The Winston Churchill Memorial Trust of Australia

Report by – Mark Collins – 2013 Churchill Fellow

Study: Improving motorcycle rider safety by 

updating training methods and curricula in Australia

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Signed    Mark Collins    Dated    December 8, 2014
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INTRODUCTION

Motorcycle (PTW) use has been increasing steadily for many years in Australia, but particularly during the last decade where registrations have doubled. The growth of PTW has outstripped that of passenger vehicles, and this growth does not include non-registered PTW which add another 30% to the total number.

As Australia’s population has increased mainly in our cities, PTWs are seen as a viable commuting alternative to cars as congestion and parking issues make the trip to work longer and more difficult. PTWs can make good financial sense in terms of an alternative to owning a second car, plus the potential savings on registration, fuel and parking.

The graph below shows the growth in PTW registrations over the last 30 years.

Unfortunately, motorcycle riders are over-represented in road trauma. This is at a huge cost to individuals, families and society in general. Australian motorcycle riders make up 15% of the road toll, but less than 1% of all vehicle kilometres travelled.

PTW rider casualty data for Victoria is similar to other states and is set out below:

- Motorcycles make up 4% of Vehicles Registered in Victoria
- 13% of TAC’s Accepted claims are by Motorcyclists
- 20% of TAC claims costs relate to Motorcyclists
- In 2010 the TAC paid $152 million dollars in compensation to motorcyclists; 20% of total compensation paid in that year (includes no-fault and common law payments).

The main sub-set of PTW riders involved in crashes are those in their first 12 months of riding. Novice riders, those that are in the Learner Permit and Restricted Licence period, ride with three times the risk of crashing that more experienced motorcyclists.
In most Australian states, riders are required to attend a training course and successfully complete a formal skill assessment (plus knowledge in some cases) in order to establish their capacity to ride on public roads. It is possible in some states to take the riding test without having to complete any formal training.

Each state has slightly different training and assessment protocols, including graduated stages of licensing that have been put in place to prepare riders for safe road riding. In all Eastern Australian States, training and licensing systems include:

- Curricula that requires learning and demonstrating basic motorcycle control skills
- Curricula that includes reactive evasive skills such as braking and swerving
- Restrictions in early licence phases such as; bike engine capacity and power restrictions, no alcohol, no passenger, plus others according to the state rules.

Depending on the state requirement, and training provider’s curricula, the course may also include:

- Hazard Perception (HP) and RoadCraft training
- On-road training and assessment
- Higher order cognitive skills, and risk perception (these are very uncommon components)

Due to the relatively high over-representation of novice riders in crashes, we must question the effectiveness and quality of the Australian training and assessment system, as these novices were assessed as suitable candidates to hold a licence and deemed safe to ride on public roads.
What are the issues and contributing factors?

- State licensing systems and training methods have changed little in 20 years, and are not adequately preparing new riders for safe road riding.
- The contributing factors in crashes are poorly understood, and where basic information is available, it is not necessarily included in training curricula for novices.
- Current programs do not focus on; improving cognitive skills, addressing risk perception and rider behaviour which are all important elements or low risk riding.
- Instructor training and accreditation in Australia is inconsistent, standards are low, and few instructors are adequately skilled to deliver the skills and behavioural messages required to provide novice riders with sufficient defensive strategies.

To improve this situation, we must address this novice rider group’s over-representation in road trauma, determine the main contributing factors to their crash involvement, and attend to any shortfalls in the training and licensing process.

**Study Approach**

- Review new training methods and techniques in other countries to determine if ‘best practice’ can be incorporated into Australian schemes.
- Investigate what current road safety research findings indicate about the contributing factors in novice rider crashes, and review how these have been incorporated into training courses overseas.
- Determine how higher order skills of HP, ‘RoadCraft’, risk perception and rider behaviour values have been included into overseas training courses, and ascertain how they could be incorporated into Australian curricula to improve rider safety outcomes.
- Riding instructors are the first point of contact for many new riders. Instructors have the potential to instil good riding skills and habits, influence attitudes to riding and encourage new riders to incorporate sound defensive strategies into their riding. In order for instructors to pass on these skills and messages, they need to be highly skilled themselves, and more in tune with the thinking and learning styles of the candidates.
- I’m in a unique position to be able to absorb, assess and collate new material, and to disseminate ideas and information through my position and professional associations.

**ACKNOWLEDGEMENTS**

I would like to acknowledge the Winston Churchill Memorial Trust for enabling me to carry out this study, without this support it would not have been possible.

The road safety experts and rider trainers I met during this study tour were extremely positive about this work, and I’d like to thank them for sharing their expertise and making the time for interviews and questionnaires.

Thank you to Christine Mulvihill from Monash University for reading and commenting on the report.
EXECUTIVE SUMMARY

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Improving motorcycle rider safety by updating training methods and curricula in Australia

Motorcycle riding and particularly commuting are increasing in popularity in Australia, however this growth has seen an increase in rider casualties, particularly for novice riders who are three times more likely to be involved in a crash compared to more experienced riders.

In most states, new riders attend a training and assessment course prior to becoming licensed, and logically this would seem the best opportunity for them to attain good riding skills and defensive riding strategies required to ride safely. However, Australian training and licensing systems don’t appear to be addressing the needs of novice riders if crash involvement is used to measure success. Current training programs concentrate mainly on physical riding skills, and are sadly out date in terms of curriculum development and tackling the higher order cognitive skills and thinking styles required to ride safely in today’s traffic conditions.

This study will review a number of international training methods and licensing programs with a view to suggesting and incorporating ‘best practice’ into the Australian scene.

Ray Ochs from The Motorcycle Safety Foundation (USA) has been developing rider training programs and instructor courses for over two decades. He outlined the course review process, identified ‘must have’ course components, summarised learner-centred techniques and discussed instructor skills and training. These features require serious consideration for the Australian situation if we are to improve novice rider outcomes.

Arjan Everink from The Royal Dutch Motorcyclists Association (KNMV) has developed and been running an on-road training program for licensed riders that aims to make them more aware of the risks involved in riding, and to take more responsibility for their own safety. This is one of the first training programs in the world to show positive safety outcomes for the participants. Australian program designers should review this work when developing risk programs for new riders.

Dr Martin Winkelbauer from The Austrian Road Safety Board (KfV) has co-developed a multi stage training program for new riders with behavioural factors and acknowledgement of risk being given precedence over riding skills as the most effective way of avoiding incidents. Australian licensing programs concentrate mainly on reactionary riding skills instead of proactive behavioural strategies as a way of reducing crashes. This focus on behaviour strategies should be considered by Australian licence program developers.

The ability of riding instructors to relate to students, critique riding skills accurately, and to frame the learning process for the individual was extremely well demonstrated during the Diploma of Advanced Riding Instruction delivered by Paul Mostyn of The Royal Society for the Prevention of Accidents in the UK. There is much Australia can learn from international instructor training and accreditation programs, and as above, there needs to be national agreement and a dedicated training authority to direct and oversee this process.

Australian states need a licensing program that is coordinated nationally, where the development process involves road safety experts, licensing agencies and training providers working cooperatively to incorporate ‘best practice’ methods and systems from other jurisdictions.

