

TOWER HAMLETS



School Readiness

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Section 1 – What is school readiness?

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 her or him to be successful in school. 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 emotional development; approaches to learning; language development; cognition and general knowledge, including mathematics (Kagan, Moore and Bredenkamp 1993).

The complement of appropriate skills expected in England is detailed in the Department for Education (DfE) document *Early Years Outcomes* and varies according to the age band. In Tower Hamlets, we place more emphasis on the prime areas for younger children, although children will always be learning and developing across all seven areas of learning.

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 mathematical skills include early understanding of mathematical concepts, measurement logic and mathematical 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).

When considering readiness for school in Tower Hamlets, we focus on *Early Years Outcomes*, with reference to UNICEF and to Harvard's research on the developing child.

1. What does school readiness mean in this borough?

In Tower Hamlets, some of our children start school at the age of two years old, so we have given a great deal of thought to what we mean by the term “school readiness”. There are many competing definitions, based on the point at which a child starts school. The rapid rate of development from birth to five means that we must take into account the different needs of children at different ages.

The council has used the UNICEF Rights of the Child as the starting point for the current Children and Young People’s Plan. In 2014, the Early Years Service used this approach as the starting point for our work in preparing young children for school. The UNICEF publication “School readiness: A Conceptual Framework” provided an excellent evaluative, research-based starting point. This approach, exploring the readiness of the child, of the schools and settings, of the parents, families and carers, of the council and the community has given us a sound foundation.

At the Spring Early Years Leadership Meeting in 2014 we discussed the addition of ideas from *Working Paper 11 on the Developing Child* (Harvard University) with early years foundation stage (EYFS) Co-ordinators and managers in the maintained private voluntary and independent (MPVI) sector. This was agreed as representing the approach we wished to use in this borough, and has provided a useful additional research base.

2. Supporting school readiness

School readiness is supported by everyone involved in early years. Parents contribute when they read stories with their child, sing songs and talk about things that interest them and their child. It is supported by health professionals as they work with parents and children to ensure that they have the best start in life. It is supported through Children’s Centres, where many of these health professionals are now based, and the Children’s Centres’ universal and targeted offers (early intervention and early help). As children move into settings – with child minders, nurseries, play groups or schools – the support continues.

3. Measuring school readiness now

Nationally schools use the good level of development (GLD) to measure school readiness. If a child achieves a GLD by meeting 12 of the statutory early learning goals at the end of the Reception Year, they are well placed to benefit from the Key Stage 1 curriculum. This system has been in place since 2002 and is based on nationally validated data sets. In August 2016 the Department for Education (DfE) decided to continue to collect early years data at a national level

for a further year. This does not change the legal requirements for schools and settings. Everyone must use the ages and stages approach outlined in *Early Years Outcomes* and the national expectation for children at the end of the Reception Year is still that all children meet all the early learning goals.

4. Measuring school readiness in the future

We currently use the ages and stages approach recommended by the Department for Education (DfE) and OFSTED in the *Early Years Outcomes* document. We are reviewing the DfE's emerging advice on the new school readiness indicator that they propose to introduce. Our advice to schools and settings is to continue to use *Early Years Outcomes*¹ because this links directly to both the Two Year Old Integrated Review carried out by parents, the Health Visiting Team and an early years practitioner, and also with school systems that record attainment on entry to school at age three, and to the end of stage summative assessment (EYFSP) at the end of Reception Year. In this borough we recommend a continuous formative assessment and observation approach with periodic summative points to check that each child is progressing appropriately. Our approach is based solely on formative observational assessment throughout a child's time in a setting. This occurs in all early years settings and is in line with statutory requirements and Ofsted expectations. At the end of the EYFS, we are asked to make a judgement about whether a child has met the standard required, as expressed in the 17 early learning goals. A binary decision of this sort – “met” or “not met” is essentially a test. We are asking whether the child has acquired the knowledge, skills and understanding needed to benefit fully from the next phase of education. It is important that the receiving teacher has this information because it will determine the learning and teaching approaches in Year 1.

¹ The information in *Early Years Outcomes* is identical to the Unique Child section of *Development Matters*.

