Gifted

A Primer for Parents and Educators

“If priorities for resources must be determined among educationally disadvantaged groups, it could be argued that gifted children are currently among the most disadvantaged of these groups.”

Commonwealth of Australia (1988). The Report of the Senate Select Committee on the Education of Gifted and Talented Children, Canberra: Australian Government Publishing Service.

Table of Contents

Reader's Note: This resource has been designed to be user-friendly; every chapter covers (in brief) the basics of each aspect of giftedness. To read more about the studies, research and articles which underpin this resource, the reader is strongly encouraged to access the primary resources provided by hyperlink at the end of each chapter.

What does “gifted” really mean?

To be gifted is to be neuro-diverse. To be absolutely clear, a gifted child has a brain that develops and operates differently to a neuro-typical child.

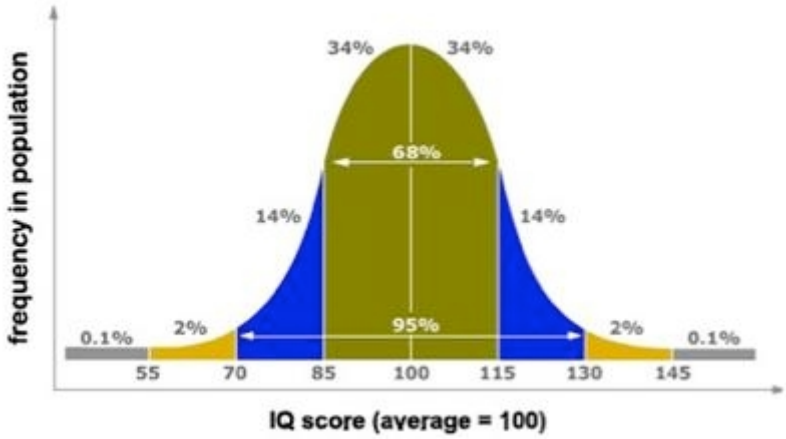
When we look at the brain of a gifted child using a functioning MRI, we can see significant differences to a typical brain. The overall picture has been described as “a brain on fire”.

The cortex of a gifted child creates many billions more connections than average, thickening faster and for longer. Then, upon entering the pruning phase later, will trim down harder and more efficiently. The result is an elegant neurological structure that has more rapid and efficient connections.

MYTH: A gifted child will “level out” eventually.

This is why a gifted child never "levels out" - like ASD, dyslexia or other neurological conditions, being gifted is a life-long diversity.

“Gifted” can be a frustrating term. It can be argued that all children are gifts, or have gifts. The term is often used to describe what is more accurately a spike in ability. Many schools define “gifted” as the top 10 – 15 per cent in any given field. However, the term “gifted” in its clinical sense describes the top two per cent of children with high intellectual potential, those with an IQ of 130 or higher.



The average IQ is 100. A child with an IQ of 70 would be identified as living with an intellectual disability, and would be unable to participate in a mainstream classroom without proper support and accommodation.

Likewise, a child with an IQ of 130 is just as far from the norm as the 70 IQ child; they

will also require support and accommodation if they are to navigate the mainstream education system.

Imagine, if you will, a child's intellectual potential as a set of building blocks. The neuro-typical child is born with, perhaps, fifty blocks; every year they add seven to ten blocks, allowing them to create higher and taller block buildings each year as they develop and explore their full potential.

A gifted child may be born with sixty or seventy blocks; every year they may add twelve to fifteen blocks, instead of ten. Thus the gap between their number of blocks and those of their age peers gets wider each year.

MYTH: A gifted child needs no educational support.

But we are talking only building blocks, not towers; although gifted children have the blocks and the potential to build amazingly tall towers, they need the right foundation and support. Without it, all their structures will topple to the ground.

As parents and educators, our job is not to make sure that every child can build a 10-block tower; rather, it is to ensure that every child is building the tallest tower they possibly can, with the blocks they possess.

“Every child deserves the support they need in order to reach their full potential.”

More Resources:
Brock and Fernette Eide - Brains on Fire: The Multimodality of Gifted Thinkers
Betty Vine - What Makes a Child Gifted
Tetreault, Haase and Duncan – The Gifted Brain

How does a child become gifted?

Giftedness is a mostly inherent trait. Because gifted children have observable characteristics that are often noticed soon after birth, there is a largely genetic component which determines the intellectual potential of a gifted child.

Gifted children are often the product of gifted parents. However, parents may not be aware they are gifted, and be surprised by the high intellectual potential of their offspring.

MYTH: Pushy parents create gifted children.

Because being gifted is a neuro-diversity, gifted children cannot be "made". Early childhood classes that focus on formal education, reading and mathematics for pre-school do not create children with higher IQs. Parents who push or "hot-house" their children (to compel young children into a rigid and disciplined focus on academics) will not help them become gifted; conversely, **it cannot be assumed that a gifted child has been hot-housed in any way.**

Gifted children can pop up anywhere, in every racial and cultural group, and at either end of the socio-economic scale. Gifted siblings are typically within 10 IQ points of each other.

CASE STUDY

When Amanda was born, she stayed awake and alert for hours afterwards. She held her head up and examined her surroundings intently.

Amanda slept for hours less each day than other babies. She would become angry and frustrated unless her family was interacting with her every moment. She appeared to have an insatiable need for new sights, sounds and experiences.

Amanda soon started reaching milestones – her first words, crawling, and walking – months ahead of her peers. The difference between Amanda and other babies her age was startling.

Amanda's parents wondered if there was something wrong with their baby.

The intensity of gifted children is often noticeable even in infancy. Physical as well as intellectual milestones can be met about a third in advance of the average; a gifted child may speak their first word before six months, or walk at ten months of age.

General Motor Examples

Ability	Normal Age (months)	Gifted Age (30% Advanced)
Sits up alone	7 months	4.9 months
stands alone well	11	7.7
Crawls upstairs	15	10.5
Walks upstairs	18	12.6
Turns pages of a book	18	12.6
Walks on tiptoes	30	21
Skips with one foot only	48	33.6
Throws ball	48	33.6
Skips with alternating feet	60	42

Fine Motor Examples

Ability	Normal Age (months)	Gifted Age (30% Advanced)
Plays with rattle	3 months	2.1 months
Pulls strings adaptively	7	4.9
Holds Object (Finger+Thumb)	9	6.3
Holds crayon adaptively	11	7.7
Scribbles Spontaneously	13	9.1
Folds paper	21	14.7
Draws a person with 2 parts	48	33.6
Copies a triangle	60	42
Draws a person with neck, hands and clothes	72	50.4

Cognitive-Language Examples

Ability	Normal Age (months)	Gifted Age (30% Advanced)
Social smile at people	1.5 months	1.05 months
Searches with eyes for sound	2.2	1.54
Vocalizes 2 different sounds	2.3	1.61
Says 'Dada' (or equivalent)	7.9	5.53
Responds to name and 'no'	9	6.3
Looks at pictures in a book	10	7
Has vocabulary of 4-6 words	15	10.5
Follows directions to put object on chair etc.	17.8	12.46
3-word sentences	24	16.8
Gives full name	30	21
Counts object to 3	36	25.2

Parents often talk about their gifted child's **rage to learn**; the gifted can be voracious self-learners, and are driven to take on new information about the world at an alarming rate. Instead of the parents pushing their child, parents are often left scrambling to keep up with their child's thirst for knowledge.