The recommendations made in this report can have positive outcomes for rider training and licensing schemes, with the ultimate aim of improving novice rider safety. I will communicate these findings to the relevant licensing authorities, state road safety groups, rider and driver training organisations and research organisations and universities in an attempt to reduce novice rider crashes in Australia.
PROGRAM

This Churchill Fellowship enabled me to meet with both road safety experts and riding instructors working toward improving rider safety in a number of countries. Typically the experts belonged to a state road safety agency or research institute, and were involved in road safety research, curriculum development, instructor training/accreditation and/or matters relating to the practical concerns of the licensing system within their jurisdiction. Most of the instructors that I met had at least ten years experience delivering courses, developing curricula and training instructors within their organisation.

My aim was to learn as much as possible about the training and licensing practice in each country, understand the strengths and weaknesses of these systems, and where possible review these findings in terms of transferable road safety benefits for novice riders in Australia.

The main comparison in this report is between overseas systems and those here in Australia, in an attempt to see if best practice activities could be incorporated into local schemes.

All of these fellow road safety people were generous with their time, willing to share their work and findings, and were happy to be interviewed and involved in this project.

Countries and organisations visited:

<table>
<thead>
<tr>
<th>Country</th>
<th>Organisation</th>
<th>Activities</th>
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<tbody>
<tr>
<td>Japan</td>
<td>Honda Driver Safety Promotion – Mr. Yoshitaka Kajikawa; Ms. Yuriko Yabe</td>
<td>Review the use of riding simulators in Japanese training schools to improve Hazard Perception in new riders</td>
</tr>
<tr>
<td></td>
<td>Suzuki Safety Driving Promotion Centre – Mr Hirai</td>
<td>Review the rider training techniques of Japanese Driver Education Centres</td>
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<td></td>
<td>Rainbow Safety Driving Promotion Centre – Mr. Miyashita</td>
<td>Review the instructor training and qualification methods in Driver Education Centres</td>
</tr>
<tr>
<td>USA</td>
<td>The Motorcycle Safety Foundation (MSF) – Mr Ray Ochs; Mr Tim Buche</td>
<td>The MSF has been developing curriculum updates for rider training courses, and new approaches to improving cognitive skills in riders.</td>
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<tr>
<td></td>
<td></td>
<td>Meet with program coordinators, learn more about the techniques used in this type of training, and observe the delivery of these courses.</td>
</tr>
<tr>
<td>Netherlands</td>
<td>The Royal Netherland Motorcycle Association (KNMV) – Mr. Arjan Everink; Mr. Theo Noe</td>
<td>The KNMV has developed an on-road safety course (VRO Risk) which aims to make riders more aware of the risks involved in riding, and to take more responsibility for their own safety.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Meet with developers and participate in course to learn of methods and outcomes.</td>
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<tr>
<td>Austria</td>
<td>The Austrian Road Safety Board (KfV) – Dr Martin Winkelbauer</td>
<td>The Naturalistic Riding Study’ (cameras and telemetry data recorders on motorcycles) is being carried out in Europe to measure:</td>
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<tr>
<td></td>
<td></td>
<td>1. Where riders look while riding, how they perceive hazards, and why they miss them</td>
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<td></td>
<td></td>
<td>2. How they react once a Hazard is observed</td>
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</tbody>
</table>
3. How many near misses do riders have, and what led to this event
   - The outcomes of this study are extremely important, as they should give us the vital missing crash avoidance information..., ie what lead to the crash, and how could have the rider better perceived the hazard and avoided it.
   - Discuss the preliminary results of the study, and determine how the outcomes can be incorporated into training curricula.

UK
Royal Society for Prevention of Accidents (RoSPA) – Mr. Paul Mostyn
   - Participate in RoSPA’s National Diploma in Advanced Riding Instruction
     1. Development of effective classroom management skills
     2. Development of instructional commentary on all types of road and environments
     3. Examination in theory, classroom, and instructional ability

METHODOLOGY:

Information on training and licensing systems was obtained in a number of ways; either through participating or observing training, interviews with key personnel and through a questionnaire sent to Australian and international contacts.

1. Being already familiar with the training and licensing programs in five Australian states, outcomes reported here are from my 17 years of experience in the field, and through the questionnaires sent to both experts and trainers, seven in total.
2. In order to understand the overseas programs and courses, information was gathered by participating myself, from observations and through discussions with the actual trainers or their managers.
3. Semi-structured interviews with pre-prepared questions were carried out in all overseas countries; USA (3), Japan (3), Austria (3), Netherlands (2), UK (1).
4. Informal discussions were held with conference delegates to obtain their views on training and licensing systems.
5. A questionnaire on the effectiveness of training and licensing systems was sent to safety experts and instructors; seven in Australia and seven from overseas. Participants were not asked to judge or rate other organisations or training providers, but simply to rate their own licensing system and training protocols.

Interviews

Road Safety experts and experienced trainers were interviewed in each of the countries visited. Guided Discussions were carried out to obtain viewpoints on:

- The effectiveness of the training curriculum used to develop safe novice riders
- The effectiveness of the licensing scheme in their jurisdiction
- The training and accreditation of instructors, and their perceived ability to critique riding skills and influence safety behaviours
- Factors they believed to be most instrumental in preparing novice riders for the road
- Areas within their system they would change or where improvements could be made
Questionnaire

A questionnaire was sent to a total of 14 road safety experts and training providers in Australia and four overseas countries; the Netherlands, USA, Austria and Japan. The theme of the questionnaire was; “How well are we preparing new riders for the road?”

Questions covered the main interview topics listed above, with the focus being on how important these factors were on achieving novice rider safety, and in particular, how well these factors were being delivered in their jurisdiction. Some basic crash involvement questions were also asked for each country.

LIMITATIONS

Due to the small number of respondents and countries visited, this study is limited in the number of different systems reviewed and compared. Small sample size allows for only qualitative results and general discussion in this instance.

It is acknowledged that interviews and questionnaires in any study are subject to self-reporting bias. However, being able to participate and observe these international programs added increased objectivity to the results reported in this study.

Due to this factor, the questionnaires are reported separately, and the interview outcomes are incorporated into the individual program reports including the recommendations made.
RESULTS

Questionnaire

In order to establish what both road safety experts and training practitioners believed to be the most beneficial factors for developing safer novice riders, they were asked to rate the influence of seven current training practices from most to least important. They also had the opportunity to include additional factors if they were not listed in the selection table:

From your experience, how would you rate the influence of each of the following factors from most to least important in the development of safer novice riders?

- Training Curriculum
- Instructor input/influence
- Riding skill exercises and assessment
- Hazard perception training and assessment
- Road Craft principles
- Simulators
- On-road Training and assessment
- Other

All 14 responses from both Australia and overseas are combined here graphically.

Riding exercises and assessment, instructor input, Hazard Perception training, and the training curricula were rated as having the highest importance from the 14 participants.

Although not shown graphically here, the ratings were very similar for most factors when comparing experts and instructor scores, with two exceptions. Road safety experts gave the highest score (23%) to ‘instructor input and influence’ as the factor most likely to influence novice rider safety. This was the case from both international and Australian road safety experts.

