

The child who is not doing well at school

Any child who is not doing well at school requires the full attention of the doctor whom the parents consult. Learning difficulties can lead to life disabilities.

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A parent's concern that his/her child is not doing well at school may be the primary reason for a consultation, or this may emerge during a visit for an unrelated problem. Despite the time constraints of modern practice a physician should always be on the alert for such concerns and respond appropriately.

This article focuses on the doctor's role in addressing and assisting in the management of school-related problems. It is estimated that at least 15% of children in a developed country will experience difficulties at school.^{1,2} The consequences of school failure can be significant, resulting in emotional, behavioural and social problems, and even family dysfunction. A systematic approach should lead to early and effective intervention.

School performance is dependent on the interaction between the 'triad' of child, parents and school (Fig. 1).

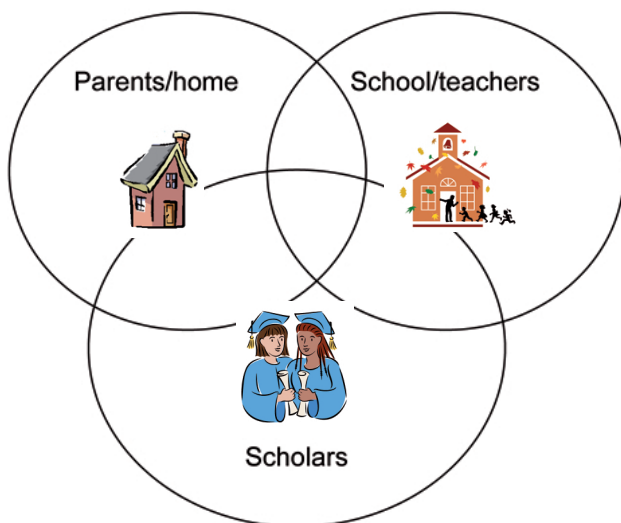


Fig. 1. School performance is dependent on the interaction between the 'triad' of child, parents and school.

The Child

Many influences affect a child's neurodevelopmental potential (Fig. 2).³

Each child possesses a unique set of strengths and weaknesses.

Pre-school teachers prepare children for formal schooling and attempt to identify children with potential learning difficulties with a view to early intervention.

However, the curriculum brings with it age-related challenges and certain academic skills depend on functions that evolve later, e.g. higher language skills, conceptual thinking, learning strategies and study skills. Scholastic difficulties can therefore present at any stage of a school career, manifesting once compensatory mechanisms fail.

Factors resulting in erratic attendance such as chronic illness, truancy, or disruption due to frequent re-locations will also contribute to poor academic progress.

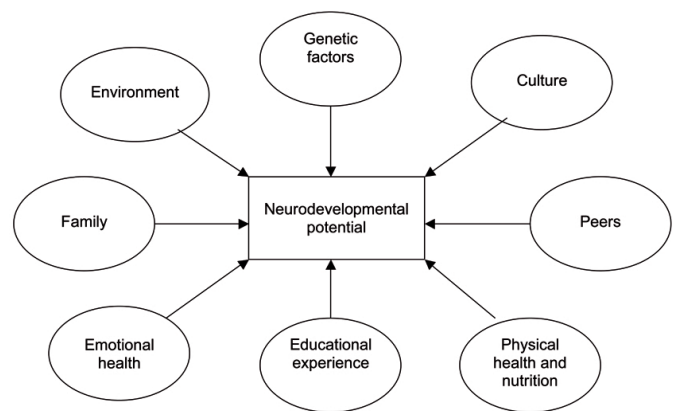


Fig. 2. Many influences affect a child's neurodevelopmental potential (adapted from Levine).¹⁰

Learning disabilities (disorders)

A child with a learning disability has difficulty processing verbal or non-verbal information despite normal intelligence. This can result from relative weaknesses in neurodevelopmental functions such as language (receptive and expressive), memory, attention, spatial ordering, temporal-sequential ordering, neuromuscular function, or higher order cognition.³

Weaknesses in these areas translate into disorders of reading (dyslexia), mathematics (dyscalculia) and written expression. Social-emotional deficits, e.g. the autism spectrum and semantic-pragmatic disorders, may also result in learning difficulties. It is estimated that approximately 10% of schoolchildren have some form of specific learning disability.^{1,2}

The gender ratio, previously quoted as 3 - 5 boys to 1 girl, may be due to referral bias.⁴ Girls may be less likely to act out their frustration

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and their difficulties may therefore go undetected.

