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Coping with distractions—the task for driver training and education

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Introduction

The modern driver has much to be thankful for the way in which technological advances have made the physical part of driving easier to accomplish, that is the use of the actual driving controls such as power steering, automatic gears and power assisted brakes and so on. However at the same time the in-car environment of "optional extras" such as CD players, mobile phones, navigational systems etc provide many distractions and the external environment of roads and traffic that have become far more complex and dangerous places to be, full of difficult situations and distractions that can confuse and divert the attention of even the most experienced driver. Many often succumb to this environment and experience near misses, or worse, collisions that can sometimes be very serious

This background presents many challenges for the professional driver trainer who is changing the emphasis from the relatively simple requirements of the driving test and devoting more time to the safety and hazards perception side of driving. It has become increasingly important for the professional driver trainer to work with parents and home supervisors to try and get the best possible result for their students.

The development of comprehensive training courses for professional driver trainer/educators throughout the 1990's leading up to the current "Certificate IV in Driving Instruction" course has enabled professional driver trainers to present far more organised and comprehensive courses to both new and experienced drivers.

There is, built in to the Certificate IV in Driving Instruction course, set methods and procedures which, if properly presented to and practiced by new drivers, will equip them with the ability to cope with many of the distractions they will have to face.

This paper explains how the driving task is learned and how, when many of the driving distractions occur, they can be absorbed into the normal hazard perception and safety part of low risk driving behaviour.

The driving task

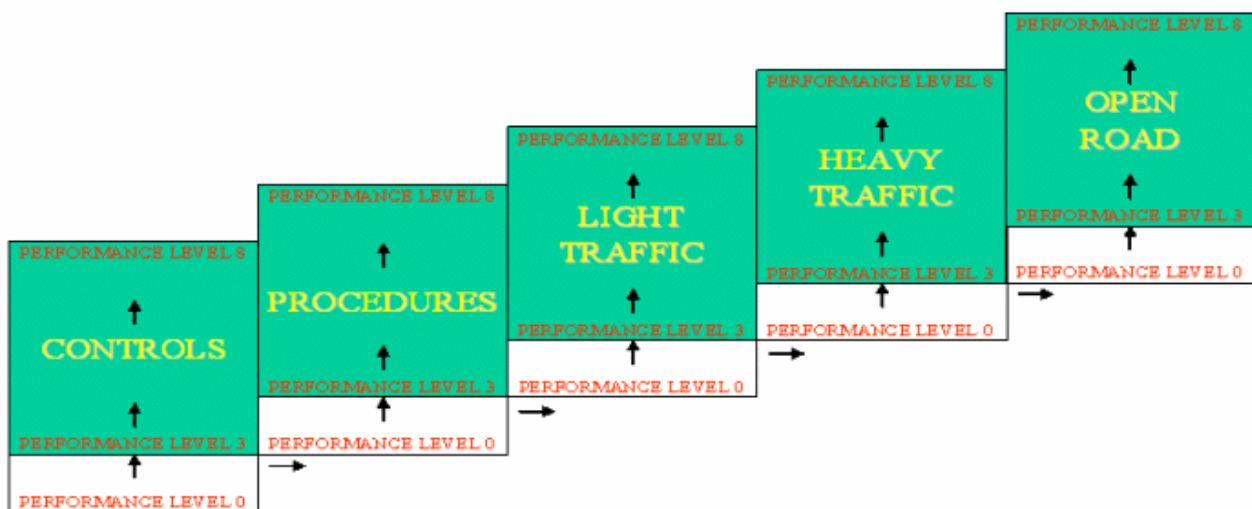
The complete driving task is divided into five sections, each of which contain individual topics, arranged in learning order from simple control use through to complex heavy traffic and open highway and country road conditions. These sections are as follows:

1. The controls - Basic understanding and use of the controls, for instance, accelerator, brakes, etc.

2. Procedures - Set procedures such as leaving kerb, left and right turns, stop and give way signs.
3. Light Traffic - Prepare for normal driving, for instance, traffic lights, laned roads, road signs, etc.
4. Heavy Traffic - Turns at lights, lane changing, overtaking, night driving, etc.
5. Open Road - High speed motorways, country roads, gravel surfaces, etc.