Although the true extent of a child's intellectual potential can only be revealed by a proper cognitive assessment, some believe it's possible to estimate a gifted child's IQ by the abilities and characteristics revealed during the early childhood years. The Ruf estimates can be a useful tool to get an approximate idea of where a child may sit on the gifted spectrum.

Giftedness is an all-encompassing condition; it is not simply about having a higher intellectual capacity, but about a diversity which can affect all aspects of development.

More Resources:
Miraca Gross - Small Poppies: Highly Gifted Children in the Early Years
Deborah Ruf – Ruf Estimates of Levels of Giftedness

Who identifies gifted children?

MYTH: All parents think their child is gifted, so identification is better left to the teachers.

Once equipped with an awareness of what giftedness entails, parents are the most reliable identifiers of their child's giftedness. They have detailed experience of their child's abilities and skills in a whole range of settings, and can be more likely to underestimate their child's IQ than over-estimate it.

Examining several studies, Louise Porter notes that parents' ability to correctly identify if their child is gifted is between 61 and 76 per cent. Conversely, teacher identification of gifted children is quite low; 22 per cent in one study, and falling to as little as 4 per cent during the early childhood years.

“I just don't see it.”

Why is it so difficult for teachers to identify young gifted children?

1. **Lack of training and awareness in gifted education.**
Training about giftedness is not mandatory in most education qualifications; many teachers remain simply unaware of how a gifted child can present.

2. **Mistaking confidence and personality for intellectual potential.**
In the Small Poppies article of the previous chapter, one study identified children who plunge into new activities as being the most likely to be nominated by teachers as gifted, even though gifted children were more often found on the sidelines.

3. **Limited observation.**
Early childhood teachers may only have the opportunity to observe the gifted child for a few hours a day, in a highly specific group setting – a setting which is seldom ideal for intellectual assessment.

4. **Peer-referencing.**
Gifted children will often “chameleon” themselves, and mask their abilities in order to fit in with others. The more gifted a child is, the more likely he or she will be aware of the difference between themselves and their age-peers, and the more able they will be to adapt their behaviour to be like others.

More Resources:
Louise Porter - Signs of Giftedness in Young Children
Louise Porter - Twelve Myths of Gifted Education

Hidden Sparks: Gifted children in preschool

CASE STUDY

Otis is four years old and in kindergarten. When his parents drop him off, he is reluctant for them to leave.

Otis doesn't seem to like playing with the other children, but will follow his teachers around and talk to them at length. He is shy and disengaged during group activities. With blocks and crafts, he will carefully copy what the other children do.

Otis loves to talk about numbers, but has no interest in even the simplest practical tasks, such as dressing himself or using the toilet. He becomes very intense about matters of fairness and injustice.

The normal methods of child behaviour management don't seem to have any effect on Otis, much to the frustration of his teachers and parents.

Most educators would wonder if Otis has developmental delays, and that may be the case. But there is also the possibility that Otis is gifted.

Gifted children don't always perform their abilities in the playground. Discovering the true extent of a child's abilities – and identifying a neuro-diversity – can be a collaborative effort between educators and parents.

Otis' parents believe he may be gifted, but his teacher can see no sign of it. How can this be resolved?

Where there is significant difference between the parents' understanding of the child and the educator's, documentation can play a vital role. Otis' parents can document his behaviours and abilities at home, and share these with his educators.

A cognitive assessment or IQ test by a qualified educational psychologist can also help to determine whether or not a child is gifted. A child can be assessed from the age of two and a half, although the results become more reliable at an older age.

Otis has always been fascinated with books since he was a baby, and now he has begun to sound out letters, decode small words and read aloud. But does Otis truly have any understanding of what he's reading?

The self-taught ability to read before entering primary school is one of the strongest indicators of giftedness. Unless symptoms of Autism Spectrum Disorder are present (and often, even if they are), there is no reason to think that Otis does not comprehend what he is reading. Gifted children are typically motivated to learn to read in order to

access stories and information: their reading abilities are secondary to their comprehension.

Otis' teacher observes that Otis will often be initially intrigued by a new activity, but will then lose focus and wander off just at the point that the other children are starting to master it. Could Otis have an attention disorder?

While many gifted children have learning disorders as well (please see the later chapter on gifted children and learning difficulties) there may be a simpler reason for Otis' behaviour.

Educators and teachers are taught that all children require at least ten to twelve repetitions in order to master each new idea or skill. For neuro-typical children, we can observe their confidence and mastery growing with each repetition.

Gifted children, however, may need only one or two repetitions to master an activity. The constant repetition that Otis' classmates thrive on is causing his disengagement.

How can Otis' teacher support his learning in kindergarten? Should she even try, or should she "let kids be kids"?

Free play is entirely critical to every child's emotional and intellectual well-being, including gifted children. Any excellent kindergarten program will be based on the freedom to explore, experiment and play.

However, just as the play of a six-year-old will be different to the play of a three-year-old, so too we must allow that the play of a gifted child may not be what we expect from a normal child of the same age. Gifted children may find typical toys and activities for their age group uninteresting; they may have instead a precocious interest in numbers, geology, basketball or the solar system, or they may want to explore usual subjects to a deeper and richer level. What we think of as formal or academic learning will often, in fact, be their play.

"Play is what the child says it is, not what we say it is."

At this early stage, Otis' teacher can meet his needs by providing open-ended play environments without ceilings – removing the age-based limits on activities, removing any expectations of Otis as a neuro-typical four-year-old and supporting his passions, whatever they may be. A gifted child may only reveal their abilities when they have the opportunity to do so, within a supportive and encouraging environment.

More Resources:
David Farmer – Parenting Gifted Preschoolers

Darold Treffert – Hyperlexia and Einstein Syndrome – *note: this article uses the term "neurotypical" only to describe an absence of pathology or disorder, thus does not exclude giftedness from its definition.*
Victorian Education Department – Making a Difference for Young Gifted and Talented Children
Lisa Swaboda – Start at the Top

Does the label really matter?

Many parents and teachers are averse to labelling a child as “gifted”. They are concerned it will create an unnecessary burden that will not serve the child's best interests.

MYTH: Gifted kids will be happier if they are never identified and treated just like other children.

