

Examining novice education: What can we learn from a compulsory program delivered to both mature-age and young pre-learner licence drivers?

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Abstract

This paper reports results from a qualitative evaluation of a compulsory pre-Learner driver education program within the Australian Capital Territory (ACT), Australia. Two methods were used to obtain feedback from those involved in the delivery of the program as well as those who participated in programs. The first, semi-structured interviews, was undertaken with class room teachers who run the program in their schools, group facilitators running the program with more mature-age students at private facilities ($n = 15$ in total), and former participants in both school-based and private-based versions of the program ($n = 19$). The second method used an on-line survey for students ($n = 79$). Results from both methods were consistent with each other, indicating that strengths of the program were perceived as being its interactive components and the high level of engagement of the target audience. There was strong support from young and mature-age students for the program to remain compulsory. However, consistent with other findings on novice driver education, mature-age participants identified that the program was less relevant to them. It may be that to have greater relevance to mature-age learners, content could address and challenge perceptions about behaviours other than intentional high-risk behaviours (e.g. low level speeding, fatigue) as well as encourage planning/strategies to avoid them. While a longer term, outcome focussed, evaluation of the pre-learner education program is needed, this study suggests that the program is well received by pre-licence drivers and that teachers and facilitators perceive it as both effective and beneficial.

Introduction

Young drivers, throughout the world, have persistently experienced higher crash rates than older drivers (Bates, Davey, Watson, King, & Armstrong, 2014) with a number of factors contributing to this risk (Shope, 2006). Driver education and training are countermeasures that are often used in an attempt to address the higher crash rates experienced by young drivers (Bates, Watson, & King, 2006). While ‘driver training’ and ‘driver education’ are frequently used interchangeably, the terms differ in their meaning (Beanland, Goode, Salmon, & Lenne, 2013).

Driver training operates by introducing basic vehicle and driving skills before developing and enhancing these skills and rests on the assumption that highly skilled drivers are safer drivers (Isler, Starkey, & Sheppard, 2011). However, thus far, research evidence has failed to support that traditional driver training prior to or as part of the licensing process reduces post-licence crashes or reduces traffic violations (Elvik, 2010). In some cases, driver training programs may increase crash risk for young drivers by encouraging individuals to obtain a licence at a younger age (Senserrick, 2007).

Driver education is broader than driver training and often may not include a practical driving component. It tends to focus on drivers obtaining driving knowledge and providing information about road safety, with a key focus being on the motivational foundations of driver behaviour (Christie, 2001). Recent driver education programs have had a strong focus on higher-order skills training including cognitive training, hazard perception training and insight training. Although the

research evidence is limited, it appears that this type of training program may improve the skills that are being targeted; however the effect on crashes is unknown (Beanland et al., 2013).

The focus of this paper is on pre-learner driver education. The Australian Capital Territory (ACT) government instigated the *Road Ready* program in 2000. The course is a compulsory pre-licence driver education course delivered to all individuals who are intending to obtain a learner licence. It is offered to adolescents at year 10 level (around age 15-16 years) through high schools within the region as well as through other venues for more mature-age novice drivers and young people unable to receive the program through a school. It does not contain any practical training components. Further information regarding the *Road Ready* program is available from (Lennon, Bates, Rowden, Haworth, Williamson, Kiata-Holland & Murray, 2014).

In total, around 10,000 pre-licence drivers complete the program annually, with the majority doing so through a state-based or private high school (approximately 54%) or a *Road Ready* Centre (approximately 37%). This paper reports on an evaluation of this program undertaken as part of a commissioned review. By doing so, it adds to the extant knowledge as it considers both young and more mature novice drivers (as opposed to just young drivers).

Method

Participants

From a list of 32 state and private high schools in the ACT, 23 schools representing different locations and demographic profiles were approached to participate. Of these, six agreed (4 state; 2 private) to allow the researchers to approach their staff and students. The private provider of the program, Freebott, who operate the *Road Ready* Centres, also consented to staff participation.