The instructor group gave ‘riding exercises and assessment’ the highest score (23%) and again there was general agreement from both overseas and Australian instructor raters.
However, differences were observed between international and Australian raters when comparing the relative importance of the factors as shown in the graph below.

International raters scored Riding Exercises & Assessment, and Hazard Perception Training & Assessment as more important factors than Australian raters. RoadCraft Principles and on-road training were scored much higher by Australian raters. The influence of the other factors were scored similarly by overseas and Australian raters.

Respondents were then asked to indicate how closely the training and licensing system they operated in reflected the relative importance of the factors they reported above. They were asked to rate the extent to which they agreed or disagreed on a five point scale, as to whether the training and licensing system they operated in placed similar importance on each of the factors. For ease of analysis the five point scale was combined into three categories.

The outcomes of this comparison to their ideal system are reported in the graph below.
From the graph above, Australian road safety experts and trainers (57%) were far more likely to disagree that their state training and licensing system reflected what they believed to be best practice. The seven international raters were more evenly split on whether their state system reflected best practice, and this may be due both to the differences between systems and the low number of respondents.

As both international and Australian respondents indicated some doubt that their training and licensing system reflected best practice, they were asked to list what factors would need to be included or increased in their system in order to improve road safety outcomes.

The following table shows the factors that international and Australian participants have listed as potential improvements to the training and licensing system in their jurisdiction.

<table>
<thead>
<tr>
<th>International Participants</th>
<th>Australian Participants</th>
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<tbody>
<tr>
<td>HP, Skill exercises, Simulators</td>
<td>HP, RoadCraft, on-road training, instructor input</td>
</tr>
<tr>
<td>HP, Instructor influence</td>
<td>HP, further elongated learning</td>
</tr>
<tr>
<td>Skill exercises</td>
<td>HP, RoadCraft</td>
</tr>
<tr>
<td>On-road training</td>
<td>On road training, HP</td>
</tr>
<tr>
<td>Self assessment, risk perception, calibration</td>
<td>RoadCraft skills, personal responsibility</td>
</tr>
<tr>
<td>Self assessment, perception, behaviour and choices, values</td>
<td>Training Provider standards, risk taking behaviours, risk perception</td>
</tr>
<tr>
<td>HP, group riding</td>
<td>On-road training &amp; assessment, HP, RoadCraft, skill exercises &amp; assessment</td>
</tr>
</tbody>
</table>

All international and Australian participants believed that by including or improving these listed factors, they could improve novice rider safety outcomes. All seven Australian participants wanted more emphasis placed on HP, and five included RoadCraft (or on-road training) as a required measure to improve novice rider safety. Five of the international participants also recommended more HP or risk perception training included in their training curricula.

Three participants from the overall group suggested improved riding exercises, but there is a definite trend in most locations for systems to improve in the delivery of cognitive skills training, and to a lesser extent behavioural topics within course curricula.

Recipients were then asked to rate the extent to which they agree, neither agree or disagree, or disagree with statements concerning a number of areas and factors related to novice rider training and licensing:

- The capacity of the **Training Curricula** they operate with to develop safe novice riders
- The potential of the **Licensing System** they operate in to develop safe novice riders
- And the potential of **Instructors** delivering the training to develop safe novice riders.
The following graph shows how the raters scored the training curricula in their jurisdiction.

International raters (86%) were more likely than their Australian counterparts (57%) to agree that their training curricula they used had the ability to develop safe novice riders.

Experts (83%) from all countries were more likely to agree that the training curricula had the ability to develop safe novice riders when compared to instructors (63%).

The following graph shows how the raters scored the licensing system in their jurisdiction.

International respondents were more likely than Australians to agree (57% to 43%) that their licence system develops adequate riding skills and behavioural strategies enabling new riders to ride with low risk. In fact 57% of Australian respondents disagreed that local licensing systems were adequately developing skills and behaviours for safe novice riding compared with their overseas counterparts (29%).
The majority of international (71%) and Australian (57%) respondents agreed that instructors were sufficiently proficient to develop the skills to enable novice rider to ride with low risk.

**Crash Data**

Road safety experts from each country were asked to report on crash involvement of novice riders. Unfortunately, both in Australian and overseas jurisdictions, it’s very hard to get an accurate picture of novice rider crash involvement. Where a country had basic crash data, it was not easily compared to data from other countries due to the way the information was collected and reported. It will not be possible in this report to compare the effectiveness of different countries’ systems based on crash data. Differences in factors such as the rates of exposure, stages and durations of licensing and age of licensing all combined to make inter-country comparisons very difficult.

**Naturalistic Riding Study**

At the time of developing this study brief, it was anticipated that results from Naturalistic Riding Studies in Europe and the USA would be available. At present insufficient analysis has been done to determine the main contributing factors to rider crashes. This is unfortunate, as these types of results will influence training schemes, and improve the focus for novice riding programs in the future.

**Discussion on Training and Licensing Questionnaire**

International and Australian motorcycle safety respondents were questioned about the structure of their licensing system, the training curricula, instructor competence, and the ability of their system to generate safe novice riders.
What became evident through the questionnaire (and the interviews), was that the international experts and instructors were more likely to agree that their jurisdictions’ curricula and licensing system were capable of producing safer novice riders than the Australian raters. International systems particularly those in the USA, Japan and Europe are comparatively well developed, and this has come about through cooperative input from researchers, road safety experts, training and education specialists, government licensing agencies and training providers. Unfortunately Australian licensing systems are developed independently within each state, and don’t have the required input from relevant stakeholders that would make them world class. National uniformity, expert input and an over-arching agency (similar to the MSF) would assist this cause greatly.

There was reasonably high agreement from both Australia and overseas respondents in the ability of instructors to develop safer riders. Internationally there has been much focus on training styles, adult learning principles and the importance of advanced facilitation skills in training programs. Senior instructors and program developers are increasing their efforts to improve instructor skills, particularly in the areas of participant involvement and learner-centred approaches. Australia can learn a lot from international instructor training and accreditation programs, and as above, there needs to be national agreement and a dedicated training authority to direct and oversee this process.

During the international interview process it became evident that there was a high amount of agreement and confidence that the local system was doing a reasonable job of producing safe novice riders, particularly from road safety experts and program developers. Overseas instructors who deliver the programs were slightly less positive about various aspects of their system, but they were much more likely than Australian instructors to agree that the curricula and licensing system was working well.

It is difficult to compare the opinions of experts versus instructors; as experts review the benefits of a system at a high level through reports and data, whereas instructors actually operate within the system and see the final product, the riders who become licensed every day. These groups had different focus and areas of special interest, so it’s not surprising that attitudes varied slightly.

One of the most useful pieces of information was gleaned when the respondents were asked whether their jurisdictions’ system reflected what they believed to be best practice. Only one quarter of international respondents disagreed that their system reflected best practice, while more than twice that proportion (57%) of Australian respondents disagreed.

When asked to suggest factors that would improve their training and licensing scheme, Australian respondents typically listed two or three required improvements/additional factors that would improve outcomes. They consistently suggested improved HP and RoadCraft as factors required to achieve best practice.