This concern is not specific to giftedness, but common to all neurologically diverse conditions and disorders. Does the label benefit the child?

And the answer is the same: the label is the result of evaluating, identifying and providing support or treatment for a diversity.

If a gifted child is never identified as gifted, they will still be neuro-diverse. They must live with the knowledge they are different, but without the recognition or understanding of how or why they are different. As well, it becomes increasingly unlikely that they will receive the educational or emotional support they require.

Please note that “gifted” is not a synonym for “clever” or “smart”; both of these words describe a fixed characteristic, and promote a fixed mind-set, to the disadvantage of the child. Rather, giftedness describes a whole-brain diversity; it is characterised by high intellectual potential, not high intellect, and can affect every way in which a child thinks, feels and engages with the world.

CASE STUDY

Harry was born with dyslexia in the 1940s. His teacher had heard of dyslexia, but did not believe in it as a diverse condition.

When Harry wrote letters backwards and complained of headaches during reading, he was punished. Soon Harry fell behind his class in literacy skills.

Because reading and writing made him frustrated, Harry began to misbehave in class and was punished even more frequently.

His teacher told him he was stupid and lazy for being unable to read. In later years, a letter was sent home to Harry's parents, explaining that Harry was probably intellectually disabled. Harry left school at fifteen.

Harry's story was all too common in schools in the mid-20th century. Even teachers who did not credit dyslexia as being a neurologically diverse condition could still see the difference, and often attributed it to another disability or deficit.

“When we choose not to recognise or understand a diversity, we pathologise it.”

For the well-being of gifted children, is absolutely essential that parents, educators and teachers recognise and identify giftedness as a neuro-diversity, and promote acceptance of the diversity.

Children deserve all of the information about themselves. This can often mean the difference between thinking of themselves as “different” instead of “wrong”. Early identification of the diversity can help gifted children to understand and accept themselves, and embrace their differences and their potential.

More Resources:
Lisa Van Gemert – 8 Reasons Why You Should Label Kids As Gifted

Olympic superstars

“But intelligence is not a fixed quality.”

Indeed, it is not. This is another reason why we talk about intellectual potential, rather than intelligence. Every child is born with a measure of potential, that we can maximise with supportive and responsive educational environments.

So, how are gifted children different? Their intellectual potential has a better parallel in physical potential, rather than physical ability.

We all have the potential to achieve optimal physical fitness; most of us, with a good growth mindset, training and environment, could achieve a better state of physical fitness than we currently enjoy. Our physical ability is not fixed.

But very few of us have the potential to be Olympic athletes. To become a world-class athlete, a child must be born with exceptionally high athletic potential.

But even these children are not guaranteed to become Olympic athletes; if they are encouraged to spend their time on the couch eating junk food, then whatever potential they were born with will soon become invisible. Their exceptional potential will not transform into exceptional ability, unless it is nurtured into rare sporting success.

“It is not nature vs. nurture; both genetics and environment play vital roles in creating our outcomes, and neither can be diminished.”

The profound double standard in the way we talk about physical potential and intellectual potential brings into stark relief how much antipathy exists in the general community towards giftedness and gifted children. Our athletic superstars of tomorrow are encouraged, supported and celebrated at every opportunity. In contrast, our intellectual superstars of tomorrow are often disbelieved, mocked and resented, and their needs are dismissed and ignored.

For both gifted children and their families, it can be a very lonely and frustrating road. We all have the responsibility to counter intolerance with understanding and acceptance wherever we can.

More Resources:
Tiffany Hunter – What is Gifted, Anyway?

On this page you will find many comments typically made about children of high *intellectual* potential – only applied to athletes of high *physical* potential. As you read, try to imagine these comments being made by an Olympics administrator or commentator.

"Cathy isn't *actually* running; she's merely parroting back what she's seen other runners doing with their feet."

"We're concerned about how much time Lauren spends on the court; we're asking her to consider another hobby, like crochet or singing. It will help Lauren become more well-rounded."

"Anna's sport is being defunded; clearly she can *already* cycle, so we must re-direct our funding towards helping others who can't."

"Despite winning his heat, we can't allow Ian to compete in the Mens Freestyle 200m as his handwriting is atrocious."

"Jonas doesn't need training; why can't we just let kids be kids? The others will catch up soon anyway."

"As the average age of our other competitors is 32, Roger at 29 is too young for our tennis competition. But he may join our excellent community tennis club, and cement his skills by teaching them to others."

"Liesel is disqualified from the Olympics as she has been unfocused and disruptive the entire semester in the Baby Bubbles swim class."

"It is very unfortunate that David's parents have encouraged him to develop exceptional football skills so far beyond his chronological-age peer group."

"Michael was not born with athletic potential, he must have been "pushed" by his parents – he didn't dig a hole in his backyard, fill it with water and teach himself to swim, did he?"

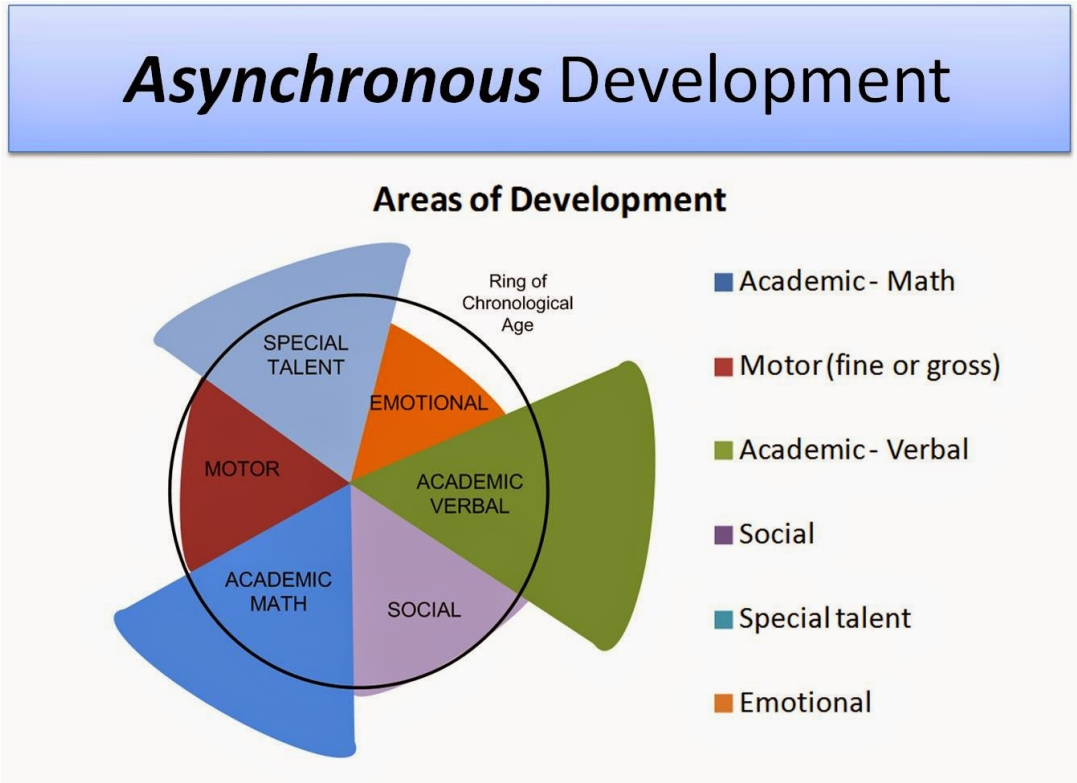
"Just because some kids might have extraordinary physical potential, it doesnt mean we can treat them any differently – that's elitist. All children are world-class Olympic athletes!"