Interviews: A total of 15 facilitators and high school teachers (8 men, 7 women) and 19 students (13 young; 6 mature-age; in total, 6 boys, 7 girls, 3 men, 3 women) agreed to be interviewed. Facilitator and teacher experience in delivering the program varied from those who were in their first year of doing so to those who had been part of the original cohort of teachers in the initial year of the program (that is, in year 2000). Students were interviewed within 1-8 weeks of completing the *Road Ready* program

On-line survey: A total of 79 students completed the survey, of which the majority were aged 15-20 years ($n = 54$). Most of the students had obtained their Learner licence ($n = 60$) since completing the *Road Ready* course. Ethical clearance was provided by the Human Research Ethics Committee, Queensland University of Technology.

Procedure

Interviews. Qualitative, semi-structured, in-depth face-to-face interviews with teachers (high schools) and facilitators (Freebott) were held in their workplaces. Two facilitators were interviewed by telephone due to limitations of time and availability. Interviews ranged in duration from 30 to 60 minutes, with most being around 35 minutes. Detailed notes were made during each interview and some interviews were also audio recorded. Written consent for the recordings and notes was obtained prior to interviews. Teachers and facilitators were offered cash compensation (AU\$25) for their time and effort.

Questions for facilitators and teachers focussed on perceptions of the strengths and weaknesses of the program content as well as its effectiveness at engaging the target group, aspects that might need revision, and suggestions for improvements to the program. For students, questions focussed on their perceptions of the relevancy of the program content, most and least enjoyable aspects, and the pacing of the program.

High school students were interviewed in person at their schools, while *Road Ready* Centre students were interviewed by telephone. High school students provided written consent from a parent/guardian prior to the interview, as well as consenting in writing themselves. For non-school based students, a verbal consent protocol was used. Interviews with students were 10 minutes long and not recorded, but detailed notes were taken. Students were offered \$AU10 in cash or gift voucher as acknowledgement.

On-line survey: After pilot testing, an anonymous survey was developed and posted on-line. Previous students (from schools or *Road Ready* Centres), were invited to respond. Initially the survey was available for 3 weeks during May 2014. In order to recruit additional mature-age students, the survey was made available through *Road Ready* Centres again in September 2014. Student participants in the survey were eligible to enter a random draw for one of four gift vouchers to the value of \$50 as acknowledgement.

Questions for the survey asked about the relevancy of content, most and least enjoyable aspects (consistent with the interviews) and also asked what messages students recalled from the program. However, there were age-relevant differences between the survey versions for younger versus mature-age students. One additional question was added to the student survey for the second data collection period only (see bottom of Table 1) in order to further gauge perceptions of the relevance of the program to those students who had obtained a licence since completing the program: "Now that I am driving, I can see how important the *Road Ready* program is" (all ages, only if also holding L or P licence). The full list of survey items is displayed in Table 1.

Results

Interviews

Format of program delivery.

Although the research team only visited 6 schools (government and private), it was clear that the program is offered in a variety of formats with varying costs levied to students completing them. Programs were offered within the curriculum in the following formats: 1 hour-per-session weekly; 1 hour weekly as after school, optional program; intensive 3 hour sessions over 4 weeks; and intensive 2-3 day programs within the school calendar (but not part of the curriculum). Some schools charged a fee for attendance (\$20-50) while others provided the program free of charge. For some schools the fee was used to allow purchase of equipment that then supported the experiential activities of the program (e.g. speed radar guns; 'beer' goggles) and for some, fees were used to cover the after-school staffing costs. All teachers believed that the fees represented a cost saving to students since the *Road Ready* Centre courses were known to charge more, though there was variation in teachers' beliefs about the exact cost of the external programs (fees of \$140-200 were cited; actual fee at the time was \$160). *Road Ready* Centres offer the program in a number of formats too. These include: 2 day intensive weekend; mid-week 3 evenings; and 2 day intensive daytime during the week.

Teachers in schools appeared to perceive the *Road Ready* Centre-delivered program as easier for students to complete. There were perceptions that private providers did not require students to complete the program workbook, and that this somehow detracted from the quality of the program. Some teachers also thought that a weekend intensive program format did not have the same impact as one delivered over a more protracted period of time. Comments from some students on the structure of the program suggested that it was not always offered in the form most convenient for them (e.g. weekly session after school for 12 weeks; weekend session with strangers rather than school mates).

