first, the broad family and socioeconomic factors that impact children’s outcomes can be compared across countries; second, that parental agency in being engaged with the child in creating an activity-rich preschool social environment is among the finer factors that could be enhanced to improve the transition experience. Making schools ready for children means making communities ready to support children before they enter school and giving them and their families opportunities to be involved in their communities, and thus promote child development in all domains contributing to their successful transition to school and fulfillment throughout life.

References


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