Hazard Perception+

Reducing the risks to new drivers through driver education.

Stephen Edwards
Consultant Collision Investigator

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Did you know?

On average there are 1.4 million driving tests conducted every year in Great Britain.

The pass rate is approximately 50%

Source DSA

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Did you know?

‘*One in five newly qualified drivers crash within a year of passing the test*’.

Source Highway Code

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Did you know?

70% of collisions in Cambridgeshire occur within a 7 mile radius of the driver's home address.

Source Cambridgeshire County Council

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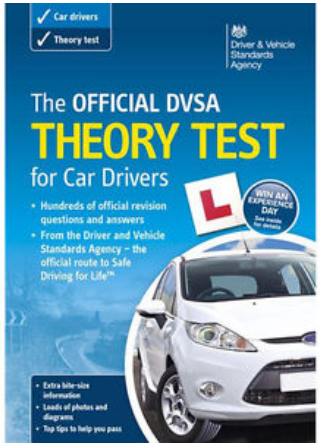
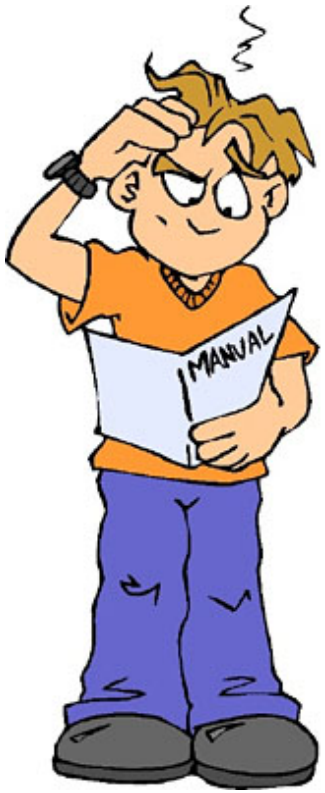
In current driver training there is only a tenuous link between driving theory and driving practice.





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“Don’t bother me with the theory, I just want to pass!”

44% considered the driving theory and hazard perception tests as something that they had to pass in order to sit the practical driving test.

18% considered the tests as an important part of preparing for practical driving but once passed, stopped thinking about them.

38% considered the driving theory and hazard perception tests as an important part of preparing for practical driving and something that they continued to consider whilst driving.

Source: Survey results of new drivers

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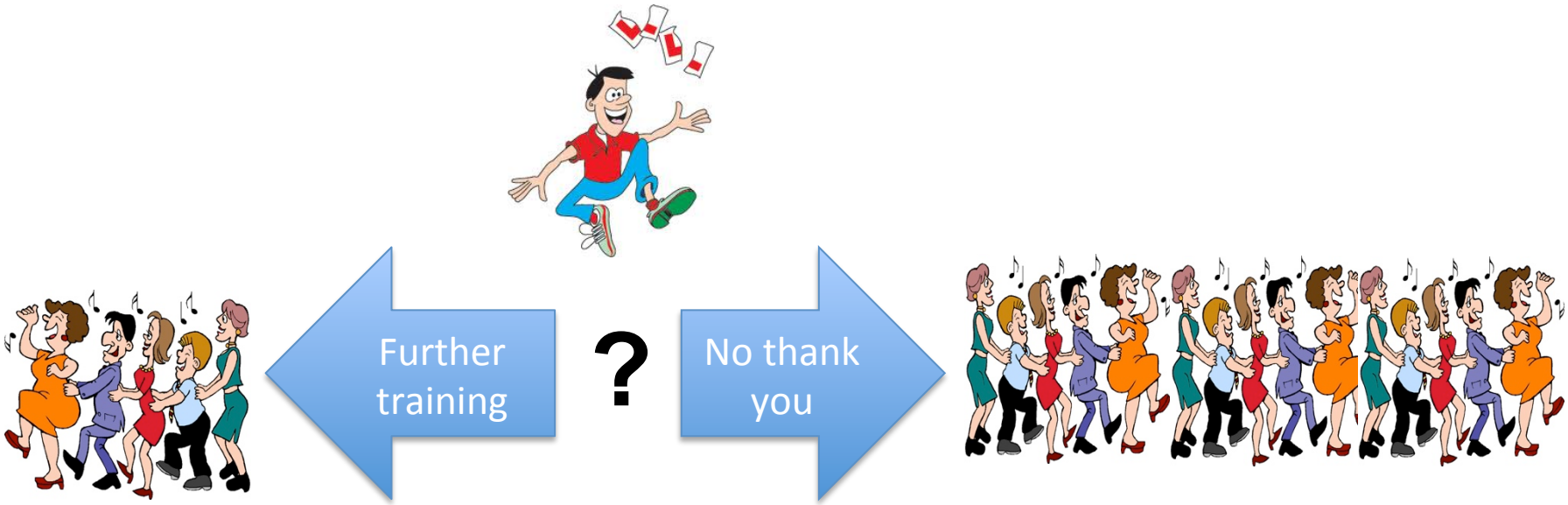