Section 2 – Developing school readiness

1. UNICEF “School readiness: A Conceptual Framework”²

This UNICEF paper presents a broad concept of school readiness, describing in detail three dimensions:

- i. Children’s readiness for school;
- ii. Schools’ readiness for children; and
- iii. Families’ and communities’ readiness for school.

It provides a rationale for the importance of school readiness, not just for individual children, but also for societal and national development more generally. It sets out the costs of inaction for children, families, communities and countries, and addresses international strategies for action.

The simplicity of the term ‘school readiness’ belies the complexity of the concept and its relevance for development for the individual and for society. The challenge of understanding school readiness lies in the exponential expansion of science and knowledge on the topic. This growth in information has not been disseminated consistently. It is challenging to gain access to the latest information as it has a broad international flavour. 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.

The educational approaches in defining school readiness have developed during recent years. Some systems use a narrow ‘pre-primary’ educational approach that stresses literacy and numeracy skills that align with a skills-based primary school curriculum that excludes art, creativity and play. Other approaches use a ‘social pedagogic’ approach that stresses a broader preparation for life beyond a school-based curriculum (OECD 2006). This approach, which we endorse, is found in Nordic and Central European countries and also in parts of Italy ([Reggio Emilia](#)). It promotes broader development of children while simultaneously supporting families.

UNICEF defines school readiness by two characteristic features on three dimensions. The characteristic features are ‘transition’ and ‘gaining competencies’, and the dimensions are

² **School Readiness: a conceptual framework** © United Nations Children’s Fund, New York; Updated in April 2012. United Nations Children’s Fund, Education Section, Programme Division, Three United Nations Plaza, New York, New York 10017. Please do not reproduce this text without full acknowledgement.

children's readiness for school, schools' readiness for children, and families' and communities' readiness for school.

The three dimensions of school readiness are:

1. Ready children, focusing on children's learning and development.
2. Ready schools and settings, focusing on the early years environment along with practices that foster and support a smooth transition for children into statutory education 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 together, because school readiness implies a time of transition that requires co-operation 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 people, groups and organisations involved in shaping the transition (Fabian and Dunlop 2006; Vogler, Crivello and Woodhead 2008). In terms of school readiness, transition is defined as children moving into and adjusting to new social situations and new learning environments, families learning to work in a sociocultural system (i.e. education and health), and schools and settings 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. Children, families and schools exist in a larger ecological system (Bronfenbrenner 1979 and 1989) that needs to be considered in the conceptualisation of school readiness because of its strong influence on these three dimensions:

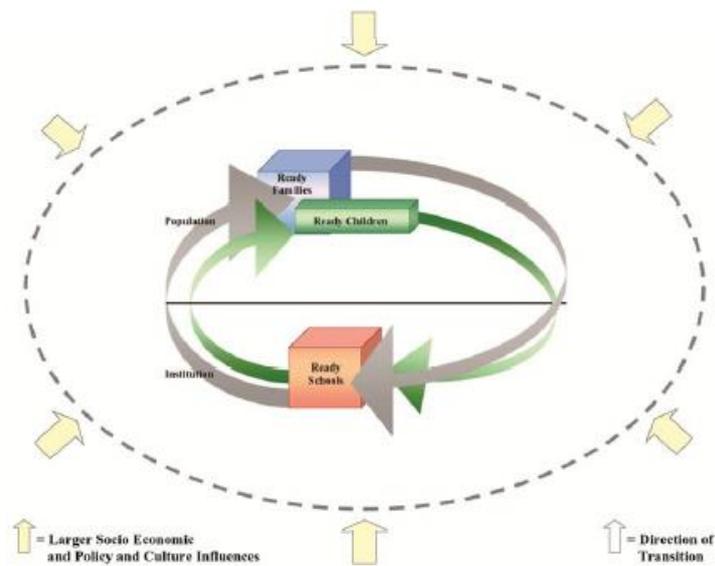


Figure 1: Building Competency/Capacity for Transition to School

An important influence on the three dimensions of school readiness is the 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 provision for access and quality of programmes, standards, certification and training of staff, and resource allocation to education systems.

