

Differences in Teaching Approaches Among Car Driving Instructors

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Biography

The author is completing Doctoral research at Flinders University on the importance of learner self-awareness in road safety education and training, and has previously published on this topic. He works for the South Australian Government in road user behaviour research and policy development, specialising in road safety education matters. Prior to this, the author taught in a wide range of education settings.

Abstract

Driving instructors have a critical role in providing high-quality learning opportunities for novice drivers. Traditionally, driving instruction tends to be characterised by *teacher-focussed* approaches, typically when developing skills for vehicle control. Yet higher-order cognitive skills such as risk awareness, hazard perception, and decision-making are known to have a major influence on driving. Educational research has shown that many higher-order thinking skills are best acquired through teachers/instructors who exhibit *student-focussed* approaches to the teaching process and who consequently provide active learning experiences. Despite the critical importance of their teaching situations, very little information is available on driving instructors' approaches to teaching. This paper reports work in progress to explore differences in teaching approaches among Australian driving instructors.

1. INTRODUCTION

Learning to drive is a complex task, involving acquisition of a range of physical and higher-order cognitive abilities which, if inappropriately actioned, may lead to crashes. Those entrusted with introducing and nurturing in novice drivers the range of skills and competencies required for safe driving should possess teaching approaches that accord with contemporary thought and research on quality approaches to teaching and learning. Driving instructors perform a critical role in providing high-quality learning opportunities for novice drivers. Firstly, they operate in what can rapidly become very intense teaching-learning situations having profound implications not only for the safety of both learner and instructor, but also for other road users in the immediate vicinity, and for that reason instructors require teaching skills of a high order. Secondly, based on crash reduction success in Sweden (Gregersen 1997), many road authorities in the UK, USA and Australia now require specified amounts of supervised driving before a full driving licence can be gained. The critical role of driving instructors, therefore, includes providing high-quality learning opportunities for novice drivers that are integral to the extended learning base shown to bring enduring positive effects on subsequent crash rates.

Thirdly, driving instruction has traditionally been characterised by *teacher-focussed* approaches to teaching, which often suffice where the acquisition of certain basic driving skills is often a matter of repetitious practice until the learning becomes automated (i.e. without conscious control). Studies of skill acquisition often show that conscious thought during such practice is so heavily preoccupied with learning the physical skills that, until the stage of automation is reached (Anderson et al. 2000), there is very little mental capacity available for adequate attention to any higher order aspects of the learning task (Hatakka et al. 1999). In addition, simple repetition is not enough for reaching the higher-order cognitive

and motivational aspects of learning and driving, such as risk awareness, hazard perception, impulse control, decision-making, and the ability to plan ahead, which have been shown to have a major influence on driving (Christie 2001; Hatakka et al. 2002). Once a substantial proportion of the basic skills has become automated, then the novice driver's mental capacity can more readily accommodate deeper levels of learning, including those higher order cognitive and motivational skills considered to influence safe driving. Higher-order cognitive and motivational aspects of learning to drive engage the learner in more deliberate cognitive processing (Anderson et al. 2000) than is the case with learning the basic physical control skills. Development of higher-order cognitive and motivational skills also requires increasing knowledge of oneself, one's tendencies, life goals and lifestyles (Hatakka et al. 2002). All these aspects reflect the broader and deeper context of what driving instructors and society expect of drivers and safe driving, as well as what society and novice drivers expect of driving instructors.

Aspects of higher-order thinking when learning to drive are best met through instructors' provision for active learning experiences, for example through teaching strategies of self-evaluation, interactive feedback, experiential learning methods and facilitated group discussion among learners about problems and driving experiences. It is reasonable to suppose that driving instructors who value these aspects of learning would tend to reflect *student-focussed* approaches in their teaching. There is an emergent consideration of a need for student-focussed teaching approaches to be adopted in modern driving instruction principles and practice. In 2000, a British Department for Transport video study of learners and instructors in cars concluded that a greater focus by instructors on students' learning, rather than on their teaching, might encourage greater self-reliance in learning to drive through a decreasing dependency on the instructor. Mattsson (2000) developed a 5-stage model of the successive competencies needed for safe driving: 1) vehicle skills, 2) applying traffic rules, 3) perception and awareness, 4) adaptation to driving situations, but culminating in 5), encouraging drivers to develop a *realistic view of their own capacity and capabilities*. Instructors focussing on developing self-awareness in learners is a major teaching approach in the Swedish, Finnish and Danish driver training programs (Gregersen 1999; Keskinen et al. 1999; Carstensen 2002 respectively). Despite the critically important aspects of their teaching situations, and the above overseas developments, very little information is available on Australian driving instructors' teaching approaches, although Fitzgerald et al.'s study (1999) reported a need for further research to develop more appropriate teaching strategies for driving instructors.