Overall relevance and effectiveness.

The *Road Ready* program was very positively regarded by all the teachers and facilitators who were interviewed. Content was perceived as pitched at the right level for the age group (adolescents) and effective for young people in raising awareness about the risks and responsibilities of driving. Program duration was seen as appropriate. Some interviewees acknowledged that a few students appeared to be motivated solely by the mandatory aspect of the program.

Interviews with young students (15-20 year olds) suggested that they mostly enjoyed the program and thought the content was relevant to them personally and their age group. Only one young student thought the program should not be compulsory. However, there were quite a few students who said that they thought the program was too long or had repetitive elements in it, or content that had already been covered in the normal school curriculum, and could therefore be shortened. Most young students thought that pacing of the content was appropriate for them, though the students who had commented that the program might be too long also thought that it was a bit slow in places. Some students commented that they had hoped that the sessions would prepare them better for the test or for the practical aspects of driving. While some reported that when they reflected back, they were pleased that it had not included these aspects, others maintained that the program ought to have them.

Perceptions of the strengths of the Road Ready program.

Teachers and facilitators perceived the highly interactive and discussion-based design of the activities in the program as a strength, engaging students well and encouraging them to talk to one another as well as to share their views with the larger group. Interactivity was seen as facilitating peer learning as well as more likely to draw on the combined experiences of the different people in the groups. These qualities were also regarded as catering to differences in student learning styles as well as more effective in bringing about student attitudinal change. However, *Road Ready* facilitators noted that it was harder to ensure this with groups that had wide cultural diversity or included mature-age students.

Generally activities with the greatest use of interaction were those that the majority of facilitators and teachers regarded as working the best and having greatest student engagement, so it tended to be these rather than whole modules that were identified as working best. Activities designed to convey the complexity of the driving task and its demands on coordination, attention and cognition were identified as highly interactive, engaging and fun, as were those about the impact of drug or alcohol impairment. Some interviewees thought similarly about the activities on speeding behaviour, but views were more mixed, with some finding speeding a challenging content area to deliver and noting that students struggled to understand some of the key messages and concepts. This may have been partly due to the students' lack of driving experience to draw on and relate the material to. It may also have resulted partly from the nature of some of the activities, such as calculating stopping distances, which students with poorer maths ability may have found challenging.

Activities on the impact of crashes, which utilised the video footage, were cited as effective by almost all the facilitators and teachers, and as putting "a human face to the outcomes of poor driving decisions". Use of the real life story of local teenagers was perceived as stimulating student reflection on, and subsequent discussion about, the consequences of risk taking behaviour. The inclusion of longer term negative outcomes, such as permanent disability, was also seen as useful in showing students that death is not the only potential consequence from a serious crash. Several teachers and facilitators reported that students had commented that the 'Mel's story' video was a "reality shock" for them. However, the sobering effect on students of this content meant that teachers/facilitators did not regard it as enjoyable for students, though it was seen as engaging them.

Student comments were consistent with those of teachers and facilitators. Interactive components or activities were reported as the most enjoyable and engaging parts of the program by both young and mature-age students, with “Driving is a complex activity” (Module 3), the use of the beer goggles (Module 8), and speed radar gun (Module 7) specifically identified in this respect by most students. Some also thought that the interactive content could be expanded in the program. Similarly to the teachers/facilitators, young students identified the videos and material related to Mel’s story, which is essentially a short documentary account of the circumstances and outcomes of a real crash involving a group of local teens including Mel, a passenger who sustained permanent brain damage, as the least enjoyable or most challenging aspects of the program. They found these “distressing” and “scary”, though some also commented that the thought provoking aspect of this material was effective. Young students indicated that they liked learning in groups, liked having variety in the sessions and activities and appreciated the teacher/facilitator skill and attention to establishing a learning environment.