Given that beyond the driving test relatively few new drivers take any further driver training, it would seem that the most appropriate time to embed key skills is when the new driver is receiving driving instruction.

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The most common causes of road traffic collisions are:

- Speeding
- Drink Driving
- Careless Driving
- Failing to Look Properly
- Loss of Control
- Failing to Judge Other Person's Path/Speed
- Inexperience

How are we going to introduce post test skills to pre test drivers?

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Understanding why some common collisions happen can help a driver avoid making the same mistakes.

- Loss of Control
- Inexperience

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Loss of control

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The onset of loss of control is usually as a result of a driver's sudden attempt to change speed or direction.

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What happens when you enter a bend too fast?

What do you do?

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No matter how good a driver you are,
you cannot overcome the laws of physics.

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Friction

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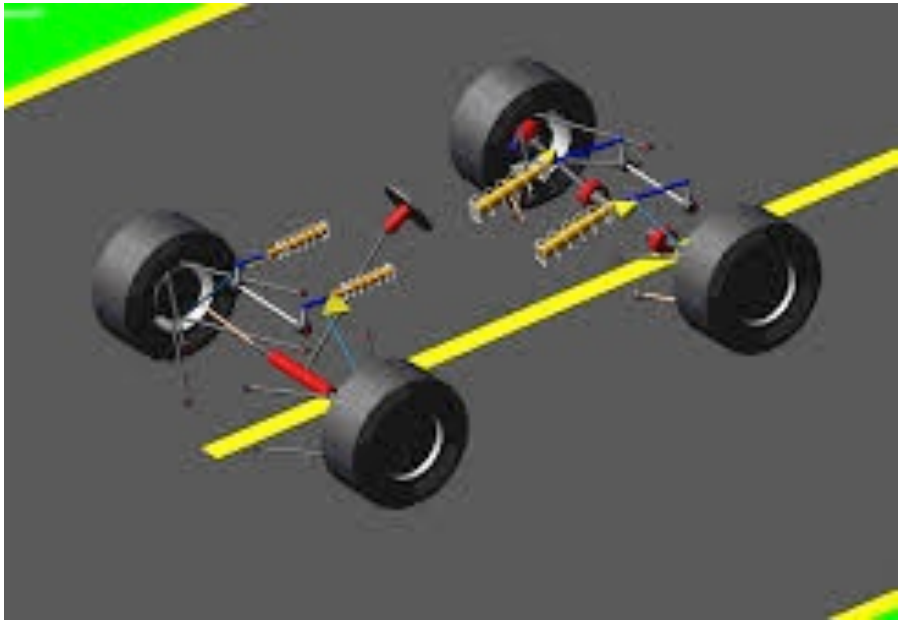
Let’s get a grip on the situation!

Braking, steering and acceleration **all** rely on the available friction between the tyres and the road surface.



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Friction Pie

Road surfaces have a limited amount of available friction.

Think of it as a pie.

Everyone wants a slice of the pie - when it’s gone it’s gone!

Braking

Steering

Accelerating

If you use all of the available friction for braking, there won’t be any left for you to steer.

If you use all of the available friction for steering, there won’t be any left for you to brake.

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It’s all about balance

Your car is in its most stable state when you are travelling in a straight line at a constant speed.

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Cornering

In 2013 around 32 per cent of young car drivers killed or seriously injured were recorded to be either exceeding the speed limit or travelling too fast for conditions on rural roads.
A further 20 per cent were killed or seriously injured while going round a bend.

Source: Dft - Facts on Young Car Drivers June 2015

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To negotiate a bend safely, it is simply a matter of entering it at an appropriate speed for its **severity** and keeping the car balanced.

How do you assess how severe a bend is?