The following diagram demonstrates how these sections form the building blocks of driving:

THE BUILDING BLOCKS OF DRIVING



On a level of competence scale of, say 1 to 8, a level of 3 must be reached in each section before progressing on to the next section. These sections are known as the building blocks of driving.

Individual topics are learned through the structured framework of a lesson plan which include the following headings:-

- Location
- Introduction Time
- Learning Outcomes
- Introduction Sequence
- Skill Development
- Additional Information
- Road Laws and Regulations

After the topic has been introduced, explained and demonstrated the most important heading is skill development where a practice regime over a period of time can develop

the topic into the kinaesthetic memory, thereby automating the actions towards full competence.

An example of how this works would be if we take a simple control like the Indicator:

The *Location* to teach this control for the first time would be a quiet street before any attempt is made to move the vehicle;

The *Introduction Time* would be about two minutes;

The *Learning Outcomes* or objectives would be to use one finger to signal left and right, to cancel the signals and to state why and when signals are given;

The *Introduction Sequence* would be to explain and demonstrate where the Indicators are, how to use them, let the student try working the lever and then ask questions to check full understanding;

The *Skill Development* or practice regime will then occur until the use of the control is properly absorbed into the kinaesthetic memory, where no specific thought is required to use it, the action is automatic at any time that direction is to be changed or the vehicle is to be started or stopped;

Additional Information will include such things as where the Indicator is placed in different makes of cars on different sides of the steering column and all the safety implications for the use of the Indicator;

Finally, what *Road Laws and Regulations* apply to the use of the indicator.

External distractions

When this framework is properly adhered to for all the topics in the course, the issue of distractions becomes much easier to deal with. When distractions outside the vehicle occur the topic called Vision will allow an orderly sequential method of dealing with those distractions that include seeing the distraction, perceiving what effect the distraction will have on progress and then relegating the distraction into the "big picture" where it becomes part of the whole scene, rather than absorbing the total attention of the driver.

Many new drivers and some more experienced drivers have a problem with "Tunnel Vision" where their vision of the road ahead is reduced to just the short distance to the car in front and literally nowhere else. Tunnel vision also occurs when a distraction appears, where the total attention of the driver goes to the distraction, therefore excluding all other important information, greatly increasing the risk of a collision.

The topic called Vision is regarded as the most important topic in the whole course and much time is devoted to the full understanding and application of vision and perception throughout the course. The Topic is introduced during the first "Controls" section, developed further during the "Procedures" section, reviewed in the "Light Traffic" section and fully developed in the "Heavy Traffic" and "Open Road" sections of the course. If the principles of Vision and Perception are learned properly the distractions will not create problems for the safety of the vehicle occupants.

Safety cushion and driver distraction

The second most important topic in the course is the "Safety Cushion" that deals with the driver's ability to create and maintain space around the vehicle at all times and when that space is reduced, to reduce speed until the safe cushion is restored. The most common crash that occurs is the rear end collision where the vehicle behind runs into the back of the vehicle in front. This is a particular problem when the driver is distracted by situations both inside and outside the vehicle that are often unrelated to the driving task.

The proper maintenance of a safe cushion between vehicles, known as the "three second following rule" will give the driver more time to sort out the distraction before it jeopardises the safety of the vehicle occupants.

Beyond Test Routes

A recent development within the driver training industry has been the introduction of a new course known as "Beyond Test Routes". The course was developed by the Roads and Traffic Authority and, with the assistance of the Australian Driver Trainers Association, delivered to the majority of the driver trainers in New South Wales. The course helps professional driver trainers to teach low-risk car control skills, apply road rules in a low risk way and teach learners to respond to hazards. It also shows how these low-risk skills can be incorporated and blended into a normal teaching program without being regarded as separate lessons or topics.