Teachers and facilitators identified program content and relevance as important strengths. Comments included that the program “gets students to think about what it means to be a road user” especially a driver, and raised their awareness of risk, and got them to appreciate the responsibility and consequences of driving. One teacher mentioned that he thought that activities designed to encourage students to think about the planning aspects of driving and the role of anticipating other drivers’ behaviour, as well as considering the role of patience and tolerance were important. However, there were mixed views among teachers in relation to the alcohol and drug topics in the program, with some regarding this as timely for the age group as they were likely to already be exposed to drugs and alcohol, while others regarded it as premature, and that 15-16 year olds were unlikely to have had sufficient personal experience with such things to make sense of the issues or feel them relevant to themselves. Young students’ views reflected a similar dichotomy, but for different reasons: some students regarded this content as already covered in other parts of their school curriculum and therefore less relevant, while others, as already mentioned, found the activities associated with this content amongst the most enjoyable and engaging.

Mature-age student comments identified that, although most had enjoyed the program and thought it should remain compulsory, the content was seen as less relevant to their age group, and less targeted towards them, with the focus on intentional risk-taking and the potential consequences of this. Some mature-age students commented that there should be more content on the road rules for their age group. One person commented that having to take a full two days off work in order to attend the program represented a challenge and a cost. One person noted that the fear-based aspect of part of the program was unenjoyable and not needed, and others noted that the use of the video-based material was emotionally challenging for them. Several people suggested that programs should be offered that catered specifically to mature-age people and that these could be shorter in recognition of their maturity. Mature-age students cited their perceptions that the program raised awareness of specific safety issues (especially speeding) as well as general driving safety risk and the seriousness of crashes as reasons that it should remain compulsory.

Aspects of modules or program which are less effective, challenging to deliver or which students like/enjoy least.

The materials and some activities within the program differ in the school-based and *Road Ready* Centre-based programs. This appeared to affect perceptions of the effectiveness of some modules and the ease (or otherwise) of delivering them. Topics where the concepts are complex, such as the factors that increase the risk of particular types of novice driver crashes (Module 3; ‘Where, when and how crashes occur’), were experienced by the majority of teachers and facilitators as challenging to deliver. In particular, the concept of exposure and relative risk are difficult to convey in simple and face-valid ways to young students. Moreover, for this particular module, attempts to

keep program materials current appeared to have exacerbated the difficulty by supplying graphics that require a greater level of teacher/facilitator-driven input to translate for students. In addition, there appears to have been drift in the degree of compatibility between the exercises that relate to understanding the crash statistics in the student workbook (used extensively in schools) and the updated materials. Stimulus questions in the workbook for this module do not always relate to the updated visual/graphic materials. Those topics where the risk or safety aspects are less obvious or common amongst other drivers (such as low level speeding) were also highlighted as more challenging to deliver.

Four modules drew comments from teachers and facilitators that they were less relevant or useful. Module 12 ('Can I practise please?') which focuses on encouraging students to plan how they will get driving practise (and how they might negotiate this with licenced drivers (e.g. parents in the main), was regarded by some facilitators/teacher as very important while others regarded it as likely to have little impact and therefore of limited value. Similarly, Module 10 ('Choices it's up to you'), designed to encourage students to reconsider the thought processes involved in risky driving decisions was highly regarded by some while others found it both challenging to deliver effectively and of little relevance to students. Module 11, on losing your licence and Module 2, which considers the costs of driving and crashes were widely perceived as less relevant/useful. Teachers in particular thought that school-aged students found the concept of losing a licence difficult to relate to since they are not yet dependent on having a licence. Similarly, material on the expenses associated with driving was seen as too removed from the experiences of most students of this age. Student comments were consistent with those of teachers, identifying the statistics of crashes, costs of crashes or the costs of running a car as unenjoyable, with some perceiving these as "theory" and less relevant as well as less interesting.

Some facilitators thought that the alcohol and drugs module and workbook materials needed revision to give more emphasis to impairment and if possible to include more effective drug education. The message was regarded as not being clear enough in the program and some facilitators commented that they would prefer that the materials take a clear stance and advocate 'drink **or** drive' more clearly. Facilitators also noted that the program targeted young people well but that this meant there was a lack of relevance of the content for mature-age people and people from non-English speaking or culturally and linguistically diverse backgrounds (NESB, CALD).

