

Born too soon

Barry Carpenter and Jo Egerton discuss the challenge of prematurity for 21st-century educators

The changing pattern of special educational needs and disabilities (SEND) across all types of school is now well documented. The learning profiles of children are often complex, with permutations of disability and additional need that are new to many school contexts. From these profiles of learner need arise new teaching strategies that need clear leadership and management.

This new generation of children requires new styles of leadership in all phases and designations of school. The leadership is often based on a process of inquiry – exploring, investigating and discovering innovative pathways to effective learning, attainment and progress. These are pathways that may have not been trodden before, and require leadership that recognises, guides and supports the inquiry process but does not try to impose answers, when the task, in reality, is about seeking solutions.

Educational needs of premature children

In the last decade a rapidly emerging group of children entering our school system has been those born premature. Indeed, it has been reported that there are likely to be four children born premature in every primary classroom; in special schools and settings this will be higher. A much-observed trend, documented in Ofsted reports on special schools, is the increasing numbers of children with profound and complex needs joining Key Stage 1. The Department for Education's figures for 2004–09 revealed a 29.7% rise in profound and multiple learning difficulties admissions to schools. In part, this may be linked to the survival of prematurely born children. In particular,

the significant trend towards the survival of children pre-27 weeks' gestation, over 50% of whom survive with some form of SEND, has dramatically contributed to the figure of 80,000 children annually born premature.

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they learn differently, in what way do we teach differently, and, if we teach differently, what are the leadership and management issues arising that may be new in our portfolio of practice?

Classroom support

Recently, a conference was held in London, under the auspices of the National Forum for Neuroscience in Special Education, to review and debate the educational needs of children born premature.

In the UK, pre-term birth is defined as fewer than 37 weeks' gestation, very pre-term as 28–32 weeks and extremely pre-term as fewer than 28 weeks' gestation. Press reports often record children born premature at 26, 25, 24 weeks or earlier, and the EPICure study in 2006 (www.epicure.ac.uk) found that around 53% of these extremely premature infants survived. But what happens when they enter the school system? Children born extremely pre-term often present different profiles of learning need. Even premature children who do not show apparent difficulties may have persistent and mildly poorer grammatical skills and verbal working memory. Although as infants and toddlers they appear to catch up with their peers, children born three months prematurely are three to four times more likely to struggle in school than their full-term peers, and these difficulties persist into their teenage years. At 15–16 years they are two to three times more likely to have emotional problems. Understanding these problems and their origins has important implications for potential teaching styles and interventions.

Andy Cole, Chief Executive Officer of Bliss, the special care baby



harly, said, 'Parents of extremely premature babies are increasingly interested in the longer term educational and developmental needs of their children.'

He went on to say, 'Without action, we are asking teachers to teach with one hand tied behind their back. There are children struggling who could learn in a different style.'

However, educators feel ill-prepared to meet the learning needs of this group of children. A survey by the University of Warwick in 2012 found that although 89% of 120 teachers said they were likely to teach a child born premature, only 6% felt they had received sufficient training.

To enable children born premature to become effective learners, their learning barriers need to be identified and overcome. Yet if educators do not receive training on the learning needs of these children, how can they fulfil these expectations? They need preparation to teach these children differently according to their learning needs.

Children and young people born pre-term may have a range of SEND, or none at all. The EPICure study, which has followed all children born premature in England in 1995, found that, at the age of six years, 32% had mild disabilities, 24% had moderate disabilities and 22% had severe disabilities; over 50% of children born very or extremely premature survive with disabilities. Reduced white matter, white matter injury and brain haemorrhaging associated with premature birth can result in developmental delay, motor difficulties (for example, risk of cerebral palsy), sensory impairment, cognitive and executive function difficulties (for example, problems with linguistic processing speed or memory), emotional and social processing difficulties (for example, higher anxiety levels, depression and aggression) and intellectual disabilities. EPICure studies found that 60% of these children develop inattention-type attention deficit disorder (non-hyperactive), and over 10% develop autistic symptoms. At 11 years old, they are likely to need

more educational resources than their full-term peers.

Ensuring educational support can be a struggle for families. Nicola O'Connor, the parent presenter at the conference, described how her son's 'sleeper' developmental issues, often associated with prematurity, did

not become apparent until he started school. His persistent difficulties – with independence, core stability, motor integration (planning and skills), responses to sensory stimuli, concentrating and learning – set him apart from his peers. They were so severe that the headteacher suggested he repeated the Foundation year. Yet, despite the school's backing and well-documented learning issues, the family had to campaign for over 18 months before the local authority gave their son a statement of SEN with 20 hours of one-to-one support. O'Connor described some of the things the family learned over that time:

- > 'A massively supportive school, an experienced and wonderful reception teacher, and the best learning support assistants in the world will change your life.'
- > Repeating the year for our son was the best decision we ever made – he needed time, not a conveyor belt.
- > Medical staff, occupational therapists, physiotherapists, speech and language therapists and education professionals need to talk to each other early and often when it comes to any child born before 28 weeks and weighing under a kilogram.
- > Better communication of the long-term effects of prematurity is vital for parents to be able to deal with what might be round the corner.
- > Our son grew into problems caused by his prematurity – according to the literature, a likely outcome for children like him. The system was not ready to catch his fall.'

