

# **Preparing Young People for Safe Road Use – A Layman Practitioners Perspective (Driver Education for Young Drivers)**

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## **Abstract**

Mr Graham Smith  
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## **Assistance and collaboration:**

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School programmes at the Roadcraft facility.

## **Preparing Young People for Safe Road Use – A Layman Practitioner’s Perspective**

This paper questions:

- (a) The role of ergonomics, eg seating, body position, body bracing and pelvic stability, in directing and maintaining vision and steering accuracy.
- (b) The inter-relationship between our primary and peripheral vision with our primary and peripheral consciousness.
- (c) Ways of identifying the physical and psychological aspects of road use into driver education.
- (d) The integration of the senses of vision, feel and hearing in the development of risk perception / management and behavioural perspectives in vehicle controllers.

These topics explore the essential relationships between practical and theoretical driver education to achieve safe drivers. At Roadcraft, a unique opportunity exists for research into effective traffic safety education, due to our large numbers and diversity of students. This has the potential to allow for some exciting developments. It will also draw on experiences and research in Europe, Canada and Papua New Guinea.

### **Preparing Young People for Safe Road Use – A Layman Practitioner’s Perspective**

In writing this paper, I am very aware that the propositions put herein are the result of observations by numerous practitioners.

These practitioners are and have been my colleagues at Roadcraft.

These observations have been anecdotally qualified over a period of more that 20 years.

Graham Smith,  
Roadcraft Gympie,  
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**Preparing Young People for Safe Road Use –  
A Layman Practitioner’s Perspective  
(Driver Education for Young Drivers)**

Statistics suggest that we learn most of our required driving techniques by the time we reach the age of 25 years.

We bury those who don’t learn.

We also bury those who temporally forget what they should have learned.

*“Effective Learning is a permanent change in behaviour due to experience.”*

Who we are:

Roadcraft was established in Gympie as a perceived community need. In the mid 1970’s, a high risk age-group of road users was identified; (15 – 17 year olds) who were being killed at an unacceptable rate on Queensland Roads. In 1979, the Roadcraft Driver Training complex was opened through a partnership of Rotary and other service clubs in the Gympie area.

Roadcraft is a Not For Profit organization. We have had the advantage of being able to separate business from educational requirements. We, at Roadcraft, believe that humans are capable of learning and continuing to learn from birth to death. At Roadcraft, young road users from 4 years of age to young drivers up to 20 years of age, are our priority. We also present to a wide range of road users including car and heavy commercial vehicle drivers, motorcycle riders, also competition, security and older drivers.

At Roadcraft our mission statement reads:

***“To provide effective road use education to road users of all ages”.***

We begin our education programme at age 4, or at the beginning of school attendance and continue through-out the life-span of a road user. The oldest driver assessed at Roadcraft, so far, has been 94 years of age. It has been most instructive to observe the driving techniques, habits and behaviours of people who have driven for 30 to 50 years without being involved in a traffic incident. In the case of our 94 year old, he had an 80

year history of crash-free performance. This gentleman was the proprietor and driver of a bus company, for over half a century... so he had a few miles on the clock!

At Roadcraft, we do not accept failure! Success is indicated by the level of intellectual and sensory learning by our students; to the extent that it causes an attitudinal change that is paralleled by changes in behaviours. Only those instructors who are able to accept these high expectations, *and* can produce these outcomes, stay at Roadcraft.

While we present a six-day instructor induction course for our new staff, it takes at least two years of experience before a new staff member is able to perform to our expected standard. This observation has been supported in discussions world wide. People attempting to present effective driver education in countries as diverse as Sweden, Luxembourg, Ireland, Austria and Canada, all concur with this observation.

Our success is indicated by anecdotal evidence over 25 years of operations. Hopefully, these claims will soon be supported by a research study involving many thousands of young people. Approximately 20,000 high school, pre-licence drivers have attended a Roadcraft course and as many as 300,000 primary school children.

#### Pre-Licence versus Provisional Educational Opportunities

After many years of presenting to thousands of both pre- and post- Provisional Licence holders, we are of the firm opinion that pre-licence courses offer, by far the best opportunities to produce effective outcomes.

A number of provisional driving courses have been developed throughout the world. Some jurisdictions have made attendance to these activities compulsory. Most analyses of these courses have resulted in inconclusive outcomes, as so many unforeseen factors seem to influence these studies. It appears an agreed methodology has yet to be devised to produce a clear outcome, either positive or negative.

One of the many confounding variables is that the provisional licence holder almost always has an inflated opinion of their driving abilities. This perception must be effectively dealt with before any positive learning process can be implemented.

### Defensive Driver Training – ‘Hoon’ Training or Life Saving Education?

Advanced vehicle handling techniques are easily taught by instructors and readily learned by participants. These outcomes are very satisfying to the egos of both instructors and participants.