On-line surveys

In total, 79 students responded to the on-line survey, with the majority ($n = 54$; 68%) being young (15-20 years). Of the 25 mature-age students over half were aged over 30 years (14, 56%) and 11 (44%) were 25-30 years. Six (24%) of the mature-age group had previously held a drivers' licence in another country (e.g. Canada, NZ, India, China). Most students (76%) had obtained their learner drivers' licence since completing the program.

Questions were designed to focus on the same general areas as those in the interviews, particularly student perceptions of the content as well as the process of the program, the extent to which they regarded the program as relevant to them, and whether they believed it should be compulsory for licensing. Responses are summarised in Table 1. 'Strongly agree' and 'Agree' and 'Strongly disagree' and 'Disagree' have been aggregated into 'Agree' and 'Disagree' respectively.

Consistent with the comments from interviews, almost two thirds of students agreed that the program was very relevant to them (65%), while over three quarters disagreed that it was not relevant to driving (85%). However, there were differences between mature-age and younger students, with mature-age students significantly more likely to disagree that the program was relevant to them, (32% of mature-age versus 7.5% younger; $\chi^2(1) = 7.803$, $p < .005$) as might be

anticipated from comments of mature-age students in the interviews. This difference was not a product of previous driving in another country, since all the previously licensed students either agreed or strongly agreed that the program was relevant to them.

It appears that the messages in relation to the complexity of driving (item 1) and the importance of challenging one's attitudes to risk-taking (item 4) were understood and recalled by students, with high levels of agreement on items related to these aspects of the program (81%, 65% respectively). In addition, almost all the free text responses to a later item ("What single point students had . Responses in relation to the interactive aspects of the program, (items 2, 10, 13) were consistent with comments from the interviews, with two thirds agreeing that they had liked interacting with others (68%) and most disagreeing that there was not enough interaction (82%) or that there had been too much discussion (81%).

Responses to items about whether students found the modules interesting (item 3) suggested that experiences varied. It seems likely that most participants (66%) found at least some modules interesting. At the same time, around a third of participants (34%) are likely to have thought some modules were boring (item 16). As the survey did not ask about specific modules, the level of detail here is very general. However, open-ended questions on which module had been the most enjoyable identified Modules 8 and 9 (Drugs and alcohol content, respectively) followed by Module 4 (Driving is a complex activity) and Module 7 (speed) as the most nominated, consistent with findings from the interviews. It also appears from the qualitative comments that it was the level of interactivity involved, or their engagement with the activities used in these modules (e.g. 'beer goggles', games, simulations) that was important to students enjoying them. Those that were experienced as fun to do were more interesting. For instance: "*Module 4 because the activities were interactive. It was fun to laugh as yourself and others failed the activity, but it really showed how hard it is and made you think more about what goes into driving a car*" and "*our course facilitator (name) was great and made the course interesting, interactive and enjoyable.*" A third student put it: "*Module 9, because we used the beer goggles and that was a fun and interactive activity.*"

Some students commented that where they had been surprised by the facts or figures associated with an aspect of driving (e.g. the impact of greater speed on stopping; complexity of driving task; impairment from drugs or alcohol) this had increased their interest and enjoyment of the module. For instance, one student commented: "*the activity we did in class [driving is a complex activity] really showed how much of your attention needs to be on driving and looking out for hazards/signs. I was amazed that my partner is able to have a conversation, listen to the radio AND drive at the same time.*" A second student indicated that Module 7 on speed was the most enjoyable because: "*I found this module the most interesting and therefore the one that I enjoyed the most. I found the facts and statistics about a driver's speed on the road really impacting. It really made me aware about my speed when I'm driving and also when I'm in the car with someone else, I now understand more about speed, what can occur*". One student mentioned that Module 5 on hazards was the one that he/she was most likely to refer to having learned from since completing the program.