Social policies have 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 a local level depending on the governance system – directly or indirectly influence access to education and health 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.

Section 3 – The biological foundations of school readiness

Children in Tower Hamlets often enter school the at age two. We have reflected on what school readiness means for them. We have discussed the latest research with early years leaders: *Building the Brains' Air traffic Control System: How early experiences shape the development of the executive function* Working Paper 11, Centre on the Developing Child, Harvard University. This paper explores what school readiness means in the broadest sense.

Completing most tasks requires the successful orchestration of several types of brain function. Among scientists who research this area, three dimensions are frequently highlighted:

1. Working memory
2. Inhibitory control
3. Cognitive or mental flexibility

1. Why is this important?

These attributes enable children to become ready for statutory education in the term after their fifth birthday. Young children depend on their emerging executive function skills to help them as they learn to read and write, remember the steps in solving mathematical or scientific problems, take part in discussions or group projects, and enter into and sustaining play with other children.

Working memory is the capacity to hold and manipulate information in our heads over short periods of time.

Inhibitory control is the skill we use to master and filter our thoughts and impulses so we can resist temptations, distractions, and habits and to pause and think before we act. It makes possible selective, focused, and sustained attention, prioritisation and action.

Cognitive or mental flexibility is the capacity to nimbly switch gears and adjust to changed demands, priorities or perspectives. It is what enables us to apply different rules in different situations and is about self-control and persistence.

2. Who needs these attributes?

Children who do not have opportunities to use and strengthen these skills, and fail to become proficient or children who lack the capacity for proficiency because of disabilities or, for that matter, adults who lose it due to brain injury or old age have a very hard time managing the routine tasks

of daily life. Studying, sustaining friendships, holding down a job, or managing a crisis pose even bigger challenges.

3. How do we support school readiness in early years?

Most importantly we ensure that children are learning through play because research tells us that this is the most effective way of supporting children's development. The process of development is sometimes portrayed as one in which children gradually manage more and more aspects of their environments and lives on their own. We would not trust two-year-olds to stop going after a ball just because it rolled into the street, get ready in the morning (brush their teeth, find and select their clothes, and get dressed) by themselves, or even clean up their toys without reminders.

Adults set up the framework (i.e. establish routines, provide cues, break big tasks into smaller chunks) that helps children use the executive function skills they are developing to the best of their abilities. We call these techniques "scaffolding." Just as a scaffold supports workers while a building is being erected, adults can use these activities to support the emergence of children's executive function skills until they can practice and perform them on their own.

Executive function skills are crucial building blocks for the early development of both cognitive and social capacities. Both normative differences in the nature and pace of individual developmental trajectories and the impacts of significant adversity will affect how the development of executive functioning will unfold for any given child. Several interventions focused on supporting the development of specific executive function skills have demonstrated at least short-term effectiveness, with evidence also emerging that they may have impacts on other aspects of learning as well.

Executive functions underlie large and small (as well as complicated and straightforward) life skills, competencies, and behaviours. By age seven, some of the capabilities and brain circuits underlying executive function skills are remarkably similar to those found in adults. Once these foundational capacities for directing attention, keeping rules in mind, controlling impulses, and enacting plans are in place, the subsequent developmental tasks of refining them and learning to deploy them more efficiently can proceed into the adolescent and early adult years as tasks grow increasingly complicated and challenging.

4. How do these dimensions relate to school readiness?

Executive functioning is distinct from (yet foundational to) school readiness and academic success. Scientists who study executive function skills refer to them as the biological foundation for school readiness.

They argue that strong working memory, cognitive self-control, and attentional skills provide the basis upon which children's abilities to learn to read, write and solve mathematical problems can be built. In practice, these skills support the process (i.e. the *how*) of learning, focusing, remembering, planning—that enable children to effectively and efficiently master the *content* (i.e. the *what*) of learning—reading, writing, computation. They enable children to acquire knowledge and to participate in the school experience as actively engaged and competent learners. Children with stronger working memory, inhibition, and attentional skills also have been found to make larger gains on tests of early mathematics, language, and literacy development during the preschool years than their peers with weaker executive function skills.