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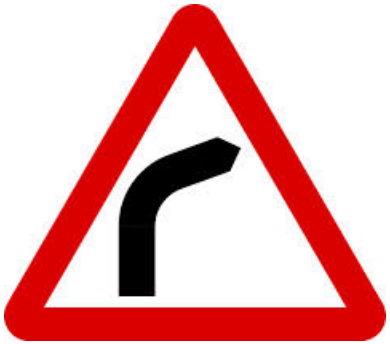
Give me a sign!



Warning signs indicate a need for caution and may require a reduction in speed or some other manoeuvre.

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Don’t say I didn’t warn you!

Bend signs give advance warning of a bend which a driver might find difficult to negotiate **without slowing down** and the severity of which cannot easily be seen either by day or by night.

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There are 4 factors that determine the degree of danger presented by a bend:

- Speed of approach (higher the speed greater the risk)
- Radius of the curve (how tight it is)
- Skid resistance of the road surface
- Camber of the road

Limit point

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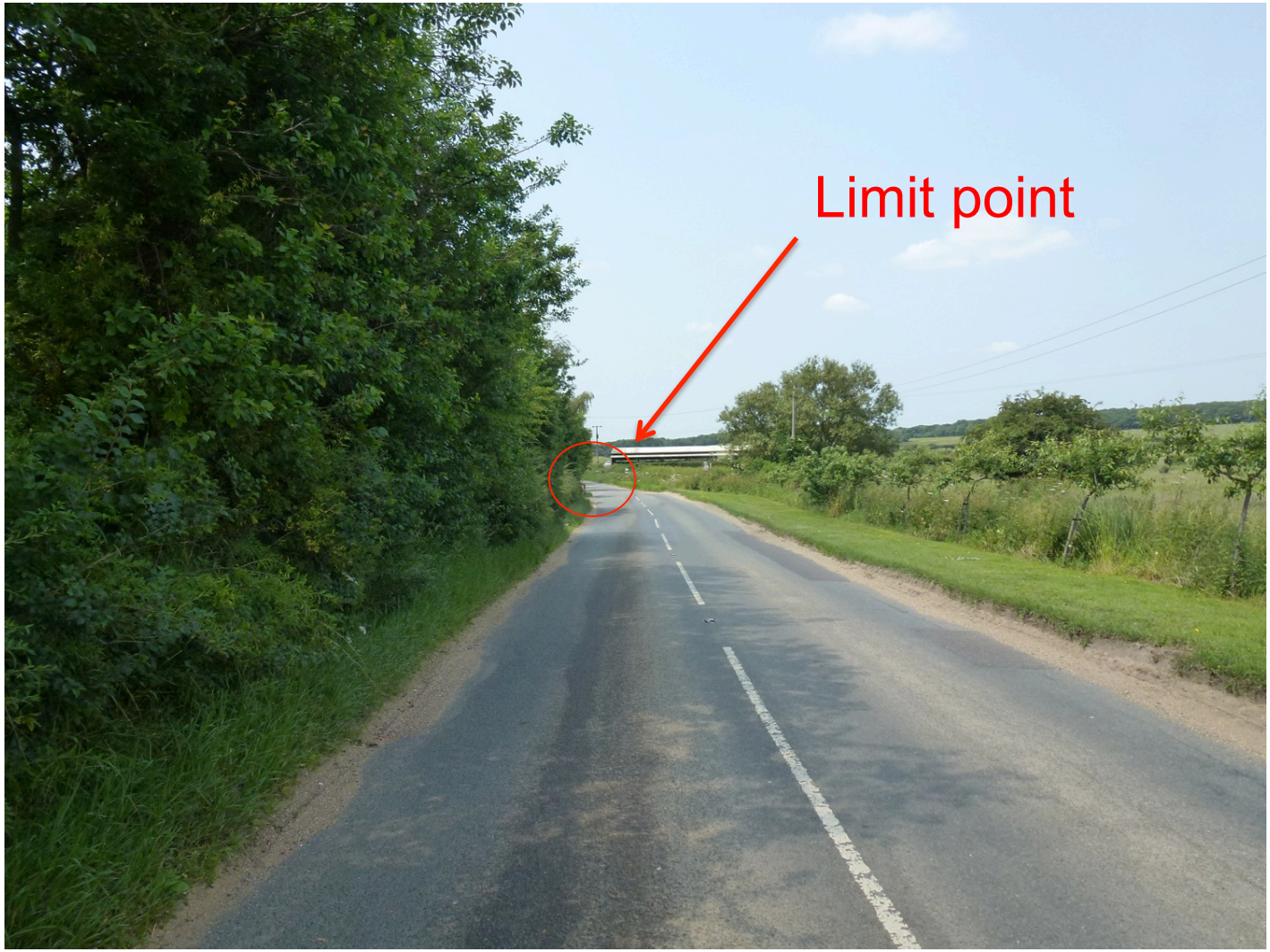