This local enthusiasm indicates there is much more scope for the Australian system to improve. Government licensing agencies should incorporate these people and ideas into the panels which are responsible for redevelopment of Australia’s training and licensing systems.

One factor that may have influenced the outcomes of the questionnaire, is that Australian raters appeared more willing to speak their mind, and this factor may have resulted in more poor scores for the training and licensing systems operating in this country.

More specific recommendations are made at the end of each of the following international models, and also in the final conclusions and recommendations section.
Japanese Driving Promotion Centres

Suzuka, and Rainbow Safety Driving Promotion Centres

It was possible to visit two rider training centres whilst in Japan; the Suzuka Centre (Honda) just outside Tokyo, and Rainbow Centre (Independent) in Wako.

Suzuka Centre – Meeting with Director; Mr Hirai 34 Years experience in Driver/Rider safety

Rainbow Centre – Meeting with Mr. Miyashita who was in charge of the Rainbow Driving Centre in Wako. He had 38 Years experience in Driver Safety activities.

Licensing Facts

Population Japan - 126,500,000
Drivers Licences - 81,215,000 (64.2% of people hold a licence)
Vehicle Registrations - 75,515,000
Road Fatalities 2012 - 4,417
Fatalities per 100,000 - 3.78
In 1990 – 2,610,000 people were eligible to attempt licence
In 2011 – 1,540,000 people were eligible to attempt licence
In 2009: Japan 4.5 fatalities per 100,000 drivers; Australia had 6.8 fatalities per 100,000

These Driver Training Centres deliver both Rider and Driver Courses, and many other programs including: Programs for Police, Elderly drivers, Poor driver Lectures (Drinking or speeding) Refresher Courses for Drivers and Riders (Returning after break).

The Police, government licensing agencies and Driving Schools cooperate and share traffic violation and crash data. This enables the driving schools to be rated using the comparative post-course safety of their students. These driving schools are very proud of their safety results, as this is a competitive commercial environment where results do matter.

National Motorcycle Training Curriculum

The License Division of the National Police Agencies Traffic Bureau has set out the guidelines for completing a motorcycle licence training course. There are two main stages of the licence course:

Stage 1. Basic operations and basic riding skills; this comprehensive section covers 16 practical exercises of basic riding and manoeuvring skills. The riding exercises in Stage 1 are very similar to those in other countries, although they cover additional riding situations not found in Australian, European or US courses. A participant must pass a riding assessment before moving to Stage 2 which involves road riding.

Stage 2. Practical riding skills which are more relevant for riding on the road in traffic conditions. There are 19 lessons which include RoadCraft strategies and HP which is called ‘Risk-predicting riding’ in Japan. The training allows the participant to demonstrate safe motorcycle operation whilst dealing with various risks and dangers that are associated with motorcycle riding. This is carried out on the simulator, discussion sessions viewing simulator footage, and on-road training. It is more comprehensive than programs in Australia and some other countries.
HP Training

The emphasis in this second stage was to demonstrate ‘proactive riding’ as opposed to ‘reactive riding’, and the use of the riding simulator played a major role in training the novices to anticipate danger, and respond early.

Use of Simulators

Prior to the simulator session, the instructor acknowledged that it does not behave like a real motorcycle (no centrifugal or inertia forces), but students are informed that they are using it to become more hazard aware.

The course curriculum states the main functions of the simulators training are:

- The opportunity to get used to the controls of a motorcycle so they became subconscious actions thereby allowing more concentration on the risks presented in each scenario.
- Expose riders to the common hazards that they would encounter on the road
- Demonstrate compliance with the traffic laws and regulations
- Risk-predicting riding, or being Hazard Aware

The main advantages of using the riding simulator at riding schools are as follows:

- A lot of scenes and situations can be set and presented in a short time.
- Learning first-hand about dangerous situations in a safe way is possible.
- A simulated riding experience in as relaxed conditions is possible.
- Instructors can provide detailed guidance immediately on the spot.
- Each of the students can see their own riding behaviour in an objective way through the replay mode. This can be shown from a different angles including from the eyes of the driver who may have pulled out in front of the rider.
- More active discussions on “risk prediction” are possible.

There are 3 Phases to KTY (Hazard Perception Training)

1. Animation Picture of an intersection scene
   - In a group discussion situation, participants were required to determine where danger might be coming from or what might happen next in particular simulator scenes that had been previously recorded.
   - Instructor leads the group discussion as to what are the possible hazards and corresponding actions.

2. Rider Trainer Scenario reviewed and discussed
   - The situation showed a car coming out of LHS side street with limited view (bike hidden behind parked cars)
   - First slide shows that rider has one second to react, next slide shows that there is one second to stop
   - Various examples of student observation and reaction were shown for riders approaching this scene on the simulator. This was a very positive sessions encouraging riders to respond early when they thought a hazard was approaching.
     ➔ This example showed how vigilant a rider needs to be in order to avoid trouble.

3. Riders are shown a scene (Left Hand corner with rocks on road). They are asked what would be their course of action.
   ➔ If they say they will brake as a response, they will go out to practice braking on the training range
   ➔ If they say swerve around rocks then they will practice swerving on the training range.
I believe this was done to show that these novice riders might not be able to safely negotiate the hazard by relying solely on their riding skill. Instead they should rely on their ability to recognise the hazard early and respond before evasive riding is required.

Government Licensing Authorities and Driving Schools use the Rider Trainer Scenarios to determine if rider is able to detect hazards and react. The rider trainer is used during the licensing process.

**Outcomes and Recommendations for the Australian Scene**

- The lesson plans for Stage 1 and 2 were very well planned and covered off many skills and riding competencies not completed in Australian curricula. If novice rider skills are to be improved, we must review current content and ask whether this is adequate or whether additional skills and competencies should be included.

- Novice riders in Japan recognise that gaining a licence will require many lessons, it will require some effort and time on their part, and that the associated cost would be reasonably high. This was similar to the expectation of new riders in Europe and as a result, young drivers and riders treat the gaining of a licence as a serious and beneficial process. In Australia, most novice courses are very short and cover off the minimum of riding skills to get the student through the test. Correspondingly, novice riders in some states will select the fastest and cheapest training/testing option with little regard for the type of rider they will become as a result. Regulators and state licensing authorities must ensure rider training standards are enhanced through improving the licensing process for novices.

- All training providers in Japan have both driving and riding simulators, and these are utilised during the training and testing phases. This is an expensive capital outlay to have sufficient simulator resources to enable all students access. Such a system in Australia maybe too cost prohibitive to allow widespread use in rider training centres, although, it may be possible to use a single simulator per organisation to display common errors, and have the whole class review recorded footage thereby creating a valuable discussion on how to anticipate hazards and employ better RoadCraft strategies as a result. This is how one organisation in Australia already uses riding simulators to great effect.

- It may also be possible to incorporate replayed scenarios from the simulator into HP assessment during the licence test. Students could be asked; “what could happen next in this scenario, and what will you do to lessen the risk?