Attention deficit hyperactivity disorder (ADHD)

Prevalence of ADHD in schoolchildren varies widely but is estimated at 6 - 8% of schoolchildren aged 6 - 12 years, with a male:female ratio of 3:1.^{5,6}

The Diagnostic and Statistical Manual of Mental Disorders (DSM IV) defines the condition and include symptoms related to inattention, hyperactivity and impulsivity. Attention deficit disorder can occur in association with learning disabilities and co-morbid psychiatric disorders such as oppositional-defiant disorder, conduct disorder, depression or anxiety. For the condition to be diagnosed symptoms must manifest before the age of 7 years and be present for at least 6 months.

The school/teachers

Education in the learner's mother tongue is advantageous during the first 6 years of schooling but parents may not be aware of this. Inadequately trained teachers, and staff absenteeism and high turnover affect progress, especially in sequential subjects such as mathematics. Overcrowded classes, poor facilities and fear of physical or even sexual abuse are unfortunate realities in some schools. Vulnerable individuals may be intimidated or influenced by peers, making them susceptible to delinquent behaviour, and substance and alcohol abuse.

However, it must be noted that even in well-resourced schools with an academic focus the ethos of the school may result in a 'learning-disabled child' becoming alienated and despondent. Such schools, although attuned to detecting learning difficulties, may not be geared to inclusive education.

The parents/home

Parents play a pivotal role in providing a supportive learning environment, encouraging self-discipline, and setting boundaries and realistic goals.

Socioeconomic and financial problems, marital stress and domestic violence will have an impact on school performance. Not all families value education as a passport to the future.

It is important to enquire about the parents' occupation and highest academic achievement as well as the siblings' scholastic progress. A thorough family history should span three generations. Attention deficit disorder has a strong genetic predisposition and may also have an impact on parenting skills. A family history of specific learning difficulties may be relevant, e.g. a locus for reading disorder has been traced to chromosome 6p.⁷ Parents are sometimes accused of harbouring unrealistic expectations. However, they often pick up early warning signs and their concerns may be justified.

An approach to diagnosis

A minimum of 30 - 40 minutes should be allotted for the initial consultation.

History

The first aim is to articulate and define the problem.

Presenting complaints

The presenting complaint(s) can usually be placed in one of three categories:

- learning
- attention
- behaviour.

Neurological symptoms

Be vigilant to the presence of any neurological symptoms and define their temporal onset, i.e. acute, subacute or chronic. Assess whether their course is static or progressive.

Always enquire about gait, co-ordination and visual disturbances. A number of conditions, although rare, can emerge in middle to late childhood and may have an insidious, subacute onset, presenting initially with behavioural and learning difficulties, e.g. hypothyroidism, HIV, TB meningitis, or adrenoleukodystrophy.

If there is any evidence to suggest neuroregression, such as loss of previously acquired skills, urgent referral to a paediatric neurologist should be arranged.

Developmental and behavioural history

A developmental and behavioural history should range from pre-conception to recent events. It should focus on language, gross and fine motor co-ordination, and problems such as inattention, hyperactivity, impulse control and poor social interaction.

Sensory integration

Symptoms of anxiety and depression should be elicited, as well as any history of tics (motor and vocal). Complex vocal tics, e.g. constant clearing of the throat have been mistaken for allergy.

Past medical history

Past medical history will highlight chronic conditions, e.g. epilepsy, chronic renal failure, diabetes. Length of absenteeism due to medical disorders such as migraine or asthma must be noted. However, frequent absenteeism due to minor ailments may point to psychological school avoidance. Ask direct questions about substance abuse. The possibility of sexual abuse must be considered in a child whose academic performance suddenly deteriorates.

Role of questionnaires

A range of behaviour rating scales were originally designed as tools to screen for psychiatric disorders. These can be divided into either broad-based or ADHD-specific categories.