5. How does PSED support school readiness?

Children's executive function skills provide the link between personal, social and emotional development and school readiness and early school achievement. Executive function skills are a common denominator for both learning and social interaction. Young children who struggle to stay focussed and resist urges to respond impulsively—two core executive function skills—not only have difficulties in school but also have difficulties following directions generally and are at elevated risk of displaying aggressive and confrontational behaviour with adults and other children.

Executive functions, like completing tasks, solving problems, organising information, and making (and revising, if necessary) deliberate plans, are important facilitators of interpersonal interactions and behaviour. Some researchers have hypothesised that the complexity of human social relationships, rather than the need to solve mathematical and scientific problems, is why the human prefrontal cortex is so large and our executive function abilities are so advanced.

6. Where does play fit in?

Children's social play is believed to be an important practice ground for the development of executive function skills. Partly, this is because children need to test for themselves the skills that adults have been scaffolding for them. For example, they have to come up with the plan for playing in the role play area, communicate with each other about role assignments and then

remember that one child will be the bossy older sister, another will play the dog and one will be the baby.

Keeping track of what each actor has done and inserting a new piece of the story that makes sense to everyone requires the effective exercise of emerging executive function skills. The child who cannot demonstrate sufficient executive competence is either told what to do by others, gets pushed out, or causes the play to fall apart. As toddlers, children can barely manage to coordinate play with one other child; by the time they enter Year 1, they typically can play cooperatively with several children simultaneously and can work on projects that span hours or even days.

Maintaining a home corner as well as role play related to current themes is most important. Children who lag behind in their emerging executive function capacities relative to their peers find themselves at a disadvantage, because they cannot keep up with the complexity of the play and, therefore, get frustrated, act out, and may cause other children to not want to play with them. The skills that help children master many academic tasks are the same as those that help them get along with their peers and be viewed as good classroom citizens.

7. What about children living in disadvantaged and perhaps chaotic families?

All children enter school with distinct profiles of strengths and weaknesses in executive function skills. Large individual differences in executive functioning on entry to nursery can have important implications for children's adjustment and success in and out of school as well as in their relationships with others. As both teachers and parents know, young children differ widely in how well they are able to adjust their attention, control impulses, follow rules and directions, and adapt to other demands of their environments. Some children have less well-developed executive functioning and are less able to orchestrate their capacities.

Children with special needs, such as those associated with autism, for example, may have particular difficulty with executive functioning demands. A child's temperament can also make this orchestration more challenging, as illustrated by individuals who typically react more rapidly and intensely (with either anger and frustration or exuberance) to their experiences. Another example of the marked variability in developing skills is the observation that some children can be highly capable in focusing their attention and managing distractions, but have less well-developed working memory capacity. Understanding these individual differences can help adults work out how much support and structure to provide as children develop and learn.

Adverse environments resulting from neglect, abuse, and/or exposure to violence can impair the development of executive function skills as a result of the disruptive effects of toxic stress on the developing architecture of the brain. Chaotic (and thus, from the child’s standpoint, unpredictable) environments can also lead to poor self-regulatory behaviours and impulse control. A number of studies have shown that exposure to highly stressful early environments is associated with deficits in the development of children’s working memory, attention, and inhibitory control skills. Damaging fear and toxic stress are likely mechanisms that explain these effects, in part, because they affect the chemistry of brain circuits involved in the development of these capacities, and they impair the specific neuronal architecture that is engaged when we try to keep information in working memory, inhibit a habitual action, or address problems in a flexible manner. All adults have had the experience of encountering a threat, being gripped by fear or anxiety, and having trouble thinking straight. Under such circumstances, the brain goes into high “fight-or-flight” mode, and we have to calm ourselves down before we can mobilise our executive function skills to plan and execute a well-considered response. In adults and children, acute stress can even cause less-efficient prefrontal cortex activity, leading to a temporary “blip” in executive functioning. Chronic fear and anxiety associated with living in highly threatening, chaotic, or stressful environments can make it very difficult for young children to engage their executive abilities—even in situations (like school) where they may, in fact, be safe.