- Communication and cooperation between Japanese training providers and the national licensing agency enabled advantageous information and ideas exchange. This close association helps explain the comprehensive curricula, the high level of course delivery and compliance. Generally, there is far less communication between agencies and providers in Australia. If agencies, research organisations and training providers were able to cooperate and generate focused curricula based on sound scientific evidence, it would follow that novice rider programs could improve to the level observed in Japan, and outcomes could improve for learner riders.
Motorcycle Safety Foundation (MSF) - USA

The Motorcycle Safety Foundation (MSF) was established in 1973 as a not for profit organisation, and is sponsored by various US manufacturers and distributors. The MSF is a leader in motorcycle safety through its safety promotions and programs, but just as importantly, for its development of world leading rider education and training curricula.

In the late 1990’s the MSF reviewed its entire rider education and training system and carried out a significant update of curricula and instructor certification programs; the ‘MSF Rider Education and Training System’ (MSF RETS). The learn to ride ‘Basic Rider Course’ and more advanced ‘Experienced Rider Course’ were released in the early 2000’s, have been extremely successful and have been taken up by many state authorities and licensing jurisdictions in the USA.

Program Review

The review process and development of this update was comprehensive, and what follows in a brief summary of the some of the main areas that influenced the design of the new system:

- **Human learning and development theories** that included; brain-based learning, accelerated learning principles and learner-centred instructional techniques
- **Motor skill development principles** that incorporated; application of whole-to-part training, speed versus accuracy, kinaesthetic and augmented feedback characteristics, and the effects of verbalisation and visualisation
- **Traffic safety and motorcycle safety research** which reviewed crash studies, crash data and statistics; this information was incorporated to ensure the course content was relevant
- **Overseas motorcycle training programs**
- **Behavioural human factors** such as personality factors, risk-taking propensity of motorcycle riders, visual perception, and cognitive functions were factors that influenced the development of the program.

Rider Coaches

MSF also devoted much effort to developing the Rider Coaches and program delivery; this is well expressed in their rationale behind the review.

“The MSF RETS is rooted in a contemporary approach to deliver training and education courses in a manner that focuses on the quality of the interaction between Rider Coaches and course participants.”

To ensure Coaches have a formal knowledge base with which to call upon during classes, the MSF indentified five subject matter strands that were integrated into the coach training plan:

1. MSF RETS Knowledge; certifications and experiences in MSF RETS courses and modules.
2. Motorcycle knowledge; safety related aftermarket information, new features and technology, contemporary issues, and advance motorcycle skills training.
3. Teaching/Learning Interactions Knowledge; instruction and facilitation courses.
4. Motor Skills Development Knowledge; coaches to complete a course (not necessarily motorcycle) where motor skills are learned and developed.
5. Safety/Risk Management Knowledge; formal professional training in risk management.

Potential coaches could obtain experience and knowledge of this subject matter by participating in a large number of MSF approved courses and activities, however at the completion, the applicant is also
required to explain how this activity assisted them in becoming a better coach, and it what ways it might improve or change their coaching style... a fantastic learner centred approach!

In addition to a thorough formal application process to become a coach, MSF requires that current coaches are re-certified on a bi-annual basis. This requires a minimum number of hours of course delivery, attendance at professional workshops, and successfully completing 60 hrs of learning experiences.

MSF also ensures Rider Coaches are kept up to date by providing an on-line resource guide that:

- Introduces changes to the MSF RETS
- Outlines testing and evaluation innovations
- Allows Rider Coaches to exchange creative activity ideas and best practice outcomes

**Evaluation**

Over the last decade, MSF have been reviewing and evaluating the MSF RETS in order to determine whether the program’s stated goals are being achieved, but also to look for opportunities to improve the program where possible.

Following a recent program review, the Basic Rider Course was updated to address the evaluation outcomes, and to incorporate new insights into learning and motorcycle safety. From 2014 the BRC will incorporate the following improvements:

- More course time spent on behavioral aspects
- More participant self-assessment exercises
- More emphasis on situational awareness
- More about driving vs. riding
- Rider risk homeostasis; encourage riders to acknowledge the level of risk they are likely to take
- Risk, choices, decisions, values

Through a variety of exercises and discussions the program will provide more depth on:

- Risk management
- Judgment
- Perception
- Intersections
- Curves
- Safety margins

As well as increasing the amount of behavioural content in the new course, a revision of the riding exercises has also been implemented as follows:

- Initial exercises nearly identical as previous curriculum
- Fewer exercises with more time per exercise
- Take advantage of split and repeated-split methods
- More basic control practice
- More curve practice
Ray Ochs, a course developer from the MSF outlined that new skills are practiced in one particular format; then students are given a rest; then repeat the exercise (muscle memory); then asked to use the same skill in a slightly different context (different direction, speed or in a slightly more complex situation). Exercises are arranged so that riders are forced to practice the skill in different situations in order to build on the simple skill.

**Highlights of the MSF Basic Rider Course**

I chose to highlight the MSF efforts that went into reviewing and re-developing their basic rider courses, as opposed to simply reviewing course curricula and methods. Without this ongoing review and improvement process, the courses could not have advanced to the level they are at today. MSF courses are continually evolving as new methods and information become available, and I believe this review process is a vital step that is missing in the Australian road safety landscape.

**Course Curriculum**

1. Both the original and updated course curricula were developed after thorough review and feedback from previous MSF programs as well as best practice methods from other jurisdictions
2. The types of riding exercises and behavioural content were only included after MSF carried out exhaustive, multi-disciplined research, and then field tested these programs

**Delivery Method**

1. Contemporary training and education theories were the core principles behind the development of the course deliver style
2. Adult learning principles, the ability to cater for a variety of learning styles, and the combining of different training methods/aids were all considerations when developing the overall approach

**Coaches Characteristics**

1. Initial coach recruitment and screening is thorough and well planned
2. A nationally consistent standard, a world class training and certification process and accreditation program ensures high quality coaches from the outset
3. On-going mentoring, professional development, re-certification and on-line tools and assistance ensure consistent performance over the longer period

**Outcomes and Recommendations for the Australian Scene**

As the training and licensing systems found throughout Australia vary in the length, content, stages, and assessment criteria, it is quite difficult to compare or review them as one consistent scheme.

Generally speaking though the state licensing authority influences the content, delivery and assessment in a number of ways:

1. They write the curriculum and expect training providers to deliver it as set out
2. They list the subject areas and topics to be covered off, and the training provider is permitted to develop and deliver this material in an agreed format
3. The licensing agency develops the content and delivers it themselves
Australia lacks an organisation like MSF or a national body that has the expertise and resources to develop safer riding materials to the high standards of the MSF. Each Australian state develops their licensing guidelines, training packages, curriculum content and assessment criteria in isolation and unfortunately, due to the lack of a national review process, and the expertise of an organisation like the MSF, current standards and content are sadly out of date.