The limit point is where the left verge appears to meet the right verge

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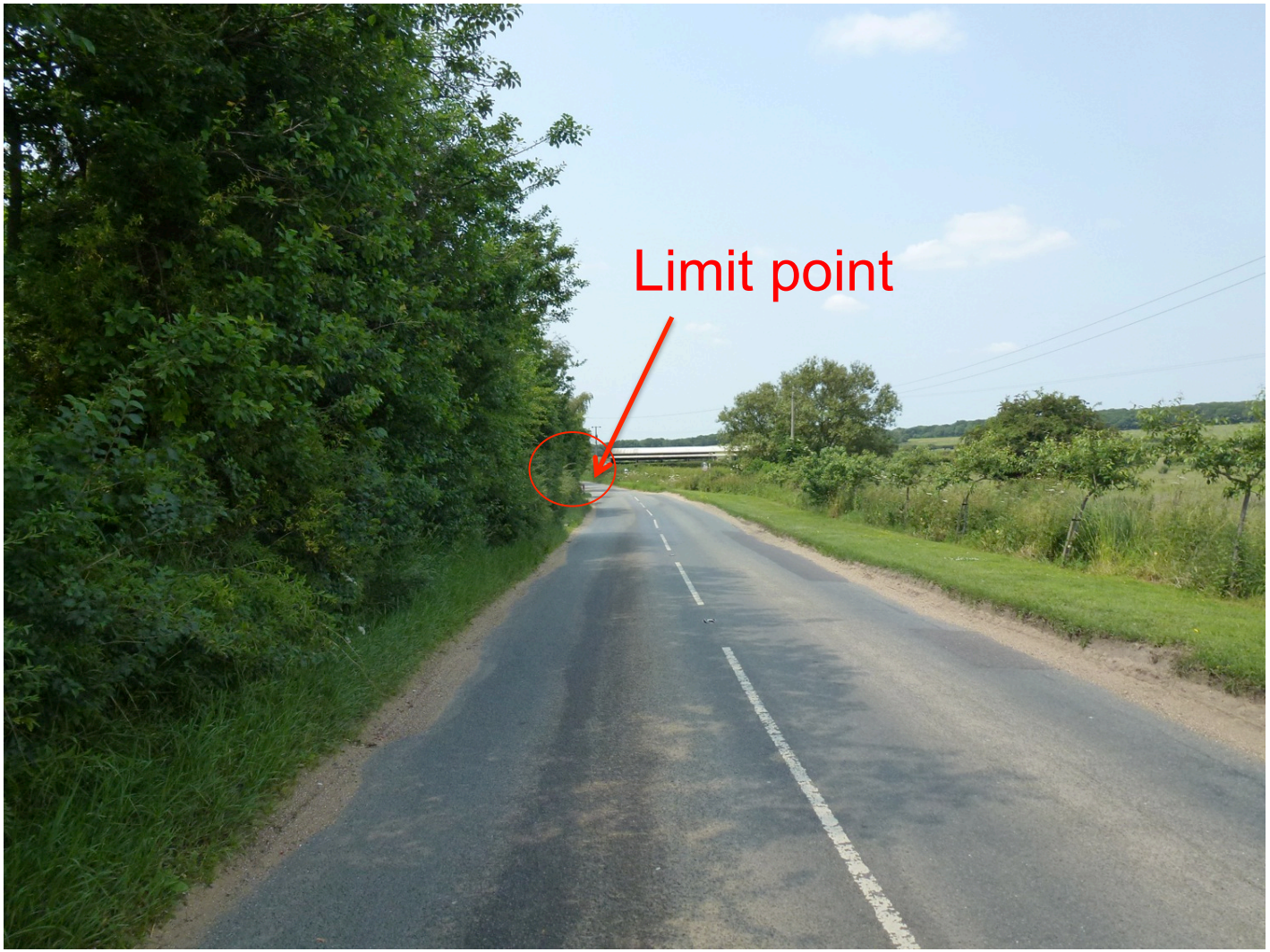

If the limit point does not move as you get closer, the bend will be sharp.