The program also shows a systematic approach to the way in which the learner driver acquires the knowledge and applies it to the driving task. In hazard perception the program uses four headings for the driver to remember:-

1. Pick out the place - look for where the hazard may be
2. Recognise threat - work out whether the hazard will affect you
3. Make early adjustment - check mirrors and adjust speed as necessary
4. Respond until OK - do what is necessary until the hazard has passed

This approach also assists drivers to cope with distractions. When the process above is absorbed into the kinaesthetic memory distractions become absorbed into the big picture and are not allowed take any more attention than is necessary from the driving task.

An important part of the Beyond Test Routes program is that it helps Professional Driver Trainers to understand how to motivate students and home supervisors to do the lessons and the practice hours necessary to become safer low-risk drivers. There is always a problem in motivating many learner drivers to spend the necessary time to learn much more than what is required by the driving test and as a result many are caught in difficult situations, after licensing, which often lead to a crash.

Internal distractions

There are many distractions to safe driving that occur inside the vehicle ranging from simple misunderstanding of the controls such as the windscreen wipers and headlights, to

preoccupation with entertainment systems such CD players, radios and mobile phones, to misbehaving children in the back seat and groups of young people in passenger seats. Navigation systems and DVD players are also new additions to the vehicle that have the potential to totally distract the driver from the normal task.

Many of these distractions can be dealt with in a sensible way much the same as the external distractions. That is the driving task will occupy the driver more strongly than the distraction will. Simple distractions such as not knowing where the wipers are or how they work can be addressed by having a special cockpit drill for the major controls each time the driver gets into a different vehicle. The cockpit drill should also include sophisticated gadgetry such as navigation systems and how these should be used when driving. A systematic approach to cockpit drill for any driver entering a new vehicle is essential and any lack of understanding be addressed before moving from the kerb.

CD players should be mounted out of reach of the driver such as in the boot or under the front seat and preferably contain a stacker that contains a number of CDs which can be loaded before the trip starts. These types of CD players already exist and it should not take too much trouble to entrench it in law.

Mobile phones and text messaging are probably the greatest threat of all. Legislation already exists that bans the use of hand held mobile phones while driving. However, with most of the Australian population owning a mobile phone (around seventeen million of them at the last count) and the extremely high cost of hands free systems, it is virtually impossible to police and will always be a problem. Perhaps it is time to investigate the feasibility of permanently fixed telephones that cannot be removed and that have a very restricted use to only receiving or sending voice calls. The phone could have the same number as the portable mobile and be immobilised when not needed. This concept will require some very careful thought to see what may be the best solution to what will become a massive problem.

Drivers who undertake trips with young children need to plan the trip very carefully. Frequent breaks, toys and electronic games will help to pass the time but the consequences of trying to deal with out of control children in the back seat while driving is too awful to contemplate.

The age of new vehicle technology is upon us now and the emergence of intelligent transport systems will mean that the driver training industry will need to keep up with the changes to be able to respond to challenges they represent.

Recommendations

1. Rather than introducing compulsory driving lessons, that a climate for the development of partnerships between home supervisors and professional driver trainers be further encouraged and developed so that the full training and education new drivers can be kept on track
2. That driver trainers keep up to date with the technology and incorporate the changes into the teaching program as necessary and, if not already doing so, also incorporate the distraction issue into the topics of Vision and Safety Cushion.

3. That CD players be removed from easy reach of the driver and placed in the boot or under the seat and that they be fitted with a stacker to hold at least 6 CDs.
4. That consideration is given to a fixed telephone, with very limited capabilities and simple operations, voice contact only, being fitted into all new cars.
5. That publicity is given to the importance of "cockpit drill" for drivers who get into new or different vehicles to minimise the distraction caused by lack of knowledge of the controls.

References

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2. Certificate IV in Driving Instruction course
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