In relation to the least enjoyable module, Module 2, the impact of road trauma (containing "Mel's story" video) was most nominated, primarily because of its graphic and confronting nature, which is also consistent with comments from the interviews with students. The anti-speed campaign material contained in Module 7 was also mentioned by one student as having a similar effect: "*I didn't exactly not enjoy any of them, but module 7: Speed, --those videos from [the state of] Vic[toria] were quite frightening and full on and I didn't think they would want to show me, a 15 year old, that content. Having said that, it did make me fully aware of the possibilities of crashing. So I am not saying, don't show them, but maybe pick two or three to show.* There were also 6 students (of the 89) who nominated the graphic material as something they would change about the

program (remove it or cut it down). Such responses are in keeping with research on fear-based road safety advertising, which has suggested that as well as being confronting and unpleasant, graphic images of road injury is ineffective (Lewis, Watson & Tay, 2007; Lewis, Watson & White, 2008). This appears to be particularly the case with young men, and thus has implications for programs that attempt to influence this group.

Duration of the program appeared to be perceived as appropriate, with 82% of students disagreeing that the program was too short (item 11) or too long (71%, item 15). Most also appeared to have found the sessions helpful in their learning (82% disagreed that sessions were not helpful).

Table 1: Student responses to the survey (process and content of Road Ready program)
(most frequent response in bold)

Question wording	n	Disagree	Somewhat agree	Agree
1. RR was very effective in helping me understand how complex driving is	79	8.3% (7)	10.1% (8)	81.0% (64)
2. I liked being able to interact with other students during RR sessions	79	16.4% (13)	15.2% (12)	68.4% (54)
3. I found some of the modules in the program very interesting	78	10.3% (8)	23.1% (18)	66.7% (52)
4. Doing RR challenged my attitude to risk taking on the road	78	20.7% (16)	20.5% (16)	65.4% (51)
5. RR is very relevant to me	78	15.4% (12)	15.4% (12)	65.3% (54)
6. The program didn't meet my expectations	79	87.3% (69)	5.1% (4)	7.6% (6)
7. Overall, I didn't like the program	79	87.4% (69)	6.3% (5)	6.3% (5)
8. RR didn't seem relevant to driving	79	84.8% (67)	7.6% (6)	7.6% (6)
9. There was too much filling in of workbooks	79	83.5% (66)	8.9% (7)	7.4% (6)
10. There wasn't enough interaction in the activities	79	82.3% (64)	10.1% (8)	7.6% (6)
11. RR is too short	79	82.3% (65)	15.2% (12)	2.5% (2)
12. The RR sessions didn't help me learn	79	82.3% (64)	7.6% (6)	10.1% (8)
13. There was too much discussion in the activities	79	81.0% (64)	8.9% (7)	10.2% (8)
14. There was too much content in RR for me to absorb or remember	79	74.7% (59)	17.7% (14)	7.6% (6)
15. RR takes too long	79	70.9% (56)	15.2% (12)	14.0% (11)
16. Some modules in the program were boring	78	64.4% (52)	19.2% (15)	15.4% (13)
17. The RR materials were too old/outdated	79	48.1% (38)	32.9% (26)	19.0% (15)
18. Videos in RR are too old	79	22.8% (4)	32.9% (26)	41.3% (35)
Questions specific to age group				
(young) Schools should continue to deliver the RR program	54	3.8% (2)	9.3% (5)	87.0% (47)
(young) RR should involve parents as well as students	54	50% (27)	27.8% (15)	22.2% (12)
(young) RR should not be compulsory	54	68.5% (38)	14.8% (8)	16.7% (9)
(young) Now that I am driving I can see how important the program is	49	8.2% (4)	8.2% (4)	83.7% (41)
(mature-age) RR should remain compulsory for everyone	25	12.0 (3)	4% (1)	84.0% (21)
(mature-age) RR should not be compulsory for people over 25 years	25	76.0% (19)	0	24.0% (6)

However, while three quarters of students overall (74%) disagreed that there was too much content to absorb, it should be noted that there were much higher levels of agreement (including 'Somewhat

agree') on this question among younger aged students (31%) than mature-age (12%). While this was a non-significant difference statistically, it approached significance ($\chi^2(1) = 3.430, p = .054$, Fisher's exact test), suggesting that the quantity of material in the program may present difficulties for some younger students. Students of both age groups appeared to think the program should remain compulsory for everyone. There were also very high levels of agreement (83%) that students appreciated the importance of the program once they began driving (additional question for September sample), though the sample size ($n = 49$) for this question was smaller due to not all students having obtained their Learner Licence at the time of the survey.