"We won't be holding a gold medal ceremony for Cadel, as we must be careful not to let him get arrogant; he may be good at cycling, but it's more important to be nice."

What are the social challenges for gifted children?

Gifted children are often described as asynchronous; they can be a collection of different ages all at once.

While gifted children can be advanced across several domains, they are unlikely to advanced to a similar degree across all domains. They may even fall behind their chronological age in some aspects.



Stephanie Newitt, Asynchronous Development

However, it cannot be concluded that all gifted children are behind in one or more areas, nor that their giftedness is purely intellectual – as we have already seen, this is a neurological diversity that can affect all aspects of their development.

"Giftedness is not a compensatory model – while every child has their strengths and weaknesses, we cannot allow our response to gifted children to devolve into a witch-hunt for deficiency."

MYTH: Giftedness is purely cerebral - All gifted children are socially and emotionally average or delayed.

While all gifted children are unique, many will be significantly advanced in their social and emotional skills, even if not quite to the same degree as their intellectual skills. Miraca Gross recognises that "Emotional maturity in kids tends to be correlated with their intellectual ability rather than their chronological age."

A gifted child's language, interests, perceptions and sense of humour can be far in advance of their chronological age, leaving them with little in common with their age-peers.

Gifted children can also have heightened awareness and sensitivities to the feelings and thoughts of others, which can result in intense emotional outbursts that are wrongly attributed to immaturity.

MYTH: Gifted kids must learn to get on with normal kids.

Children (and adults) are often drawn to each other not on the basis of age, but on the basis of common interest and language patterns which are largely determined by IQ. Leta Hollingworth, in studying the relationships of profoundly gifted children, concluded that there is a limit to the IQ difference in every relationship – 15 IQ points can be tolerated, but with a difference greater than 30 points, communication tends to break down and interests no longer align.

So a neuro-typical child of 100 IQ will be able to comfortably access 68% of other children for their friendships; an exceptionally gifted child of 140 IQ can access less than 2%. A profoundly gifted child may struggle to find even one peer.

"A poor social fit can look like poor social skills."

When we see one child being unwilling or unable to socialise with their age-peers, our first thought is to attribute the behaviour to some deficit within the child. When it comes to gifted children, this may not be the case.

Many gifted children are needlessly held back from the level of education they require due to "poor social skills". In the absence of other children gifted to a similar level, the next best opportunity for gifted children to find their peers can be if they are allowed to access an older age group.

More Resources:
Stephanie Newitt – Asynchronous Development
Michele Juratowitch – Fitting In and Standing Out
Miraca Gross – Group Kids by Ability and Not by Age
"Play Partner or Sure Shelter: What Gifted Children Look For in Friendship
Michael Ferguson – The Inappropriately Excluded

Gifted children and learning difficulties

Gifted children are subject to the full range of learning challenges that can happen to neuro-typical children. There are gifted children who are dyslexic; who have Sensory Processing Disorder; and who have ADHD and other diversities. These children are commonly referred to as 2E, or Twice Exceptional.

Because of their advanced abilities, gifted children are often adept at being able to compensate for any learning disability or disorder. Giftedness can “mask” another diversity for a very long time.

Even after a learning disability has been identified, the 2E child can still struggle to get support for it, especially if their high intellectual potential means they are still achieving within the expected range for their age-group.

MYTH: If a child isn't falling behind, then he or she doesn't need any support.

Every child deserves the support they need in order to reach their full potential. In the case of 2E children, they absolutely require any possible support or accommodations to help them overcome or manage their learning challenges, just as they require support and accommodation for their giftedness.

More Resources:
Cathy Risberg – What Does it Mean to be Twice Exceptional?

Giftedness and Autism Spectrum Disorder

Giftedness is not the same as Autism Spectrum Disorder, or ASD. They are two separate and distinct neuro-diversities. It is possible to have both diversities (2E), but the majority of gifted children do not have ASD, and the majority of children with ASD are not gifted.

However, there can be significant similarity between the early signs of giftedness and the signs of ASD.

Due to greater social awareness at an earlier age (that is, a gifted child may have a greater awareness of the impact of their actions upon others, and how they might be perceived) gifted children can be subject to social anxiety. Combined with a lack of intellectual peers in their age group, a gifted child can often appear similar to a child with ASD who has significant social impairment.

Both gifted and ASD children can have high verbal abilities, excellent working memory and attention to detail, and show intense interest in a single area. And both can experience sensory overload and intense meltdowns, as the gifted child challenges authority and the child with ASD struggles to manage change.

MYTH: Early reading is always hyperlexia, a symptom of ASD.

In rare cases, a child with ASD can develop hyperlexia as a “splinter skill”. They can read and de-code the words, but will have difficulties understanding both written and verbal language. However, a gifted child can learn to read early and with robust comprehension – their reading is not a symptom of ASD.

When parents and educators are considering which neuro-diversity they may be dealing with, there are several potential pitfalls to avoid:

MISDIAGNOSIS: Because of a lack of general understanding and awareness of how giftedness can present in the early years, gifted children can be at risk of being misdiagnosed as ASD. This misdiagnosis can be distressing and extremely harmful, and can lead to improper treatment and poor education choices.

MISSED DIAGNOSIS: It is just as crucial that children with authentic symptoms of ASD are not dismissed as having the quirks of giftedness. It is vital that 2E children – those who are both gifted and have another diversity, such as ASD, ADHD or others – do not miss out on early intervention and support for their diversity.

Fortunately, the solution to both problems is the same – **formal assessment and evaluation by a qualified health professional who is highly experienced in both neuro-diversities.** If there is any question that a child may be facing either or both diversities, a full evaluation is essential.

More Resources:
Minnesota Council for the Gifted and Talented – Table to Distinguish Between Giftedness and Aspergers (now classified as ASD1)
Enrico Gnaulati – That's not Autism: It's Simply a Brainy, Introverted Boy
Darold Treffert – Outgrowing Autism? A Closer Look at Children Who Read Early or Speak Late

Hurdles or a Track Too Fast

In the previous chapters, we looked briefly at some of twice-exceptionalities and learning difficulties which can hinder gifted children from reaching their full potential. However, gifted children can also be subject to other obstacles, ones that don't require a diagnosis but can still impede their learning progress, leading to underperformance, unhappiness and disengagement.