They are an adjunct to a history and can help to provide objective assessments from different sources, e.g. teachers and parents, or can be used to monitor interventions such as methylphenidate treatment.

Some examples are given in the box below.

Behaviour rating scales

- Child behaviour checklist (Achenbach)
- Conners parent and teacher rating scales (modified)
- SNAP 1V 26 rating scale

Pre-school teachers prepare children for formal schooling and attempt to identify children with potential learning difficulties with a view to early intervention.

Always enquire about gait, co-ordination and visual disturbances.

Corroborative evidence such as school reports and work samples may also be informative (Fig. 3).

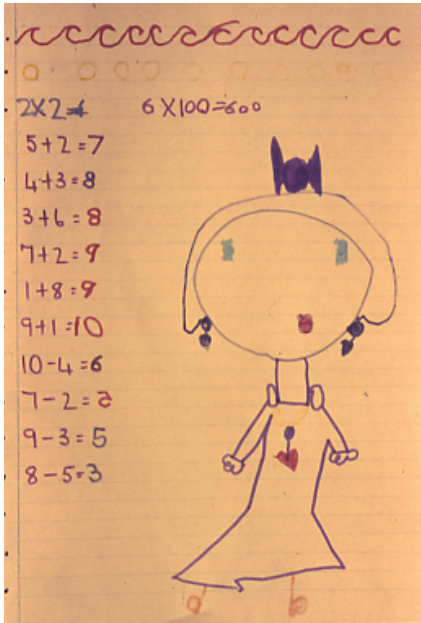


Fig. 3. Work sample – 9-year-old girl with learning difficulties. NB: Number and letter reversals can be a normal occurrence up to 9 years of age.

Initial impression

Gradually a pattern will emerge of either a general or more specific cognitive delay and with either a uni- or multifactorial cause.

Physical examination

A physical examination is used to detect previously undiagnosed conditions.

General examination

Weight, height and head circumference should be plotted on growth charts as they may provide clues to aetiology (Table I).

A careful screen for neurocutaneous manifestations may be improved by using a Wood's lamp.

Subtle dysmorphism may be present in certain syndromes with a specific neurocognitive profile, e.g. fetal alcohol syndrome, Turner's syndrome, Williams syndrome, fragile X and velocardiofacial syndromes (22q deletion).

A screen for allergic conditions and upper airways obstruction can reveal treatable problems, including adenoidal hypertrophy and serous otitis media.

Vision can be tested using the Snellen chart.

Neurological examination

Any child presenting with neurological symptoms must have a thorough neurological examination. Examination of motor function, reflexes and tone should reveal asymmetry. The presence of abnormal movements such as chorea, dystonia and tics should be noted. Where absence epilepsy is a possibility a period of hyperventilation can precipitate an episode.

However, in cases where there are no neurological symptoms or evidence of mental handicap, observation may be as valuable as a formal examination. Look for problems with gait, posture, and fastening buttons and tying shoelaces.⁸

Emphasis on 'soft neurological signs' as an indicator of intrinsic learning difficulties has waned in recent years.³

'Soft signs' are a heterogeneous collection of motor delays and co-ordination problems related to maturation and do not indicate a localised CNS abnormality. They include gross motor functions such as hopping and tandem gait, fine motor skills (finger

tap test), sequential apposition of fingers to thumb, right-left discrimination, and presence of mirror movements beyond 11 years.⁹

However, without standardisation they have poor specificity and predictive value. Further neurodevelopmental evaluations are available, but they are time consuming and beyond the realm of the generalist.

Special investigations

- EEG if absence seizure disorder is suspected.
- Vision and hearing assessments if indicated.
- Brain imaging if there are abnormal neurological signs.
- Testing for infectious diseases, e.g. HIV, if indicated.
- Thyroid function if indicated.
- Genetic referral if there is dysmorphism.
- Creatine kinase in young boys with gross motor and language delay (dystrophia).

Further assessment

The purpose of evaluation is to provide information that results in practical recommendations. Early referral is in the child's best interests. In state schools the policy is to refer children to a teacher support team headed by an educator with experience in remediation. If an in-house remedial programme is not feasible, referral for psycho-educational evaluation by a school psychologist and other therapists can be arranged. Unfortunately the service is over-stretched and delays are inevitable.