Children who experience adversity at an early age are more likely to exhibit deficits in executive functioning, suggesting that these capacities are vulnerable to disruption early in the developmental process. Conversely, if the developmental process is affected in this way, it is equally possible for a good early years experience to ameliorate the impact of deprivation and disadvantages.

8. How does all this link to good early years practice?

The research in this area indicates that good quality EYFS provision is the most cost-effective method of ensuring school readiness. A young child’s environment of relationships plays an important role in the development of executive capacities and this in turn supports outcomes. Environments that foster executive functioning are characterised by adult-child relationships (both within and outside the home) that guide children from complete dependence on adult support to gradual assumption of the “executive” role for themselves. Such environments neither expect children to have more advanced skills than are reasonable for their age, nor do they treat them as if they had no executive capabilities.

Growth-promoting environments provide substantial “scaffolding” to help young children practice emerging skills before they are expected to perform them on their own. Enhancing the development of executive functioning involves sensitive, responsive caregiving and individualised teaching in the context of situations that require making choices, opportunities for children to direct their own activities with decreasing adult supervision over time, effective support of early emotional regulation, promotion of sustained joint attention, and the availability of adults who are not under such pressure that they cannot make time for children to practice their skills.

Children who routinely experience social interactions that provide these kinds of opportunities are more capable of resisting distractions, controlling their behaviour and emotions towards others, complying with adult requests and engaging in goal-directed behaviour by the time they get to school. Researchers also suggest that more ordered and predictable environments foster the development of executive function skills by offering children ample experiences that involve give-and-take interactions with others.

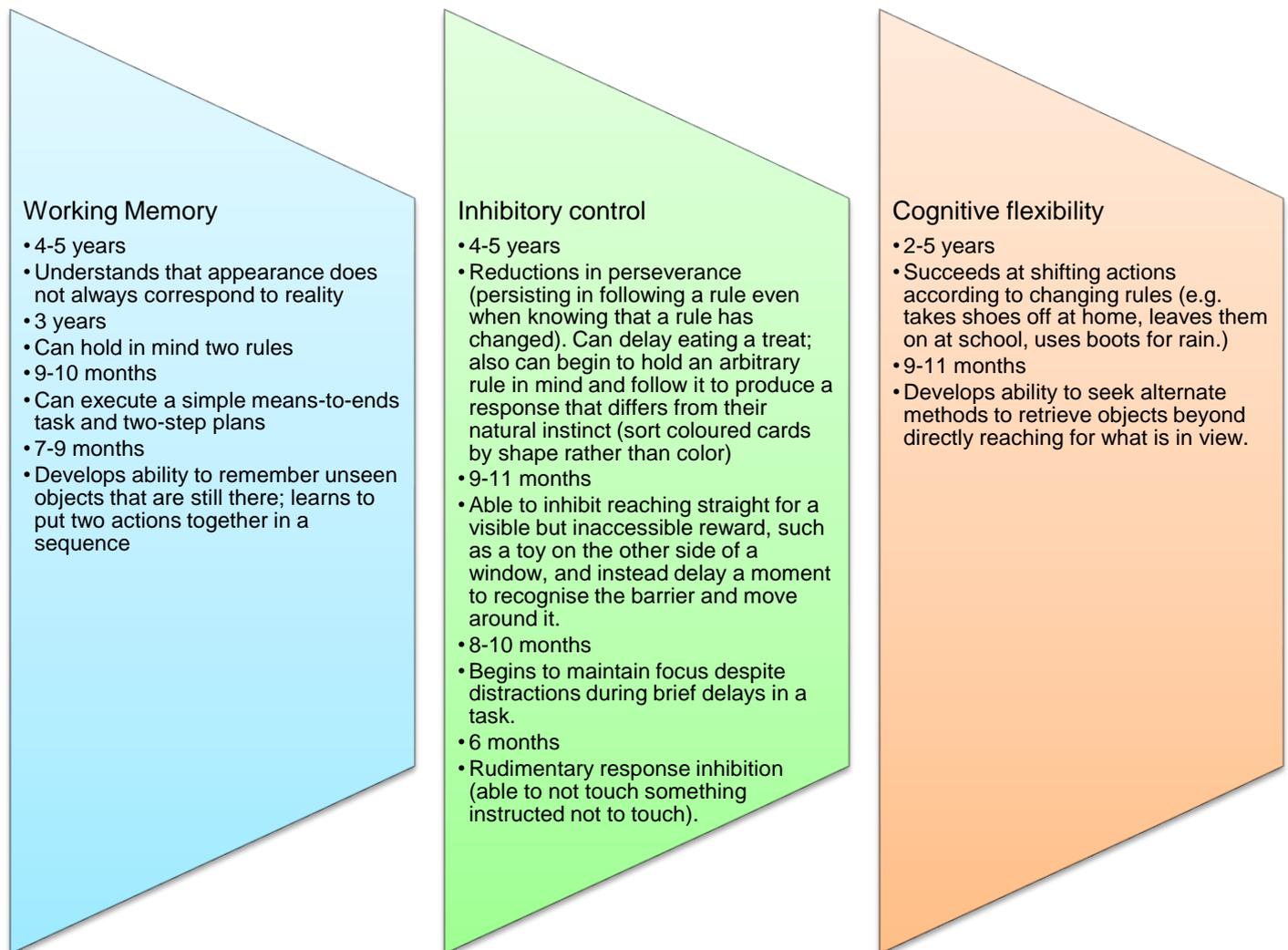
9. How does early years make a difference?