One of the final questions asked for free-text suggestions as to which aspects of the program students would change. A variety of suggestions were made, including that the program should be more practical (2 students), or have more attention on the content of the road rules (6 students) or that no changes were needed (11 students). Comments from 9 students highlighted that the videos ("Mel's story", anti-speeding road safety messages, driving hazard detection footage) were in need of updating so that they looked less dated and would be less distracting. As mentioned above, 6 students also thought the videos of road trauma (drawn from previous road safety television campaign material) were too graphic. Overall almost all students appeared to have liked the program (69/79) and there were a lot of free-text, positive comments about the program or its value to them at the end of students' survey responses.

Discussion

As the *Road Ready* program is compulsory for both young and mature-age pre-learner drivers, the evaluation provides an important opportunity to examine the differences in qualitative experiences between the two types of pre-learner. In relation to the processes of the *Road Ready* program, it is evident that the program has been delivered in quite different ways in the various schools and the *Road Ready* Centres, and within the schools, with differing levels of resourcing. While the feedback from both those who delivered the program and learners was positive overall, it is likely that the quality of the learning experience and the degree to which students are challenged to address attitudinal and motivational aspects of novice driving also varies. Engagement is critical to this learning process (Carini, Kuh, & Klein, 2006). Almost all those who provided feedback agreed that the interactive aspects of the program were the most enjoyable to deliver and to participate in, as well as the ones most likely to encourage engagement. Thus it would seem that the program might benefit from increasing the number of interactive activities and ensuring that all modules/topics include this type of approach. Facilitators, teachers and participants were of the view that the program currently has a lot of interactive activities, yet also noted that there was room for more. Student feedback on their experiences in relation to activities was consistent with that of facilitators and teachers: identification of the modules that were most enjoyable or interesting appeared to be on the basis that they were the most interactive and engaging.

One potential implication arising from student views about interactive materials as the most engaging and interesting, is that these may be more effective at addressing underlying attitudes and challenging learners to reconsider their views and behaviour. Other authors have reported that at tertiary education level, interaction among learners, either in the form of activities or group discussions, increases learning of concepts (Smith et al, 2009) and academic performance (Freeman et al, 2014). The authors acknowledge that influencing attitudes and beliefs can be more difficult to achieve than aiming to increase knowledge acquisition. However, it is probably easier to do this prior to or early in the licensing process given the relative youth and level of inexperience of typical novice drivers. Among students, the high levels of agreement with the items from the on-line survey in relation to challenging risk-taking behaviours and the complexity of the driving task would suggest that the program in its current form is already perceived by recipients as effective in these respects.

Any revisions to this program should also take into account student feedback on the current use of fear-based content. As highlighted above, students found the graphic content of some of the materials (e.g. from road safety advertising videos) very uncomfortable and nominated this aspect of the program as the least enjoyable. Research in the area of road safety messaging has found that fear-based approaches are ineffective, particularly with the primary target of countermeasures to risky driving behaviours: young men. Despite the comments from both students and facilitators and teachers that these aspects of the program are valuable and effective (even though confronting), the evidence would suggest that they should be replaced (Lewis et al., 2007; Lewis et al, 2008). Replacement materials could focus on interactive content that avoids the use of appealing to strong negative emotional responses.