**How can we improve this situation?**

1. Encourage consistency between the state licensing authorities so that training and licensing systems become nationally uniform.
2. Set up a national organisation like the MSF which can coordinate the cooperation and input of safety experts, authorities in education theory, scientists in the road safety research area, training providers and state licensing personnel. Improved outcomes require this process.
3. If steps one and two are undertaken, then a nationally consistent instructor training and certification process needs to be put in place. Auditing of course delivery would benefit from having an external body (like the MSF) to ensure instructors are trained, accredited and reaccredited in order to improve and maintain the level of tuition within riding schools across the country.
4. Australian drivers and riders place little value on licence acquisition, and don’t appreciate the responsibility of having a licence like people from other countries, most notably Western Europeans. Licence acquisition in Australia is considered a right, not a privilege, and many young prospective riders will pick a training course based on price and shortest duration. A review of state licensing programs, training criteria, and study of overseas models could assist Australian authorities to improve licensing and safety outcomes.
The Royal Dutch Motorcyclists Association (KNMV) has developed and been running an on-road training program for licensed riders that aims to make them more aware of the risks involved in riding, and to take more responsibility for their own safety.

- One day program held on a mixture of public roads (Hwy, arterial and local)
- Classroom and road side discussions lead and facilitated by the instructor
- There are three participants to each instructor
- The introduction is completed in a classroom/meeting room and this centre is returned to after a morning ride and a second ride completed in the afternoon.

Objectives

The program aims to improve the perception and recognition of traffic hazards and for riders to adapt their riding behaviour to deal with these risks.

The program is also careful to prevent participants becoming over-confident after the training, but to be more aware of the risks in traffic.

This is achieved through:

- ‘Risk’ discussions based on photographs of road situations,
- Observed motorcycle ride with feedback from the instructor (who follows on a motorcycle), trained to identify and analyse risk,
- Road-side discussion at each stop to review previous leg and outline risks observed
- Review of each rider’s video footage,
- Commentary ride by the instructor, with focus on reducing the risks

Morning Discussion

Riders introduced themselves and told the other participants about their experience and any crashes they may have been involved in

Riders were shown a typical road situation for a motorcyclists and asked “What are the risks”? General discussion made riders understand that they may not have been aware of all the risks the other riders had identified.

**Riders were then followed by an instructor** who filmed their riding behaviour through a set course. At the end of each leg the instructor discussed the ride and asked what they thought to be the main risks. During my ride, I identified restricted vision on corners, poor signalling to other drivers (by me) and poor road conditions not allowing me to use the whole road surface. These were discussed with other riders to see if they were having the same issues or other issues on that leg of the ride.

Back at the centre the **instructor showed each participant various segments of their ride captured on the video**, this was done to increase their awareness of their riding style that may be increasing risks and to observe their response to certain situations (road position, following distance and poor cornering position)
This ‘reflection’ was very useful as riders were forced to acknowledge short comings in their awareness and reactions to risks

**Lunch**

**Discussion** This discussion was about how the biggest risk can occur in the most simple traffic situation. Most motorcyclists do not acknowledge the risk in many common situations because they think that it’s unlikely that anything will happen. That’s why they are not prepared when something unexpected does happen.

**Second ride** (same route) had riders out front again but instructor commentating what he was seeing and what he would do in certain situations. Discussions at each stop were around the risks observed and the reaction of the riders.

**Discussion** back at Centre: The discussion this time was about the rider’s reactions to the risks that were detected during the ride. The steps recommended are; early detection, analysing if this is a risk, and do I have to react to this risk, if so, how do I react?

**Videos** of riders doing stupid things and almost crashing; riders asked if they could get away with such behaviours.

**Conclusion** “Be the director of your own safety and trust no one!”

The program was evaluated by SWOV Institute for Road Safety to determine:

- If it is possible to train higher order skills with the ‘Risk Training’
- If the training had an effect on motorcyclists safe riding behaviour and on their hazard perception in the short (a few months after the training) and long term (one year to 18 months after the training)

Riders who completed the course had higher ‘Safe Driving’ Scores (as reviewed by blinded instructors) than control riders (no training) both at the completion of the program and again after 12-18 months later.

Improved riding behaviour in terms of increasing visibility, reacting in a timely manner and reaction to potential hazards was also observed in the trained group compared to those riders not trained.

Importantly there was no difference in over confidence between the two groups, indicating that the program did not make the participants feel their riding skills had improved.

Trained riders also performed better on a Hazard Perception test in both short and long term evaluations, however the long term difference was not significantly better than controls.
Outcomes and Recommendations for Australian Scene

There are a number of on-road training programs operating in Australia, both at the licence course and post licence levels. A number of states include on-road training and assessment at the licence level, however this is very prescriptive, focused on displaying basic road rule compliance and demonstrating simple roadcraft tactics associated with ‘passing the test’. The KNMV Risk Program is more similar to one privately delivered program in Australia, however it was found to be superior in a number of areas:

- The KNMV program has been independently evaluated and found to have a positive safety outcomes (both short and long term) for attendees.
- The playback of video footage is a powerful tool that is able to objectively demonstrate to the rider their areas for improvement.
- The KNMV instructors were highly trained and able to critique riders accurately and effectively.
- Scenarios selected for discussions and road training were based on crash data, so the programs aims and exercises were very relevant to road safety issues.

These particular aspects of the course should be considered in developing/improving current programs in Australia in order to improve the safety outcomes for Australian riders.

The amount of radio interaction between the instructor and the participants is probably “too much information” for novice riders (training programs in Australia), as they are expending most of their mental capacity operating the motorcycle and dealing with the immediate environment. However, this type of interaction would be more beneficial for more experienced riders where the mechanics of riding are subconscious in nature, and they would be able to take in the information from the instructor.

In summary, the KNMV program was extremely well put together and delivered, and already has positive road safety outcomes as shown in the evaluation.
Austrian Road Safety Board

Location OAMTC Fahrtechnik, Teesdorf (near Vienna) Austria

Multi-Phase Driver Training Course is part of a bundle of mandatory post-licensing measures:

a) There is a graduated access to PTWs
b) Probationary license for the first two years - alcohol limit (0.01%), specific courses if you are
   caught committing certain offences.
c) Multiphase Licensing system.
   - Once the riding test is passed, riders must attend the off-road training
   - Psychologist and group discussion with HP
   - Complete an on-road feedback ride with an instructor.
   - Participants must have held a motorcycle licence for a minimum of 2 months; the riders must
     actively participate in the activities, but there would not be a test.
   - A rider must pass the course within the recommended time frame, otherwise the licence will
     lapse

This training program consisted of three modules: Theory, practice and Psychology Sessions.

Introduction: The instructor introduced how the course will concentrate on Risk Perception and Self
Awareness (Knowledge of you and your Motorcycle). The Risk Perception session will cover “how
not to get in trouble”; The Practical Session will cover what to do if you get in trouble.

The session started with some questions on pre-prepared subject cards that the instructor handed out
randomly to the participants about techniques, misconceptions and theories. The instructor may have
been using this session to gain an understanding of their knowledge, encourage them to be involved in
the sessions and discussion, and as an ice breaker.

It appeared as though participants in this session had a limited knowledge of technical aspects of
riding (how does ABS work; counter steering technique; efficiency of each brake, etc) and they
acknowledged their lack of experience as they started to get into a discussion with the instructor.

Riding Exercises were based on evasive skills required in emergency situations:

1. Firstly a cornering exercise concentrating on improving/integrating counter steering technique to
   improve cornering skills.