Challenges for educators

For educators, there are a number of barriers within the school system to meeting the needs of children and

young people born premature; for example:

- > Most schools do not currently ask parents about their child's birth history, which would identify children born premature on school entry and allow educators to be proactive.
- > Without this prior knowledge, educators may dismiss parents' concerns about their child's learning, development or behaviour as over-anxiousness.
- > Educators may have unrealistic expectations of children whose age is ahead of their developmental abilities due to their premature birth.
- > There is comparatively little research on how these children develop or on how to implement effective strategies through their school years.

The EPICure study suggests that educational priorities need to be established for this group of learners at different ages and stages of development, and that schools and parents should consider the benefits of deferred or delayed school entry. At age four-and-a-half years, many of these children are not developmentally ready to sit for extended periods, to focus attention, to have their learning directed and to learn as part of a large group.

Finding solutions

As more has become known of the developmental effects of prematurity, the focus of research has begun to shift to interventions. However, research into effective interventions for school-age children and young people is at an early stage. During his presentation at the conference, Dieter Wolke suggested the following educational strategies:

- > For less demanding tasks, provide reinforcement and structure them to ensure success; for more demanding tasks, personalise and provide support as appropriate for the young person's developmental stage.
- > Find assessments which take account of cognitive workload demands to provide a more detailed picture of strengths and weaknesses for planning support for children born pre-term.
- > Use adaptive computerised working memory training.
- > Organise learning tasks in smaller chunks to maintain attention.

- > Use attention training and focusing tasks.
- > Support social integration by assisting group work, using special peer mentoring, and liaising with parents over activities to increase friends.
- > Use innovative computer-assisted interventions to support social skills and integration.
- > Note that children and young people with autistic-type features and rigidity may cope better with predictable routines and graded changes.

A need for action

This conference highlighted the need to raise awareness of the impact of prematurity and the associated educational needs among policy makers, health professionals and educators. It also emphasised the need to generate action, which should include:

- > identification of children born premature on school entry, and continuing regular assessment
- > proactive early identification of emerging motor, communication, cognitive, emotional and social difficulties; some may not appear until pre-teenage years
- > published guidance at all levels of the education system
- > a focus on identifying effective teaching and learning strategies
- > professional development for educators
- > a transdisciplinary approach – including families and a range of professionals – to establish educational, social and developmental priorities for these children and young people.

Future challenges

What emerged from the conference is that schools are having to reconcile this new phenomena of prematurely born children in a variety of ways. For example, primary schools find themselves managing children whose incontinence issues are lifelong; secondary schools, children who are oxygen dependent; special schools, children who are nasogastric tube-fed. Inquiry-focused teaching requires inquiry-based leadership. This range of developments

Conference notes

This article is compiled from presentations to the National Forum for Neuroscience in Special Education annual conference: 'The learning and neurodevelopmental needs of children born pre-term – a conference to bridge thinking and understanding between education and neuroscience across the school years.' The conference was held in partnership with Bliss, the special care baby charity (www.bliss.org.uk), and generously funded by The Waterloo Foundation (www.waterloofoundation.org.uk).

The presentations (online at www.ssatuk.co.uk/ssat/neuroscience-conference) were:

- > 'An introduction to children born premature and their learning needs': Professor Barry Carpenter, Associate Director (SEN)/iNet Chair in Special and Inclusive Education, SSAT (The Schools Network) Ltd.
- > 'The impact of prematurity on the family and the child as a learner (1)': Andy Cole, Chief Executive Officer, Bliss.
- > 'The impact of prematurity on the family and the child as a learner (2)': Nicola O'Connor, parent of a nine-year-old child born premature.
- > 'Pre-term birth and implications for the development of the social brain – a complex story': Dr Patricia Champion MBE, psychologist and Founder and Clinical Director Emeritus of the Champion Centre, New Zealand.
- > 'Pre-term birth: the implications for learning': Professor Dieter Wolke, Department of Psychology, University of Warwick.
- > 'The development of the pre-term brain': Professor David Edwards, Institute of Psychiatry, King's College London.

This event was part of a programme organised by the National Forum for Neuroscience in Special Education through SSAT (The Schools Network) Ltd, founded by Professor Barry Carpenter, Professor Francesca Happé (Institute of Psychiatry, London) and Dr Rona Tutt (National Association of Head Teachers). The forum was established to raise professional awareness and to create mutually informed dialogue and practice between neuroscientists and educational professionals in SEN. Information about the forum, and forthcoming events, can be found at: www.ssatuk.co.uk/ssat/programmes-support/send/neuroscience-and-special-education-forum/

presents both leadership challenges and opportunities. As one special school headteacher says, 'You have to acknowledge that you don't have all the answers. Contexts and children have changed dramatically. We need a "finding out" culture in schools.'

We do not require a new model of leadership, but we do require a new dimension built on a platform of inquiry that will facilitate a responsive pedagogy and practice. Empathy and

concern for the journey being travelled by these children and their families are vital. Our leadership needs to be supportive and enabling, creating learning environments that will touch these children at their point of learning need.

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