



**Neurodiversity
Documentation**

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Neurodiversity

Neurodiversity is the recognition of people who think differently or have a brain chemistry meaning their brains work differently. This can include conditions such as Dyslexia, Dyspraxia, Dyscalculia, Autism & Asperger's, Tourette's, ADHD and other conditions.

We must recognise that those embarking on advanced driving or riding, will have already achieved their licence, so can drive a car or ride a motorcycle. It is important that our examiners, observers and associates understand not only learning styles, but also neurodiversity, to ensure that our training is accessible and meets the needs of all drivers and riders.

The concept in the 'thinking driver or rider', requires both understanding and synthesis. To support this, we should be focusing on developing understanding rather than just knowledge or simple learning. That way we can better equip all our drivers and riders to apply the system to their drive or ride, as opposed to learn, and drive or ride to, the system.

Most people

Most people think in words or sounds in a linear sequential step by step process, and often they have an internalised monologue or voice that explores their thoughts.

What most people do well:

1. Think in lists, or take a step by step approach
2. Use prompts well
3. Make notes
4. Learn and recite words and phrases with ease

What most people don't do well:

1. Think holistically
2. Think spatially

What can you do to help them?

1. Talk to them, gain an understanding of what works for them
2. Focus on the learning styles handout
3. Look to build understanding rather than knowledge

Dyslexia

People who are diagnosed with Dyslexia usually think in pictures rather than words. This means they must continually code and decode their visual world into the written and spoken word. This impacts their working memory. Short term memory is also impacted. They form detailed mental models based on understanding.

What Dyslexics do well:

1. Think holistically with detailed multi-dimensional mental models
2. Learn associatively, making connections between concepts
3. Build detailed visual mental models

What Dyslexics don't do well:

1. Remember separate unconnected facts or lists
2. Use mnemonics such as IPSGA

What you can do to help Dyslexics:

1. Talk to them, so you get a better understanding of what works for them
2. Show first and then tell, use a demonstration drive or ride, then explain what you have shown them
3. If you are unable to show them, use words to build a picture and avoid unconnected facts
4. Carefully use radios to support their associative learning
5. Avoid learning lists and mnemonics such as IPSGA, unless it's essential

Dyspraxia

Developmental Coordination Disorder literally means problems with movement. People with Dyspraxia normally struggle with fine and gross motor skills and may appear clumsy. They may struggle with spatial awareness and with organising thoughts

What Dyspraxics do well:

1. Good at verbal comprehension and communication
2. Good at problem solving
3. They often struggle with spatial awareness
4. Struggle to organise their thoughts
5. Appear to be clumsy or accident prone

What Dyspraxics don't do well:

1. Difficulty using equipment and learning new processes
2. Find it difficult to follow sequences of instructions

What you can do to help Dyspraxics:

1. Talk to them, get a good understanding of what works for them
2. Allow time for repetition before moving on to another task

Dyscalculia

People with Dyscalculia often struggle to comprehend the scale of number. They also have a reduced short-term memory. Someone who only struggles with mathematics, isn't Dyscalculic.

What Dyscalculics do:

1. Struggle with numbers and the scale of numbers
2. Struggle with short term memory

What Dyscalculics don't do well:

1. Recognise the concept of relative scale

What you can do to help Dyscalculics:

1. Talk to them, so you can get a better understanding of what works for them

Autism and Asperger's

Autism and Asperger's are related conditions. They are often typified by a perception of poor social skills and an obsessive focus on fact. They often experience specific learning difficulties, anxiety or other conditions. However, people with Asperger's **will not** have a learning disability, as they will have an average or above average intelligence.

What people with Autism and Asperger's do:

1. Think in a binary 'yes/no' or a 'right/wrong' format
2. Deal literally with the rules as they understand them
3. Find patterns and inconsistencies

What people with Autism and Asperger's don't do well:

1. Interpret the verbal and non-verbal language of other people
2. Express their own emotions

What can you do to help people with Autism and Asperger's:

1. Talk to them so you understand what works best for them
2. Don't invent new 'rules' such as 'use position 1,2 or 3 for bends'
3. Develop understanding, ask 'where is the best safety, stability and view?'
4. Try to gently explore flexible interpretation
5. Use specific instructions, 'use the fourth exit' rather than 'turn right at the roundabout'

Tourette's

Tourette Syndrome is characterised by involuntary sounds and movements called "tics". Those ticks can range from severe swearing or movement to minor apparently nervous movements and usually improve with time.

What people with Tourette's do well:

1. The ability to hyper-focus with deep and intense concentration
2. Good verbal communication
3. Suppress their tics

What people with Tourette's don't do well:

1. They can have impaired coordination
2. They can become easily stressed

What you can do to help people with Tourette's:

1. Talk to them, so you can understand what works best for them
2. Provide breaks, allowing time to quiet and to 'let out' any tics
3. Monitor tiredness and provide regular breaks, and maybe shorten sessions
4. Try to reduce stress levels, especially on 'test day'

ADHD

Attention Deficit Hyperactivity Disorder is related to the management of Impulse Self - Regulation and Inhibition.

What people with ADHD do well:

1. Good 30 visual skills
2. High levels of alertness and ability to hyper-focus with deep and intense concentration
3. Passion and enthusiasm
4. They can seem rude to others

What people with ADHD don't do well:

1. Attention to detail, it may be lacking for mundane tasks
2. Concentrating, it may be difficult for mundane tasks

What you can do to help people with ADHD:

1. Talk to them, so you can get a better understanding of what works best for them

Others

There are many other conditions that can be included in the neurodiversity category; however, these may be self-limiting or rare in the motoring arena.

About the Author:

Denis McCann is a retired fire officer who worked at strategic level. He qualified to drive both fire appliances and cars under blue light response conditions. Denis' passion is motorcycling, and he rode trials competitions as a teenager. Later he migrated to road riding and is proud to hold the IAM RoadSmart Masters with distinction for the motorcycle. He is also a national observer for his local group Wiltshire and Bath Advanced Motorcyclists (WaBAM).

Denis is dyslexic and has studied Dyslexia for almost forty years. He has a background in training systems design and training delivery and amounting to some twenty years during which he has written national qualifications for Skills for Justice Awards.

He works as a visiting trainer for the Fire Service College and the College of Policing, Denis also works to raise the awareness and understanding of Dyslexia and other aspects of Neurodiversity. He assists with the management and resolution of specific Dyslexia cases.