2. Braking exercise to improve stopping distance in the case of an emergency. This was done at 30,
   60 and 70 kph and participants were shown the added stopping distance required at higher speeds.
   Participants initially were not confident in using the ABS systems on the bikes, so the instructor
   explained how the system worked so that the riders could get the most out of the braking system.

3. Swerving was practiced from 30 to 40 kph; then a second exercise of braking prior to swerving
   was introduced.

4. Participants were then asked to stand in the blind spot of a static car to help explain the lack of
   vision a driver may have of them in traffic situations. Physically carrying out this exercise brought
   home the message of ‘riding to be seen’ better than observing ‘blind spot’ drawings or animations.

The riding skill exercises were not tested or assessed, but riders were given feedback and tips on how
to improve their technique.
Psychology Session

A discussion session lead by a psychologist was aimed at having riders better understand and acknowledge the risks on the road. The facilitator introduced the topics and participants were asked to discuss;

- Areas of riding that they found difficult
- The difference between driving and riding as a means to flesh out how car drivers might not see them in traffic or could turn in front etc. This question generated a discussion around the risks of colliding with a car, and started to flesh out the tactics each rider would use to deal with the hazards
- What are your motivations and what do you like about riding?
- How does alcohol affect your riding, and is there a safe limit? The psychologist made a hard hitting comment that “you can’t assess your own ability to drive if you have been drinking”.
- How do other drivers think about motorcycling and riders?
- The discussion now concentrated on how the rider has the most potential to influence their own safety
- Riding is more difficult and more challenging than driving... how do you plan your trips?
- The psychologist missed a fantastic opportunity to develop this concept when one of the disadvantages mentioned by a participant was; “you have to depend on others for your safety”.
- Participants then outlined all the disadvantages/dangers of riding (less passive safety, small size, collision means injury, low speed instability, weather, poor road surfaces...)
- The psychologist then moved onto how can you control and compensate for these disadvantages? Plan further ahead, lower speed, read the road were the answers.
- The discussion now focused on the situations and scenarios where most crashes occur.
- An overhead showed the ‘Risk Pyramid’ to introduce the discussion of how we deal with our own mistakes? Answers; Reflect on yourself and get training.
- You must learn from your mistakes and not rely on riding skill to get you out of trouble.
- The concluding statement was, “Risk is in your own hands”

Summary of the course:

Martin Winkelbauer was the main developer of the ‘Multi-phase Driver Training Program’. He was present throughout the day explaining parts of the program and translating the discussions, and also explained the reasons behind this course development.

“Previous training courses were focussed on skills but driver crash rates were higher for people who completed this type of training. The KFV realised this and with the input of psychologists started to integrate elements of risk perception.”
Outcomes and Recommendations for the Australian Scene

There are a number of stand-out factors from this course that Australian course designers could benefit from when developing and updating their curriculum:

1. Behavioural factors and acknowledgement of risk were given precedence over riding skills as the most effective way of avoiding incidents. This was highlighted by both the instructor and the psychologist.
2. The skill exercises were very relevant to crash scenarios and related to real life situations where riders would have to trouble.
3. Having a psychologist deliver the behavioural content of the course increased the chances of safety and risk messages been taken onboard by the participants.
4. There was a clever relationship made between discussion on risk factors and the exercises completed by the participants.
5. The main focus throughout the day was on “what can I do to reduce my risk”. Refreshingly, the riding skill exercises that were linked in with the theory were explained as the last resort evasive measure if you were not paying attention or were caught off guard. Many programs I’ve seen and been involved in treat the evasive skill with too much reverence and often it is the first tactic mentioned instead of the last.

The majority of participants went away with a new found understanding of how they can influence and take charge of their own safety.

Australian novice rider training programs do need to ensure a basic level of riding skill, however, currently higher order skills, HP and RoadCraft such as those in the Multi phase training get little of no coverage in courses.

What would we have to do in Australia to develop these cognitive skills in novice riders:

- Develop curricula that give these factors the importance they deserve
- Ensure that instructor training courses include these subjects
- Ensure that instructors are able to get these messages across to riders, and that they can make the link between defensive thinking styles and reduced need for evasive reactions
- Develop rider training programs that train and assess these skills
- Ensure road safety research is completed prior to develop novice programs, so that exercises reflect the type of dangerous situations and crash scenarios that novice riders are involved in.
- Determine the cognitive skills required to recognise and anticipate these common crash types, so that providers and riders start to place more emphasis on defensive mental skills instead of relying on braking and swerving as a last resort.
RoSPA National Diploma of Advanced Riding Instruction - UK

One of the aims of this project was to look at ways of improving the delivery and outcomes of novice rider training programs in Australia. The ability of the instructor to impart good skills and safe riding behaviours in novice riders is not just dependant on their knowledge of the curriculum; but just as important is their ability to correctly critique riding technique, give relevant concise feedback, and involve the participants in the learning process.

By attending the RoSPA National Diploma of Advanced Riding Instruction, I wanted to understand the approach being used to train instructors to very high levels in UK, determine where the gaps are in the Australian setting, and if possible make recommendations as to how best practice methods could be incorporated into instructor training programs in Australia.

RoSPA’s own National Diploma Course outline describes the course as the highest level of facilitator training in the UK, and allows instructors to reach their full potential.

The aims and objectives of the RoSPA course are:

**Aim**

- To provide delegates with the core skills necessary to demonstrate advanced riding/driving techniques and methods of instruction

**Objectives**

- To confirm the delegates advanced riding/driving standard
- To explain facilitators and barriers to learning
- To describe classroom management techniques, teaching aids and presentational skills
- To explain the process of task analysis for developing training sessions
- Development of instructional commentary on all types of road and environments
- Examination in theory, classroom, and instructional ability

**Prerequisite skills and knowledge for applicants consist of:**

- A RoADA silver or gold class level of competence; a graded assessment of riding skill by a RoSPA examiner
- Knowledge of ‘Motorcycle Roadcraft’; the police rider training handbook
- Thorough knowledge of ‘The Highway Code’; the UK road rule book

**Assessment is based on an examination in four parts:**

1. An Assessment of theoretical knowledge
2. A practical riding assessment
3. An assessment of instructional ability
4. A classroom presentation

Candidates who undertake the National Diploma course start with a very high level of riding skills as well as a thorough knowledge of motorcycle roadcraft, defensive riding strategies and road law.
By setting such a high standard in order to qualify for the course, RoSPA can be reasonably sure that all applicants have the relevant skills and knowledge required to participate successfully, and that the course time can concentrate on training candidates to demonstrate, critique, and give others relevant feedback that will improve their safety on the road.

**Highlights of the RoSPA Course**

- The curriculum was comprehensive in terms of addressing all the skills required by an instructor to carry out high level rider training and assessment
- The resources used in this course were nationally consistent, and generally accepted as the foundation of advanced riding
- A substantial part of the course was devoted to adult learning principles; being more aware of potential learning issues of participants; utilising questioning techniques to become more attune to the participant’s fears and issues (what they are thinking but won’t necessarily say); and giving SMART feedback
- Accurately critiquing riding behaviour was an extremely important component of the course

Being from outside the UK, I found the course challenging in a number of ways, but it allowed me to see how professionally the course work and principles had been put together behind the scenes. The instructors delivering the course and assessment were very intuitive and able to identify the participant learning styles and capabilities, so it felt like the program was pitched at the individual’s own personal level.