A permanent positive outcome in terms of both attitude and behaviour is much more difficult to achieve or measure. Training which focuses on vehicle handling skills alone, is likely to result in the production of a more skilful ‘hoon’. Education which integrates human vehicle and traffic dynamics in a social and cultural context will provide a better opportunity to reduce death and injury on our roads.

At Roadcraft:

#### Defensive Driving

- Defensive driving techniques relate only to the *on road* segment of any course.
- Traffic dynamics and the complexity of traffic culture are the subjects of this segment.

#### Vehicle Control Skills

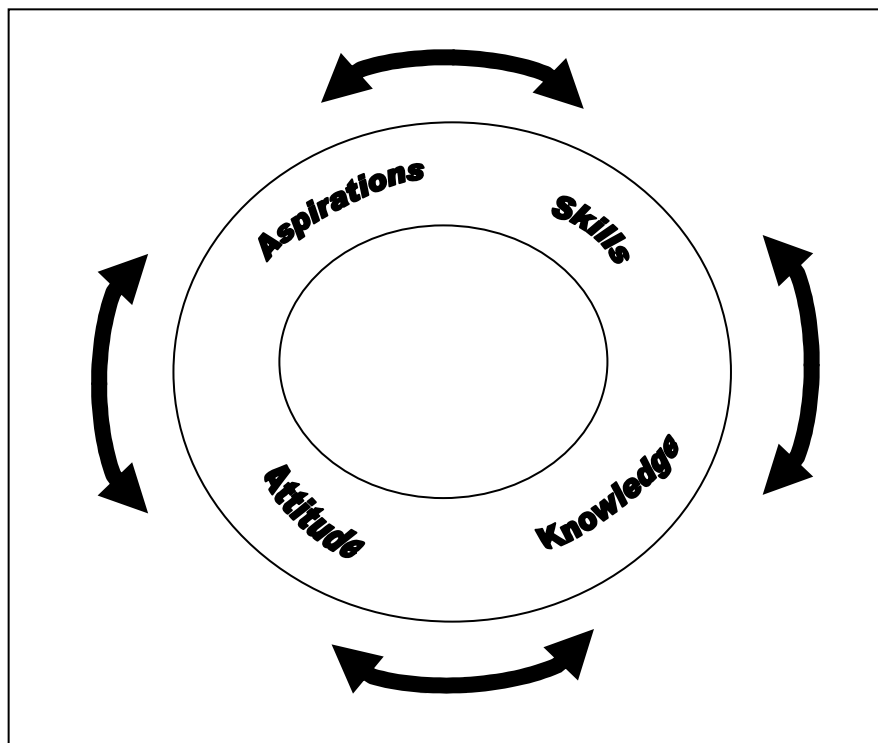
- On our off-road closed circuits, we teach vehicle dynamics, visual and haptic perceptions and inputs. The participants can then experience and assess their own individual responses and outcomes.
- Both theoretical information and practical skills must be challenging to effectively achieve the desired outcomes required at Roadcraft.

### **Roadcraft Experience over 25 years**

At Roadcraft we have identified a number of trends. The strongest trend relevant to young drivers, is that those students who have participated in horse riding events, high level sports, or high speed push-bike riding, have a more highly developed peripheral vision and consciousness than those who have not been trained or had experience in these activities. We believe that sports coaches and teachers could foster a greater understanding for young drivers by developing all students’ peripheral vision and consciousness and haptic awareness. Countless opportunities exist in schools, sport and

recreational activities to present preparational training and experience conducive to the development of visual and haptic awareness. This early training is very beneficial to a teenager at the time of driver licence preparation. Of the many thousands of young people who attend Roadcraft for driver education in cars, those who have had formal training or experience in activities requiring vision and balance consistently achieve the best results.

### Our Learning Approach to Driver Training



This is a dynamic approach where learning concepts can be continuously mixed and matched.

Learning the physical elements to control a vehicle is a lineal or 'step-by-step' process. At Roadcraft, we employ a collaborative spiral learning process whereby each learned element or skill of the physical activity is accompanied by an appropriate reference to a required behavioural outcome.

In this learning programme it is critical that each element is understood in both the abstract and the physical, before proceeding to the next activity. Collaborative peer group inputs are encouraged and used to reinforced attitudinal and behavioural outcomes.

## The Hard Facts

### The Inherent Human Condition

- 75 kg person can run 25km/hour
- 1500kg car can travel at 100km/hour
- 50,000kg heavy vehicle can also travel at 100km/hour

### The Inherent Disparity

The human brain and senses are currently designed to deal with information coming in at a maximum of 25 k/hr. The modern vehicle, however, is designed to carry a human at a rate in excess of 100 k/hr. This is the inherent disparity! To overcome this, we need to further understand these changes to and educate drivers in visual, haptic and graphic abilities to accommodate this very different paradigm in relation to our human condition. Identifying and integrating physical, psychological and technological aspects of road use into driving is our challenge. This raises a number of questions.