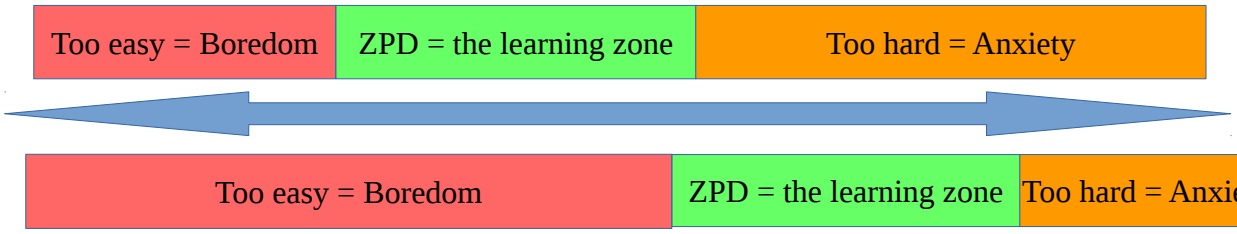
Perfectionism is a common obstacle for the gifted; for example, a gifted three year old may envision a beautiful racing car in his mind but lack the drawing skills and experience necessary to execute it on paper, and so throw his pencils away in a tantrum. Or a gifted eight year old might dream up a complex, intricate story but lack the time and handwriting skills she needs to write it down, and so refuse to start.

Peer-referencing is another obstacle we have briefly touched on as well, as gifted children seek to fit in with those around them, and thus hide the full extent of their abilities in the classroom. Teachers who place responsibility on gifted students to ask for more challenging work can unwittingly create a stressful situation, as gifted students are compelled to constantly single themselves out before their classmates.

To better understand what is happening for gifted students when they encounter obstacles within the school environment, let's take a look Vygotsky's concept of the zone of proximal development, or ZPD. This is the Goldilocks of learning challenge; not too easy, and not too hard, but just right.

A similar idea centres around rate of failure; too little failure and the challenge is too easy, and too many failures and the challenge is too hard. A student in their ZPD should expect some failure from attempting challenging work, but not enough failure to discourage them. The ZPD for a gifted student can be expected to be in advance of a neurotypical student of the same age.

Neurotypical Student



Gifted Student

Already we can see why it is so difficult for teachers to cater to the needs of gifted

children within a traditional age-based classroom!

Whenever children are not performing to their potential, an investigation is typically sparked as to why this might be. They may be struggling with dyslexia or dysgraphia; they may have vision problems, or be experiencing emotional turmoil at home.

In a caring school environment, every effort is made to identify and support a child through whatever obstacles are hindering their learning progress. We wouldn't, for example, take a third grade student with dyslexia and compel her to repeat the grade; we would recognise that she is still within her ZPD, and her dyslexia is only an obstacle to her progress.

However, because gifted students have a ZPD so far in advance of their age peers, any obstacles they may encounter are often not investigated or identified; instead, the first response is typically that their ZPD has been overestimated and they need to be slowed down. The difference is like misidentifying hurdles as a sign the student is on the wrong race track.

The impact, naturally, is a double negative for the gifted child; not only has their obstacle remained unidentified and unsupported, but their disengagement and boredom is likely to increase. Their hurdles remain, and now they are even further behind their ZPD than ever.

Many teachers are fully cognisant of the dangers of pushing students beyond their ZPD, into the orange zone of anxiety. Students feel set up to fail; we fear the impact on their self-esteem of rarely being able to succeed.

However, evidence shows that we have just as much to fear from the red zone of boredom, if not more. In fact, from 250 possible influences on educational outcomes, boredom has been identified as the third most negative influence on learning, behind only ADHD and deafness.

MYTH: There's no harm in getting an advanced child to slow down until the rest have caught up.

Boredom is far from benign, and any school which expects a gifted child to “wait” until their age peers have caught up is doing that child a profound disservice. Gifted children, like all children, deserve to be supported through their obstacles so they can learn at the right point of challenge for them.

More Resources:
Evidence Based Teaching – Hattie's 2017 Updated List of Factors Influencing Student Achievement
Stephanie Tolan – Is It A Cheetah?

Side by Side: Giftedness in the classroom

CASE STUDY

Beth and Julian are in the same Grade Two class.

Beth is a straight A student, and very rarely gets a wrong answer. She excels in both Mathematics and English. She is a conscientious student, has good friendships and delights in helping the teacher.

Julian scores Bs and Cs, and sometimes fails his tests. He talks incessantly, never pays attention, and his handwriting is atrocious. He is disruptive and stubborn, and has no stable friendships within his class. His answers to simple questions are both confusing and obscure. Last week the teacher caught Julian marking the answers on his test with a pencil stuck up his nose.

Who is gifted – Beth or Julian?

The answer is either – or both.

Gifted children are not always the high achievers in the classroom. Their under-performance can be due to a number of reasons – a gifted child may be struggling to overcome an unidentified learning disability, or to manage sensory overload in a noisy classroom.

Often, the intense perfectionism of gifted children can become a crippling paralysis, as they find themselves unable to execute the same mastery they can envision in their minds. As well, the plethora of possible answers that occur to them as they engage diverse and multiple parts of their brain can leave them floundering for the one expected response.

However, the biggest obstacle to the achievement of gifted children remains an unchallenging curriculum, as the material on offer in an age-appropriate class is typically far below what is needed for a gifted child's zone of proximal development.

Just as we would not expect a neuro-typical child of 100 IQ to flourish in a class designed for children with intellectual disability, so too a gifted child will not flourish in a mainstream class designed for children of an average 100 IQ.

Both Beth and Julian undertake cognitive assessment by a qualified educational psychologist, and both students are found to have an IQ higher than 130.

How much faith can their parents and the school have in these results?

It is highly unlikely that an IQ assessment can return an artificially high result.

There are, however, a number of factors that can negatively impact the assessment, and return a result lower than a child's true intellectual potential. Unidentified learning challenges, a distracting test environment, inexperienced assessors and a lack of affinity between the assessor and the child can all drag down an IQ result.

As both Beth and Julian have returned scores well into the range of giftedness, it is the responsibility of their parents, their teachers and the school to accept these results and make accommodations for both students.

Julian's teacher is unhappy with the psychologist's recommendation to accelerate Julian. She believes Julian's problematic behaviour within the classroom should not be rewarded with a grade-skip, and wants to see marked improvement in Julian's demeanour – and handwriting – before she will approve the skip.

Acceleration is not a reward. What Julian's teacher has not recognised is that **Julian's behavioural issues stem directly from his disengagement in class**.