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Only 35% of the new drivers surveyed indicated that they were aware of the term ‘limit point’ and its meaning or how to assess the severity of a bend.

Source: New driver survey data

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Aquaplaning

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Aquaplaning occurs when the water between your tyres and the road surface cannot be removed quickly enough.

This layer of water builds up in front of the tyres resulting in the tyres losing contact with the road surface.

This sudden loss of traction causes the wheels to slip and prevents the vehicle from responding to steering, braking or accelerating.

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What should you do?

When approaching standing water – SLOW DOWN

The faster you are travelling the greater the risk of aquaplaning.

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Don’t panic!!!

99% of the time aquaplaning will last for less than 1 second

DO NOT brake - braking should be done before you reach the water

Be gentle with the controls

Keep the steering wheel pointing in the direction you want to travel

DO NOT ‘over steer’ if the car pulls to one side

Lift your foot off the accelerator

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If you turn the steering wheel sharply left or right while aquaplaning the car will not respond.

However when the tyres regain grip,
if the wheels are pointing left or right that's the direction you will be heading next!

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Approach Speed

Getting it right….

Appropriate speed for the road and weather conditions will mean that bends and standing water shouldn't be a problem.

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Inexperience

Experience: The knowledge or skill acquired by a period of practical **experience** of something.

oxforddictionaries.com

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With experience, drivers develop expectations concerning speed limits and usual traffic patterns.

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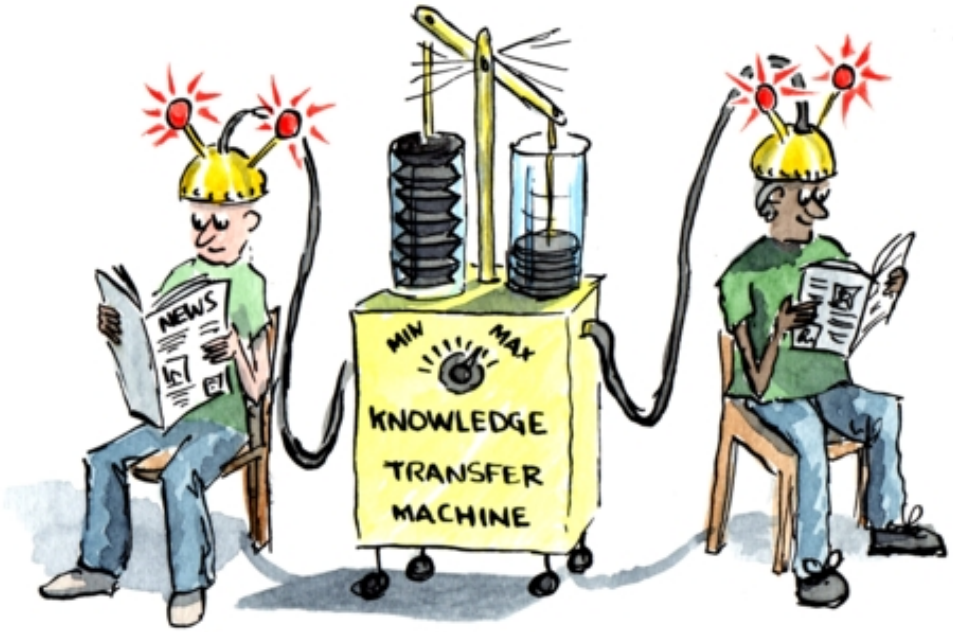

Obviously a driving instructor can’t teach experience, but they can share theirs.

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Commentary is an aid to developing hazard perception.

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What is a hazard?

‘A hazard is anything, which contains an element of actual or potential danger’.

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There are three main types of hazard

1) Physical features, such as a junction, roundabout, bend or hill crest;

2) Those created by the position or movement of other road users;

3) Those created by variations in road surface or weather.

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The way ahead?

- Provide a clear structure for driving tuition for both student and instructor.
- Expand driving theory to include advanced key skills.
- Reinforce driving theory with practice.
- Provide commentary - it helps new drivers focus on what is important and is an aid to developing hazard perception skills.

Any questions?

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