**The Australian Situation**

In most Australian states, prospective rider training instructors have to obtain a Certificate IV in Transport and Logistics (Road Transport – Motorcycle Riding Instruction). Some states also require the candidate to complete that states licensing agency’s own assessment based on the local licence training and testing protocols.

The TLI41410 Certificate IV in Transport and Logistics (Road Transport – Motorcycle Riding Instruction) has eight core units for the qualification as outlined below.

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I believe most of the topics covered in the Certificate IV Course are relevant for rider trainers in Australia, particularly the ‘Training and Assessment Units at the bottom of this table. It’s interesting to note that many of the elements within these topics were also part of the RoSPA curriculum.
The major differences between RoSPA and Certificate IV in Australia, can be summarised down to three main areas:

- Relevance – the content of the RoSPA course was very relevant, and succeeded to a greater degree in developing instructor skills that allow improved student outcomes.
- Facilitator knowledge and interaction – The RoSPA facilitators had motorcycle backgrounds and teaching experience. They were able to apply the curricula to everyday situations and the typical students a new instructor would be dealing with.
- Resources and Curricula – Much time and effort has gone into researching and developing the course material. Utilising the tactics and approach from the Police Roadcraft Handbook as the basis for all safe rider strategies enabled common ground and agreement from instructors and participants on the course.

Recommendations and Outcomes for the Australian Scene

As mentioned previously, some of the content in Australian and RoSPA instructor courses is common, so the issue is not necessarily about what is being taught. From my experience in Australia, we are letting ourselves down in two major areas:

- Instructor Course Curriculum - Only recently has the Certificate IV material become somewhat relevant to rider trainers. Most current Australian instructors became qualified by completing Certificate IV in Workplace Training and Assessment, which was not particularly relevant as it took a broad brush approach on training techniques that would be suitable for the general workplace training environment.
- In general the organisations delivering Certificate IV courses in Australia don’t understand or imbibe good motorcycle riding techniques, roadcraft tactics, and hazard perception skills to new instructors. This must change if new instructors are to have relevant skill sets that can assist new riders to become more knowledgeable and safer on the road.
- Instructor riding skills and knowledge – Apart from having a motorcycle licence and completing the Certificate IV course, there are no other requirements/qualifications to become qualified as an instructor. So instructors with little riding experience, or poor habits can pass on these inadequate riding traits and misconceptions to new riders. There is not a recognised instructional resource nationally recognised in Australia for prospective instructors to become familiar with correct techniques.

I truly believe that knowledgeable, well trained instructors with relevant teaching skills can have a substantial positive impression on new riders, and by improving the quality of our instructors, we can ultimately improve the quality and safety of new riders.
Conclusions and Recommendations

The following discussion now concentrates on what are believed to be the main areas for improvement in the Australian scene, based on the programs observed, questionnaire responses and recommendations of all participants.

1) **Hazard Perception** is a concept that has been around many years, but poorly integrated into Australian rider training courses. It is a vital skill all novices should have in order to recognise and anticipate hazards specific to riding a PTW. The MSF, Japanese riding schools and the KNMV programs all have well developed HP modules and exercises that assist riders to improve recognition and responses to typical riding hazards. Australian licence courses are the logical place to improve HP content and training, as new riders are less aware of the hazards they will face whilst riding, and they can’t purely rely on their car driving experience to identify and respond to these specific PTW risks. There is a place for the use of simulators in HP training, however, if cost is an issue, one simulator per class could generate useful HP discussions and better prediction skills. Australian training and assessment programs should devote a minimum amount of course time to developing these skills. If novices can identify and predict hazards early, they won’t have to rely on their basic braking and swerving skills to avoid crashes.

2) Due to the lack of formal RoadCraft modules in training courses, this skill must be developed slowly in new riders over time, with good tactics and strategies built up through ‘trial and error’ in real world situations. The quality and amount of on-road training is increasing in many Australian jurisdictions, but RoadCraft is a less valued competency in this country when compared to riding skills of cornering, braking and swerving. Today in Australia, courses concentrate on teaching novice riders the riding skills to employ when faced with a dangerous situation. If riders have better HP and RoadCraft skills they can recognise problems earlier and avoid the situation completely. Australian courses are focusing on the reactive instead of proactive skills. The System of RoadCraft taught in the RoSPA Advanced Rider Instruction Diploma is a powerful set of principles that could be adopted in Australian RoadCraft courses and curricula.

3) Australian curricula and licensing courses should include more Behavioural Content; ‘risk awareness’, personality factors, and risk-taking propensity modules. The KNMV Risk Program is one of the best methods of improving rider’s acknowledgement and recognition of the risks they face. The inclusion of human behavioural factors similar to the MSF courses would assist new riders to better understand their own risk propensity, and how they can influence the risks and situations they are involved in. The Austrian ‘Multi phase Driver Program’ devoted considerable time to discussing the rider’s influence on the risks faced whilst riding, the influence of mood, drugs and alcohol on the way people ride. These topics are hardly mentioned in Australian curricula as they are difficult to discuss and tackle in a group situation, and course designers are concerned how they will reduce the amount of riding time in the course.

4) **Instructor training and accreditation** is poorly developed and managed in Australia when compared to overseas models. Instructors have the ability to influence the thinking styles of new riders, assist them in developing a sensible defensive approach to their riding, and to impart good tactics and skills during the pre-licence training phases. The knowledge and skills required by instructors to be able to fulfil this brief requires a nationally recognised resource similar to the UK
Police RoadCraft Handbook, and an holistic training and accreditation scheme similar to the MSF model. The Australia rider training fraternity requires a relevant course curriculum that will give them the skills and knowledge required to improve novice rider safety; a national body that will set up a thorough training package which is relevant for this industry; an auditing process that can assist and improve instructors to deliver high quality programs; and resources that instructors from all states can access when required.

5) Australia has many different training and licensing schemes throughout the country. Novice riders would benefit if agencies cooperatively developed licensing systems, graduated licensing schemes and training curricula in consultation with other state agencies, road safety and research organisations, and training providers. International models described here show how such cooperation and collaboration can produce outstanding products and schemes.

6) The recommendations made above can have positive impacts on rider training and licensing schemes, and can achieve the ultimate aim of improving novice rider safety. This can only occur if the relevant authorities are aware of these best practice suggestions, and cooperation between stakeholders and states can occur. These messages will be spread by the following methods:

a) Sending the report to state and territory licensing agencies
b) Communicate findings to state road safety groups
c) Disseminate findings to rider and driver training organisations and providers
d) Send report to research organisations and universities
e) Prepare summary report for motorcycle groups and publications

As novice riders are three times more likely to crash than those riders with more experience, it is obvious that we are not adequately preparing them for riding on public roads in today’s complex traffic situations.

The learner and licence phase is the most critical period to ensure novices have the riding, and behavioural skills to enable them to ride safely. Unless action is taken to improve the curricula, training protocols, instructor skills and licensing systems, this over representation in road trauma will continue.