The support and accommodation of gifted students is often seen as “special treatment”, to be withheld if the teacher feels it is undemocratic, unnecessary or undeserved. But just as a hearing-impaired student shouldn't have to earn their hearing-aid, so too a gifted child should not need to earn the support they require to learn.

Julian's bad handwriting is no reflection on his capacity to learn and is in no way relevant to the provision of his educational support.

Julian's teacher also notes that the assessment has revealed Julian's greatest strengths to be verbal and language-related. She believes that it is far easier to cater within year level for advanced language abilities than advanced mathematical abilities.

The 1988 Senate Inquiry and other parliamentary inquiries have concluded that gifted children as a group are profoundly under-serviced in education. If possible, verbally gifted children are even less likely to have their educational needs met.

The idea that verbally gifted children are better suited to differentiation and enrichment than to acceleration has no evidence base; as well, these children tend to “holistic or global learners”, needing to understand the big picture from the beginning. The focus on detail without context and rote learning in a curriculum beneath their abilities can cause them to switch off and lose motivation.

Beth's teacher is unhappy with the psychologist's recommendation to accelerate Beth. She notes that Beth is earning As on every test, has no behavioural issues and is socially settled. If only every student in the class was like her! Since Beth is doing so well where she is, it would be folly to move her to a different grade.

With a far greater need to fit in socially and please the adults around her, Beth is indeed a more successful student than Julian right now. But it does not prove that Beth is doing well.

Like many gifted children, Beth is highly unchallenged and achieving straight As with virtually no effort. She locates her confidence in her ability to achieve excellent results rapidly and without trying.

But Beth is not learning how to learn. She does not know how to apply herself to a mental challenge steep enough for her to not conquer immediately. She is, for lack of a better word, coasting.

For gifted students like Beth, the early lack of challenge comes at a cost. Typically towards the end of primary school or during high school, she will finally encounter a steep intellectual challenge in her education that she can't immediately overcome. She will feel overwhelmed, horrified and a fraud – all this time she has been told she's smart, only to find out now that she's stupid.

To parents and teachers, it might look like Beth's charmed school journey has fallen off a cliff at this point. But in reality the damage was done years before, by the lack of challenge in her early school years.

Both Beth and Julian are accelerated; Beth into Grade Three, and Julian is skipped two grades into Grade Four.

Julian makes a surprising and rapid turnaround; within weeks, his behaviour is much better and he has made several friends within his new year level.

Beth's journey has been slower – she has earned a B for the very first time, and is slower to make new friends.

But the school, in strong collaboration with the parents, have taken a highly positive and supportive approach to the acceleration, and will continue to scaffold both students in forming social connections and bridging any gaps in their knowledge. The Grade Three and Grade Four teachers are committed to providing a rich educative environment, with many opportunities for their students to demonstrate their full potential.

Will the school need to do anything further for Beth or Julian?

In all likelihood, yes. Like any other students with diversity, Beth and Julian will need monitoring, adjustment and support throughout their school journey.

Gifted minds tend to develop at a more rapid pace than neuro-typical minds. To reflect on our original analogy, Beth and Julian were born with more neurological building blocks than their age peers, but also accrue new blocks at a faster rate. At seven years of age, they may have more than 170 building blocks, compared to their peers' 120 blocks – an accrual of 50 blocks more than normal.

But by the time Beth and Julian are fourteen, they will have more than 280 blocks, compared to their age peers' 190 – an accrual of 90 blocks over the norm. The gap between these gifted children and their age peers has become substantially wider.

Both Beth and Julian will likely benefit from further acceleration in the future.

More Resources:
Emily Parkinson – Stretching the Gifted
Tobi J. Phillips – Why Do So Many Gifted Children Hate to Write
Carol Bainbridge – Underachievement of Verbally Gifted Children
UNSW GERRIC – Online Professional Development Modules

Enrichment, Differentiation, Extension and Vertical Time-tables

While both students in the previous case study utilised acceleration, it is not the only tool in the gifted education tool box. Enrichment, differentiation, extension programs and vertical time-tabling are currently in favour, and are being utilised in many Australian schools. They serve a vital role in meeting the needs of gifted students, and have both benefits and drawbacks.

Enrichment and **Differentiation** cater for students within the mainstream classroom. Gifted students are asked to look at subjects in new and challenging ways; enrichment activities typically utilise the higher domains of Bloom's Taxonomy, engaging students in creative and complex approaches to classroom topics. With differentiation, the teacher provides each student in the class with work designed to suit their individual learning capabilities.

Disadvantages: While enrichment and differentiation can be excellent teaching mechanisms for any teacher and any classroom, these tools will often work best in small student groups where the range of ability is limited. For example, it would be hard to imagine a successful maths class which contained both six year olds and twelve year olds, no matter how hard the teacher tried to differentiate lessons and provide enriched learning for the older students.

As well, both enrichment and differentiation can be viewed as placing extra burden on teachers; providing thirty individual lesson plans tailored to the wildly differing needs of diverse students is far more work than sticking to a single lesson plan. In a high-stress working environment where teachers are already over-burdened, enrichment and differentiation can often fall by the wayside.

Extension programs are often on offer to gifted students, either in-house programs or from an external provider. These programs allow gifted students to move out of their regular classroom for several hours a week, or are run after school. Within the program, course material is at a higher level and learning can take place at a faster rate. These programs are typically popular with participating students.

Disadvantages: As one parent had said, “my child isn't gifted for only two and a half hours a week”. While these programs can provide an exciting diversion, the gifted students must then return to “regular programming”. In this way, these programs can be wholly inadequate to combat the boredom and frustration of mainstream schooling.

MYTH: All gifted students are the same.

Gifted children can be gifted to greatly varying degrees; moderately, highly, exceptionally or profoundly gifted. A moderately gifted child of 130 IQ can be closer to a neuro-typical child of 100 IQ, in needs and presentation, than to a profoundly gifted child of 145 IQ or more.

Another disadvantage of extension programs is that they can assume all gifted students are the same. But as we can see, a program designed for moderately gifted students of 130 IQ (as most programs are, moderately gifted students being far more numerous) will be entirely inadequate for the needs of an exceptionally or profoundly gifted student.

Vertical Time-tabling synchronises the timing of major subject areas throughout all age levels within a school, allowing for gifted students to move to higher classes for specific subjects; for example, a gifted student in Year Three may be placed with the Year Five for mathematics and the Year Four class for geography. This educational tool is becoming increasingly popular in Australia, especially at primary school level.

Disadvantages: Although vertical timetabling does not carry with it the additional burden for teachers as enrichment and differentiation, it too seems to fall by the wayside throughout the educational journey of many gifted children. Without continued advocacy, students often stop moving between classes for specific subjects, typically between primary school and high school as timetables no longer match, or during high school where the curriculum can be less flexible.