The healthy development of executive function skills can be supported with specialised practice and training aimed at sustaining good quality early years practice. The same neuroplasticity that leaves executive functioning skills vulnerable to genetic and environmental disruption also presents the possibility of actively promoting the successful development of these skills. Focused early years interventions can also protect and enhance executive functioning. Recent evaluations of a range of preschool interventions designed to strengthen children’s capacities to use these executive function skills in the classroom (in contrast to programmes focused primarily on cognitive training) are also demonstrating that these skills are open to improvement during the early childhood years. These interventions tend to adopt one of three strategies:

1. Programmes aimed explicitly at fostering emerging executive function skills (e.g., the capacities to retain and use information, focus and resist distractions, plan actions and revise plans as needed);
2. Programmes that train and support teachers in effective classroom management strategies
3. Programmes that train teachers to model and coach children as their social-emotional skills are developing, with the focus on children’s pro-social behaviour, social problem-solving skills, ability to understand and express emotions constructively, and ability to control impulsive behaviour and organise themselves to accomplish goals.

These approaches have a focus on supporting self-control and effective, goal-oriented approaches to learning and social encounters in common.

There are clear links between working memory, inhibitory control and cognitive or mental flexibility. These can be seen throughout *Development Matters*. Good examples can be found in the following stages and aspects: Expressive Art and Design, Mathematics, PSED, Communication and Language (especially two-channelled attention); and throughout the Characteristics of Effective Learning.



10. Popular misconceptions

The fact that young children have a difficult time with self-control, planning, ignoring distractions, and adjusting to new demands is hardly news to the adults who care for them. It is not widely recognised, however, that these capacities do not automatically develop with maturity over time. Furthermore the developing brain circuitry related to these kinds of skills follows an extended

timetable that begins in early childhood and continues past adolescence and provides the common foundation on which early learning and social skills are built.

Contrary to popular belief, young children who have problems with skills such as: learning to control impulses, pay attention, and retain information actively in one's memory will not necessarily outgrow them. Working memory is easily disrupted by highly adverse early experiences or biological disruptions.

