

COMPLEX LEARNING DIFFICULTIES AND DISABILITIES RESEARCH PROJECT (CLDD)

PREMATURE BIRTH

What is premature birth?

One contributing factor to the rise in childhood disability, particularly in the developed world, is the increasing survival rates of preterm infants, especially those born very and extremely preterm. Prematurity of birth is defined in terms of either gestational age (GA) or birth weight (BW). Table 1 below outlines the varying degrees of prematurity.

Degree of prematurity	Gestational age	Birth weight
Full-term	Over 37 weeks	
Preterm	Less than 37 weeks	
Very preterm	Less than 32 weeks	
Extremely preterm	Less than 28 weeks	
Normal birth weight (NBW)		Greater than 2,500g
Low birth weight (LBW)		Less than 2,500g
Very low birth weight (VLBW)		Less than 1,500g
Extremely low birth weight (ELBW)		Less than 1,000g

The rise in survival rates of preterm infants, particularly for those termed ‘extremely immature’, means that preterm births now account for 5–7% of live births and very and extremely preterm births account for 1–2%.

What are the possible indicators of preterm birth?

Although most infants who are premature are born at 35–37 weeks without any significant long term challenges, preterm infants are at significantly higher risk than the general population of having neurodevelopmental problems. These are characterised by cognitive, neuromotor and behavioural difficulties, which will impact on their ability to do well at school.

Very preterm infants have been found to be at greater risk of being towards the lower end of the normal ability range and significantly lower than their full-term peers. This puts them at greater risk of educational underachievement as a result of specific or general learning difficulties.

Extremely preterm infants are at greater risk of having cognitive and neurological impairments, and of being diagnosed with attention deficit hyperactivity disorder (ADHD).

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Both very preterm and extremely preterm infants may have difficulty with planning and organisation, and with working memory, which will affect numeracy, reading comprehension and other areas of learning.

Extremely low birth weight infants are at increased risk of having learning difficulties and learning disorders with multiple areas of difficulty.

Implications for teaching and learning

Preterm learners may experience a wide range of interrelated and complex difficulties. Students in all the categories above may display difficulties in a range of the following areas, although, in general, the greater the degree of prematurity, the higher the level of difficulties and the number of different impairments that may be apparent:

- significantly lower ability than full term peers, leading to lower achievement
- general learning difficulties
- specific learning difficulties (which means having difficulty in some areas of learning but not others)
- behavioural difficulties
- difficulties with memory
- difficulties with planning ahead and organising their thoughts
- difficulties with receptive language, literacy and numeracy
- deficits in executive function skills (eg organisation, planning, and sustained attention)
- hearing, visual or multisensory impairment, ranging from mild to severe perceptual discrimination difficulties
- higher risk of being diagnosed with cerebral palsy
- delayed physical development, affecting gross and fine motor skills (eg clumsiness, poor handwriting, poor hand-eye co-ordination)
- behavioural, emotional and social difficulties (BESD), with higher risk of being diagnosed with ADHD
- hyperactivity, anxiety, depression and susceptibility to being bullied
- health problems
- issues with self regulation arising from early life stress, fear, arousal and pain
- difficulties with self help skills such as eating and toileting
- attachment difficulties arising from early experiences
- sensory difficulties.

How can I support a preterm student?

There have been no systematic investigations of the effectiveness of particular educational interventions for learners who have been born prematurely. There is a huge variation in what these children will need by way of support. However, the following factors need to be in place:

1. An overview of the developmental history of the individual preterm learner.

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2. Access to specialist support and advice, for instance, from educational psychologists, SENCOs, counsellors, local authority specialist advisory and support services, outreach services from special schools and other forms of specialist provision. Professionals will necessarily need to work together to develop a transdisciplinary approach when both assessing and planning the child's individual learning pathways. It is important to treat the child holistically, and reduce the possibility of fragmented intervention.
3. Close liaison with, support and guidance for families and carers in helping to meet the needs of their complex children.
4. The appropriate resources to meet each learner's unique and complex needs. Learning is mediated through social relationships. Any educational intervention needs to respond to where the child is both developmentally and socially.
5. Training for staff to recognise the possible learning disabilities and difficulties associated with preterm birth.

Key references

A full reference list can be found on the Information Sheet relating to this project.

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