As well, this approach maintains a fundamental misconception about gifted students; that their giftedness is nothing more than one – or several – areas of ability, and thus should be catered for area by area.

As was said at the beginning of this resource, to be gifted is to be neuro-diverse. This diversity can affect every aspect of a gifted child: to properly serve a gifted student's educational needs, we must recognise giftedness as a whole-brain diversity, and offer educational support accordingly.

MYTH: The biggest danger to a gifted child's well-being is the removal from their chronological age group, and this must be avoided at all costs.

Enrichment and differentiation, extension programs and vertical time-tabling have been addressed in the one chapter, because they all share the same major disadvantage: as John Hattie's extensive research into the effectiveness of all teaching methods has shown, **gifted students who are not accelerated appear to suffer**

negative social impact.

Some of these tools have been specifically developed in the attempt to meet the intellectual needs of gifted students without allowing them to access older age groups. As the research has shown repeatedly, this approach is unnecessary and based on incorrect assumptions.

That does not mean that these tools have no place in gifted education: there is a wide range of giftedness and asynchronous development, and many gifted students will be appropriately supported with a mix of these provisions. However, in general terms, the more gifted a child is, the less likely that his or her educational, emotional and social needs will be able to be met within their age-appropriate class.

More Resources:
Geoffrey Shoemaker – Enrichment vs. Extension in the Regular Classroom
John Hattie's Visible Learning – Impact of Acceleration and Retention
Davidson Institute – Tips for Teachers
Carolyn K. - What is Highly Gifted? Exceptionally Gifted? Profoundly Gifted?

Acceleration

Acceleration in all its forms (including early entry and grade-skipping) has been the subject of intense study for more than a century, and researchers have yet to find any negative impacts. Even a moderately gifted child of 130 IQ could be expected to be intellectually and emotionally capable of graduating school three to four years earlier than the norm, and yet these children are a rarity.

In his exhaustive meta-study regarding nearly 200 influences on students and their impact (2015), John Hattie finds acceleration to be well within the top twenty of the most effective teaching tools. In contrast, tools such as extra-curricular activities, individualised instruction, streaming and ability grouping are found to have very little benefit.

Miraca Gross's 2006 study of accelerated and non-accelerated profoundly gifted Australian students has become a touchstone in gifted education. Gross tracked students over twenty years, and found the rapidly accelerated group (grade-skipped two or more years) had higher rates of school completion, tertiary degrees, professional careers, satisfying social and love relationships and overall life happiness and self-esteem than the non-accelerated group.

“On every measure, acceleration works.”

So why, then, is it so exceptionally under-utilised in Australian schools?

MYTH: A gifted child with any gaps in his or her knowledge cannot be accelerated.

Just as a neuro-typical child would not be held back from moving to the next year level because of receiving less than 100% on any test, so too a gifted child can often overcome any gaps in their foundational knowledge and still thrive for being in a more challenging environment. One teacher has likened it to lace: despite the presence of holes in a child's knowledge, the overall structure is still strong enough to support higher learning.

MYTH: A gifted child who doesn't show signs of advanced social maturity cannot be accelerated.

Social skills cannot be developed in a vacuum; like other children, gifted children must have peers to practise with. Acceleration can provide the critical opportunity a gifted child needs to access older students who are more likely to share similar interests,

language and outlook, and develop much-needed social skills.

MYTH: A gifted child who isn't earning straight As or has problematic behaviour cannot be accelerated.

As we have seen in the previous case study, underachievement and behavioural issues in gifted children often stem from disengagement in the class material. Acceleration should never be seen as a reward; instead, it is often part of the solution and a necessary educational support.

MYTH: A gifted child who has bad handwriting cannot be accelerated.

This myth is very pervasive; poor handwriting and a reluctance to write is used as proof that a child is not intellectually advanced and could not cope with being in a higher grade.

Handwriting has no correlation to intellectual potential; nor would we expect to see an otherwise capable, neuro-typical child held back a year because of their poor handwriting. Whatever accommodations and supports would typically be made available to any student with handwriting issues can also be made available to the accelerated student.

MYTH: A gifted child who doesn't already demonstrate complete mastery of the higher grade cannot be accelerated.

If the student has already mastered everything being taught at the higher grade, then he or she needs to be accelerated to an even higher grade. This myth reveals an uncomfortable truth; that for some (very few) schools, academic achievement is more important than a student's intellectual and emotional well-being. The benefits of skipping a grade are then outweighed by the risk to the school of the student attaining less than excellent results.

However, most schools will have a more rounded approach to their students' education and well-being. For gifted children, a hard-won and challenging B – or even a C – can be far more beneficial to them than an easy A.

MYTH: A gifted child who doesn't show immediate excellence in all academic, social and emotional areas should not have been accelerated.

The research on acceleration reveals both short-term and long-term benefits, but not always immediate. As with any major change, there will be a period of adjustment.

Nor is acceleration a magic bullet – gifted children can face many varied and diverse challenges, and acceleration cannot solve them all.

MYTH: "We've tried acceleration at this school, and it just doesn't work."

Despite the research, there remains a profound, wide-spread antipathy in schools towards acceleration and accelerated students. This antipathy can colour our approach, our experiences and our perceptions of acceleration.

Wherever a school maintains that their attempts at acceleration have ended in failure, it is worthwhile to ask why; not with the assumption that the research is somehow flawed, but as an honest investigation into how the transition was managed.

How was each child identified and assessed as an appropriate candidate for acceleration? What support systems were in place to ease the transition, both socially and academically? How were feedback and assessment managed between parents, teachers and administrators? Were everyone's expectations realistic? And how were perceptions of success or failure coloured by pre-existing opinions?

A student's opportunity for a successful acceleration is often determined by the attitudes of those around them; if their parents are ambivalent about the benefits; if the school is reluctant to allow it; if the teachers are subtly or openly opposed; if the other students and their parents are resentful or hostile to the interloper; all these and more can make the difference between success and failure.

Each gifted child is an individual, and of course acceleration may not be appropriate for everyone. Yet when properly supported, acceleration remains one of the safest, cheapest and most effective teaching methods we have to provide for the educational needs of gifted students.

More Resources:
Steenbergen-Hu, Olszewski-Kubilius and Makel – Summary: What One Hundred Years of Research Says About the Effects of Ability-Grouping and Acceleration
Miraca Gross – Long Term Outcomes of Academic Acceleration and Nonacceleration
John Hattie's Visible Learning – 195 Influences and Effect Sizes Related to Student Achievement
Wai, Shoplik and Assouline – Should I Grade-Skip My Gifted Child?
GERRIC – Types of Acceleration and Their Effectiveness
Valerie Bock – An IQ-to-Grade Conversion Chart – please note, this chart is from 1998 and relies on the old model IQ tests, which were based on mental age.