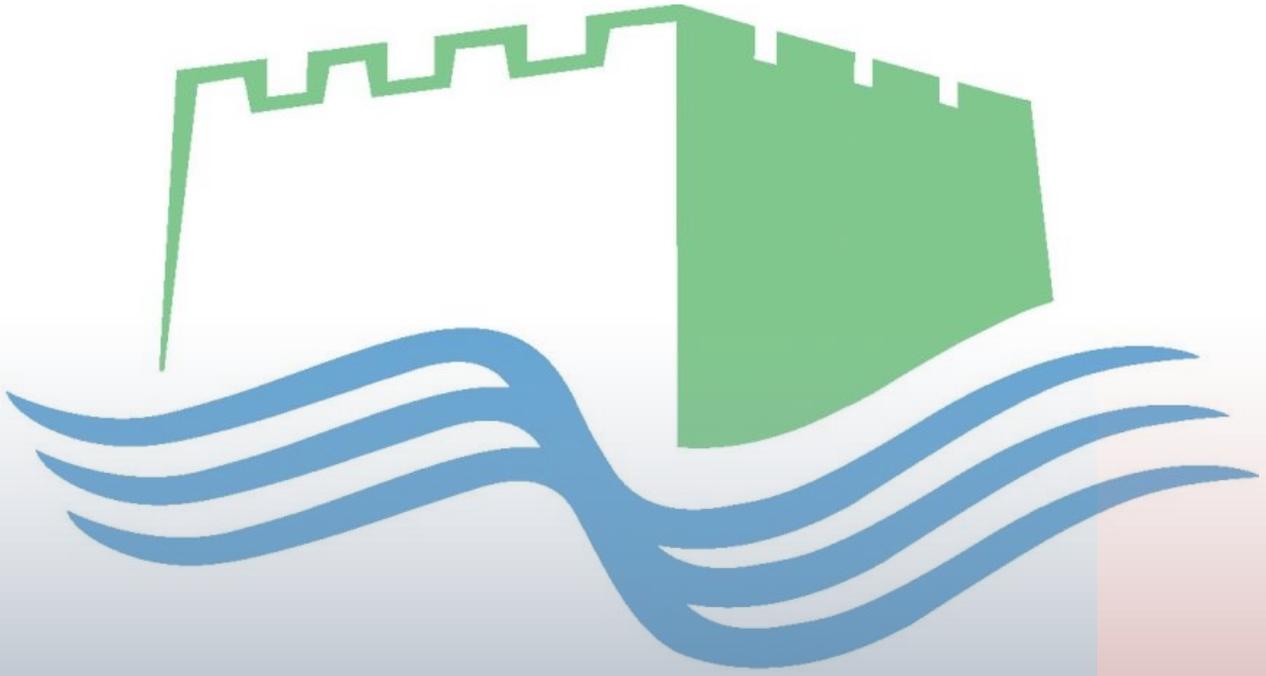
Young children who do not stay on task, lose control of their emotions, or are easily distracted are not "badly behaved children" who are being intentionally uncooperative and belligerent. Young children with compromised or delayed executive function skills can display very challenging behaviours for which they are often blamed. In most circumstances, however, it is the protracted development of the prefrontal cortex that is to "blame." Efforts to help affected children develop better executive function skills and adjustments of the demands placed upon them to avoid overtaxing their capabilities are much more helpful than punishment for difficult behaviour.

Contrary to the theory that guides some early education programmes that focus solely on teaching letters and numbers, explicit efforts to foster executive functioning have positive influences on instilling early literacy and numeracy skills. Early evidence from randomised trials of interventions designed to foster the cluster of executive function skills (working memory, attention, inhibitory control, etc.) indicates benefits in early literacy and maths skills compared with children who experience "regular" classroom activities. There is also evidence that emerging executive function skills contribute to early reading and maths achievement during the early years and into maintained nursery class provision. This is not surprising insofar as the acquisition of traditional academic skills depends on a child's capacity to follow and remember classroom rules, control emotions, focus attention, sit still and learn on demand through listening and watching.

Neuroscientists are also beginning to relate specific aspects of executive functioning, notably attentional skills, to specific steps involved in learning to read and to work with numbers. Early education policies that emphasise literacy instruction miss an important opportunity, and are less effective than those that focus on the development of the development of executive function skills. Emerging evidence from early intervention programmes explicitly aimed at fostering these skills indicates that beneficial effects on components of the executive function (e.g. attention, working memory) also have positive secondary impacts. These include improving the quality of teaching that children receive (including improved literacy environments) and the promotion of other facets

of early learning, including task engagement and reading skills. The most effective early education programmes of the future are likely to teach children curriculum content (e.g. early literacy, maths, social skills) in a way that optimises the scaffolding and practice of executive function skills. In fact, it can be argued that this is what should happen already if a setting is using *Development Matters* effectively.

Written by the Integrated Early Years Service, July 2016.



TOWER HAMLETS