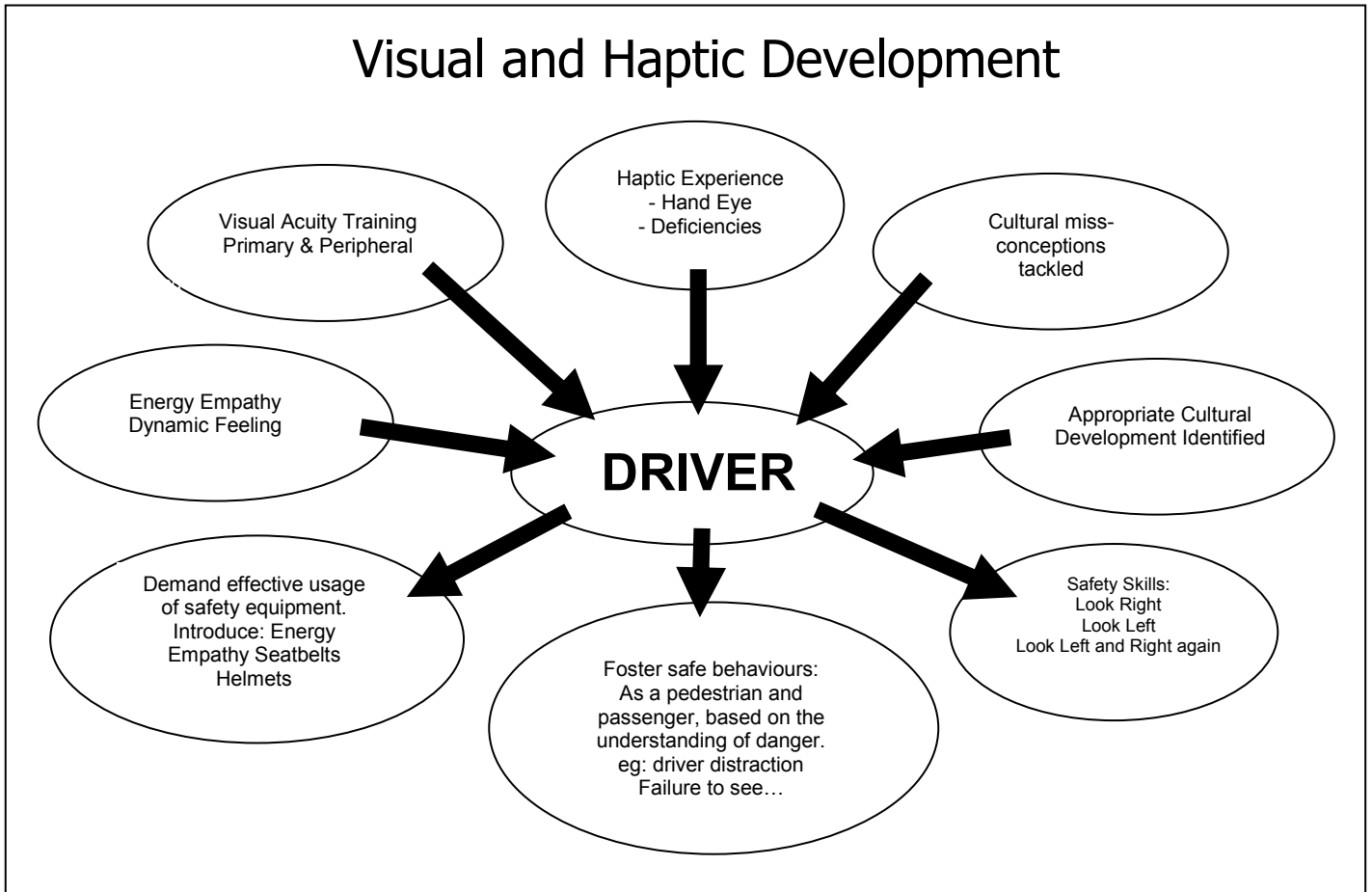
*Question 1* How does ergonomics, (seating, body position, body bracing, and pelvic stability) play such an important role in directing and maintaining vision and steering accuracy?

*Question 2* What is the inter-relationship between our primary and peripheral vision and our primary and peripheral consciousness?

*Question 3* How does the integration of the senses of vision, feel and hearing, in the development of risk perception and behavioural perspectives, in vehicle controllers, have beneficial outcomes?

## Visual and Haptic Development

This diagram sets out and attempts to explain our educational inputs, and expected outcomes.



### Conclusion:

Based on our long experience with young drivers, we firmly believe that pre-licence education and training is more effective than post-licence attempts.

Modern equipment is now available to measure and record gaze sequences and to track visual processes. Research in this area will allow accurate assessment of visual and associated haptic inputs and outcomes, or 'cause and effect'. Teaching methodologies could then be more effectively developed by being based on such solid data. How to deal with the difficult and complex task of assessing the effectiveness of driver training or education programmes, should then become clearer.