Psychometric assessment will help to distinguish between global delays and specific learning disabilities. Tests include the Wechsler Intelligence Scale for Children (used internationally) and Junior South African Intelligence Scales (standardised on the South African population). A general quotient plus verbal and non-verbal subquotients are calculated. A general quotient below 70 may indicate intellectual disability. Performance on subtests will highlight strengths, as well as weaknesses, and guide intervention. They should only be administered and interpreted by educational psychologists because language, socio-economic and cultural differences can affect performance.

Intervention

Learners should be adequately prepared for entry into the school system.

Table I. Physical stigmata associated with learning disabilities

Physical sign	Association
Microcephaly	Mild/borderline intellectual disability
Macrocephaly	Sotos' syndrome, neurofibromatosis, Asperger/autistic spectrum disorders
Short stature	Turner's syndrome
Tall stature	Klinefelter's syndrome, Sotos' syndrome
Obesity/short stature	Prader-Willi syndrome, hypothyroidism
Ash leaf macules, shagreen patches, adenoma sebaceum	Tuberous sclerosis
Café au lait spots, axillary freckling	Neurofibromatosis
Mid-face hypoplasia	Fetal alcohol syndrome

Ask direct questions about substance abuse and address the possibility of sexual abuse.

Intervention should ideally occur before the child fails a grade.

Grade repetition is deleterious to self-esteem and may not be of any benefit if the child is not receiving appropriate help.

A multidisciplinary approach is the best option for the learning-disabled child.

The remedial teacher will often co-ordinate the programme. Communication between professionals is essential, as well as regular review.

Dyspraxia (fine motor, visuoperceptual and motor planning problems, including sensory integration disorder) may be managed by occupational and physiotherapists.

Speech therapists can work with children experiencing specific language and reading problems such as poor phonemic awareness, reading comprehension or semantic-pragmatic disorders and mild pervasive developmental delay.

Remedial teaching is often the mainstay of support and may continue throughout schooling.

Children with emotional difficulties should be referred for counselling.

Psychiatric assessment is indicated where more complex disorders such as childhood depression, anxiety disorders, Asperger's (autistic spectrum disorder) or Tourette's syndrome are suspected.

In selected cases the use of medication may be recommended; this can be monitored and reviewed by the general practitioner. The child's weight, height and blood pressure should be checked at regular intervals. Feedback from parents and teachers regarding progress (Conners),

positive and negative effects of medication and the need for dose adjustment should be addressed every 3 - 6 months.

Inclusive education for learners with special needs (LSEN)

All children have the right to a basic education. This is enshrined in our constitution.

The Department of Education is committed to help learners who experience barriers to learning by offering appropriate support in the least restrictive environment. However, to be effective, inclusive education requires resources, such as sufficient numbers of trained personnel as well as the will to make it work.

Facilitators or 'shadow' teachers in mainstream classes have been used in selected cases.

In certain instances mainstream education may not meet the child's needs and LSEN schools may be a better option for that individual.

Ongoing surveillance

The physician must serve as an ally for the child who often faces a difficult and uncertain path. He or she must never lose sight of the uniqueness of each individual. It is essential to focus and uncover strengths – so creating opportunities for success. Regular review and ultimately vocational guidance is crucial.

Parents should be empowered to become assertive advocates for their child in the

school system. In some instances they may pin their hopes on expensive, controversial and unvalidated 'cures'. They should rather be encouraged to become 'informed consumers'.

Finally, always offer hope. There are countless examples of people who, despite similar challenges, have ultimately led fulfilling lives and achieved great things, for example Einstein, Rodin, Thomas Edison, Winston Churchill, Richard Branson.....the list goes on.

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In a nutshell

- Questions about scholastic progress form an integral part of a consultation.
- Behavioural and attention problems may be the presenting symptoms of a learning disability.
- Learning disabilities can present at any stage of a school career.
- The aim of physical examination is to detect undiagnosed conditions.
- The purpose of further assessment is to provide practical remediation.
- Encourage preservation of self-esteem by focusing on strengths.
- Grade retention should be a last resort.