As might be expected, given that the program was designed for young people, mature-age learners appeared to find the program useful but somewhat less so than younger participants. Despite this view, mature-age students thought the program should remain compulsory for everyone, including their age group. Research on novice driver crash risk suggests that those factors related to attitudes that support risky driving behaviour, or to the propensity to make riskier decisions (e.g. impulsiveness; susceptibility to peer pressure) improve with age and maturation of the executive decision-making functions of the brain (Gogtay et al., 2004; Mayhew, Simpson, & Pak, 2003). Thus, mature-age learner drivers are less likely to need, or to benefit from, education related to these aspects of driving. As attitudinal factors and propensity for risk-taking are the primary targets of effective learner/novice driver education programs, and are major components of the *Road Ready* program, the content of the program for mature-age pre-licence drivers may not be as relevant as it is for young pre-licence drivers. This was acknowledged by some of the mature pre-learners interviewed within this study. The level of endorsement of 'disagree' among mature-age students in response to the survey item on content relevance also supports this interpretation. The *Road Ready* program could likely be modified and shortened considerably for mature-age pre-licence learners, or alternatively, it could be voluntary for pre-licence drivers who are 25 years or older.

Some teachers within this study reported that they believed the drug and alcohol content within the *Road Ready* Program was not relevant for the younger pre-learners. However, the average age at which individuals within Australia report having their first full alcoholic drink is 14 years (Australian Institute of Health and Welfare, 2011). This suggests that content on drug and alcohol is relevant for this age group and should therefore can be included in driving education programs, particularly given recent research with drivers aged 17 to 25 years that has found that over 20% of the sample had driven under the influence of alcohol in the past month (Harbeck & Glendon, 2013).

Strengths and limitations

This research has some important strengths. Firstly, this study used both qualitative and quantitative methods, allowing for a limited level of statistical analyses of the responses to support the qualitative findings.. Additionally, the sample included students and teachers from both publically funded and fee paying schools throughout the ACT. However, while we have noted aspects of the way in which the program is delivered, financial and time constraints precluded an attempt to formally assess the impact of these differences. This is a limitation of the study and one that would be important to address in future, particularly to determine whether the program is essentially the same across the different providers and contexts in which it is delivered. This is a clear and important limitation to our study. In addition, this research did not consider the longer-term impact of the education program on crashes and offences or long term road safety beliefs, and there is an obvious need for a quantitative outcome evaluation to provide such information. Another strength of the study is having feedback from both younger and mature-age students. However, a limitation of this for both age groups is the self-selected nature of participation. It may be that our sample was unduly positively disposed towards the program. There was evidence that some students neither

enjoyed the program, nor thought it useful, with one person stating the view that it was a “revenue raising scheme”. As there were only a few such comments, we have no way of knowing whether this was because few people thought this way or because of our sample was biased. Finally, there is great diversity in the range of driver education and training programs. Thus, there is a need for both more process and qualitative evaluations to enable a greater understanding of what is a very heterogeneous field.

Conclusions

The findings from this study indicate that the *Road Ready* compulsory education program targeting pre-learner drivers is well received by students, regardless of age, and those who instruct them. However, comments from mature-age students suggest that they do not feel as well catered for by the current *Road Ready* program as young people do. It may be that mature-age learner drivers are less likely to need, or to benefit from, education related to reducing high-risk driving behaviours. If programs are to include both young and mature-age novice or learner drivers, content for mature-age people should ideally target aspects of safety that are the most relevant for them. This could potentially include material designed to inform mature-age drivers about the crash risk of low level speeding, low-level impairment (e.g. blood alcohol concentrations below the legal limit), fatigue and distraction and to challenge misconceptions about these behaviours as well as encourage planning/strategies to avoid them.

Our findings suggest that programs should be designed to maximise student-to-student interaction, and be learner-centred. In the current study, this seemed to be just as important for mature-age learners as for young learners. Feedback from teachers, facilitators and students all indicated that the interactive nature of the program was very important to student engagement and interest level. We suggest that an implication is that such design features are more likely to ensure effectively influencing the underlying attitudes and beliefs about risky behaviours and risk-taking (including low-level risky behaviours more relevant to mature-age drivers).

The positive outcomes of this process evaluation suggest there may be value in jurisdictions implementing education programs targeting pre-learner licence drivers. However, for the *Road Ready* program in particular, an outcome evaluation would be useful in better determining whether the program has had an effect on safety of novice drivers (e.g. offences and crashes) and on their attitudes and beliefs in relation to risky driving behaviour.

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