PARALLEL: THE RACING TRACK by Cathy Baillie

Gifted minds are the racing car engines of the academic world. There are many different kinds of race car - F1s, V3s and V8s – but they are all designed and built for peak performance at high speeds.

Neuro-typical minds are the standard production engines. They are designed and built for different purposes to race cars – and often enjoy greater utility – but they perform best at lower speeds.

Education Departments and schools have carefully selected the route, the pit stops, the finish line and speed for an optimal journey for the majority of cars on the road – the standard production engines. To help manage the journey, we require all cars built in the same year to begin at the same time.

This means that the racing car engines must stay in a low gear, so as not to exceed the speed limit.

Over time, stress begins to build up in the racing engines, as they are constantly running at sub-optimal speed. The engines begin to have problems.

We can offer racing engines opportunities to wander from the main route, on side roads where they can move up a gear or two. This is how we extend gifted minds. But after a brief period, we ask them to move back to their cohort on the main route.

The racing engines soon realise that all they are doing is taking a longer route to get to the same destination at the same time. They are still not performing at peak, and they are still stressed from running at sub-otpimal speed.

Under these conditions, some engines break down before the finish line is reached.

But some drivers understand that racing cars are designed in a different way, and allow them to accelerate to catch up with the older cars ahead. This allows the racing cars to show their potential and run at optimal speed for them, until they catch the leaders of the next age group and need to be accelerated again.

And if we do nothing?

Maria Konnikova's article, *Youngest Kid, Smartest Kid?* examines long-term studies of children who started school early in comparison to children who started school a year later, wherein a curious phenomenon emerged. As one might expect, the older students begin school with a significant advantage; these students are more emotionally mature, and achieve better outcomes academically and athletically.

But by middle school, the advantage of being an older student in the class has disappeared; by the end of high school, it is the younger students who repeatedly out-perform the older ones. The younger half of the class are more likely to complete school, enter higher education and enjoy better-paid careers.

By virtue of simply being older, the students who had delayed entry to school are less likely to be challenged. Far from being benign, the impacts of "easy" academic achievement is incredibly toxic and long-lasting. For gifted children, the impact of remaining in a class so far below their level of challenge can be catastrophic.

MYTH: If we treat gifted children like normal children, the worst that will happen is they become "normal".

In Miraca Gross's study of profoundly gifted children, it is the students who have been treated "inclusively" (that is, those who remained with their age peers with little or no further educational support) who reported lower levels of life satisfaction. Several dropped out; others experienced significant socialisation problems; still more sought counselling and treatment for severe depression.

As one subject said;
"I cannot even begin to imagine how desperate I would have felt to be left with my age peers… I would have suffocated."

Just like any diversity, we cannot make giftedness go away by ignoring it. But we can create deep confusion and unhappiness in children by refusing to recognise and accommodate it.

Researchers are often surprised by the intensity of feeling expressed by gifted students who have been afforded only a standard educational journey. Subjects do not speak of "boredom" and "irritation"; they use words like rage, frustration and despair.

We can reach a better understanding of this, by understanding the nature of childhood. **Childhood is a time for learning and for play**; indeed, as we

can see right from infancy, there is no difference between the two. Children are instinctively programmed to play and to learn, and they apply themselves passionately to this task.

But gifted children can spend the majority - if not all - of their time in class not learning. In fact, a John Hopkins university study of primary school children found that as many as two out of seven already knew the entire year's curriculum at the beginning of the year.

And if we are not allowing gifted children to learn, nor do we allow them to play. Instead, their time is filled with repetitive instruction and rote work designed to help them master concepts they already know.

These children spend six hours each day, five days a week, not learning, and not playing. In this way, large parts of their childhood are being stolen from them. In this way, we can begin to understand their rage and despair.

CASE STUDY

Esther's eyesight has become problematic, and she can no longer see the whiteboard at school.

Because she can no longer engage with the subject matter being taught, Esther is having behavioural difficulties. At first she was anxious, and bored; now she is highly disruptive and disrespectful of all attempts by teachers to curb her behaviour.

Esther's parents are increasingly worried; not only by Esther's behaviour, but also by the fact that she isn't learning anything. They approach Esther's home teacher to ask if any accommodation should or could be made for her eyesight difficulties.

Esther's teacher says this isn't necessary. He says this school isn't just about academic learning, but also about supporting the development of social and emotional well-being; at this school they focus on the whole child, and the life skills that Esther is gaining in the classroom and on the playground are far more important than maths or spelling.

Of course, no teacher would respond like this; it's virtually inconceivable. What would have been a far more likely response is if Esther's teacher had cried “Are you mad?! Get this poor child some glasses immediately!”

Most teachers would not accept any excuse for a child not learning in their class. And yet too many gifted children are, right now, sitting in class with their age peers, unable to learn a single new thing.

“Every child deserves to learn.”

John Hattie has spoken about a year's learning for every year's growth – regardless of where they begin or what they already know, every child deserves the opportunity to

take on new information, to explore and learn.

MYTH: Gifted children are already educationally privileged. We must focus our support for the students who need it the most.

As several federal and state inquiries into gifted education have revealed, gifted students are arguably among the most educationally disadvantaged groups in Australia. They remain unidentified, misunderstood and unsupported, and vulnerable to mistrust and prejudice within the community.

And our treatment of gifted children is taking its toll, not only on them but on Australian education as a whole. Despite record spending levels, Australian students are going backwards – not only in comparison to other nations, but in real terms as well.

The proportion of Australian students achieving the top two bands in maths, reading and science in the OECD's Program for International Student Assessment (PISA) tests fell significantly from 20 per cent, 17 per cent and 15 per cent respectively in 2000 to 11 per cent in 2015 for all three areas.

John Hattie has said;
"The biggest problem in Australia by a million miles is those top 40 per cent of our kids going backwards because of the cruising schools."

That's 40 per cent of Australian children learning not enough, or nothing at all. Included in this figure are our most talented and gifted, individuals with enormous potential to contribute to society and the world.

"Whether or not a gifted child fulfils their potential often depends on the educational support they receive."

Giftedness remains one of the most poorly understood and accommodated conditions. If we can break down the myths and resentment surrounding the diversity, we can begin the work of ensuring that gifted children can fulfil their true potential, as every child deserves.

More Resources:
Maria Konnikova – Youngest Kid, Smartest Kid?
Stefanie Balogh – When Will We Ever Learn?
Chris Weller – Results of a 45-year study of gifted children
Linda Flanagan – Are Kids Missing Out By Not Skipping a Grade?
Miraca Gross – From the Saddest Sound to the D Major Chord

“Pity impedes the dignity of disabled people; resentment is a parallel obstacle for people of enormous talent. The pity and the resentment alike are manifestations of our fear of people who are radically different.”

Andrew Solomon, Far From The Tree, Vintage Books 2014.