The extent of teachers' abilities to implement learning activities that reflect either a teacher or student focus was construed in much detail by Prosser et al. (1999) around teachers' teaching intentions and strategies. For the purposes of the current study, but based directly on Prosser et al. (1999)'s analysis, the researcher defined teacher and student focussed approaches as:

A *teacher-focussed* approach is characteristic of an instructor's stated intention to transmit information to the student, and/or the belief that the student needs to acquire a set of concepts/skills for learning to drive.

A *student-focussed* approach is characteristic of an instructor's stated intention that the students construct their own knowledge as a necessary means to change their conceptions or produce new conceptions in learning to drive [i.e. a constructivist approach to teaching and learning].

Prosser et al. (1999) subsequently developed and validated the *Approaches to Teaching Inventory* (ATI) for use in specific teaching situations. The inventory canvasses teachers' numerical ratings of a series of statements reflecting teacher-focussed approaches to teaching and also student-focussed approaches. For example, explaining knowledge to

learners, or requiring learners to copy the teacher's demonstrations are indicative of *teacher-focussed* teaching strategies. By contrast, in *student-focussed* strategies, the teacher actively engages the learner in the process, to assist them to reflect on and construct their own relevant knowledge in the learning.

Prosser et al. (1999) suggested that teachers wishing to improve their students' learning can, as a first step, use the ATI to gauge whether their teaching approach (in a specific teaching context) is primarily teacher or student-focussed. Mindful of the desirability of student-focussed approaches to teaching, in relation to development of higher-order thinking and motivation, as well as to the critical safety outcomes of learning to drive that may well be influenced by such approaches, it was considered worthwhile to ascertain to what extent a sample of driving instructors adopt teacher or student-focussed approaches. The study reported here represents work in progress.

2. METHOD

A questionnaire survey is currently being conducted among Australian driving instructors, recruited through approaches made to driving schools and professional associations. So far, 36 instructors have completed the survey, with many accepting a \$30 payment in recognition of their time spent. Of the 36 so far, 15 have come from South Australia, 10 from New South Wales, 8 from Victoria, 1 from the Australian Capital Territory, 1 from Western Australia and 1 from the Northern Territory. No replies have been received from Queensland or Tasmania. Follow-up telephone interviews are being held for some individual instructors about their reasons behind their survey responses. The questionnaire begins with some background questions such as on age, gender, relevant training, qualifications and years in the job. The instructors are then asked to describe their general approaches to the teaching of driving. Next, they are asked to consider a typical lesson they use for a naïve novice and a typical lesson for an experienced novice. The instructors are asked to describe their teaching approaches for naïve versus experienced novices. For example, they are asked: what are the important things to teach, how do they teach them, and what kinds of things do they say to the learners. After this, the instructors complete the ATI rating scale, with a little rewording (approved by Prosser) for specific application to the teaching of driving. In the ATI, instructors are asked to rate each of 16 statements about their teaching approaches, using a 5-point scale from 1(almost never) to 5 (almost always). The ATI contains 8 teacher-focus (TF) and 8 student-focus (SF) statements. Example statements are:

"I structure my teaching to help students pass the formal assessment items" (TF)

"I allow time in my lessons for students to discuss the difficulties they encounter" (SF).

The 8 TF statements contain 4 relating to TF teaching *intentions* and 4 relating to TF *strategies*. The 8 SF statements likewise contain 4 relating to SF teaching intentions and 4 to SF strategies.

3. RESULTS AND DISCUSSION

In the sample of 36 instructors, there were 29 males, 6 females and one of unstated gender. Seventeen were based in rural areas or towns and 19 worked in capital cities. Surprisingly, almost all instructors were either aged 40-49 or 50+, with only two aged 30-39. The shortest period as an instructor was 2 years, the longest 27 years, but most instructors had between 7 and 16 years of teaching experience. (For many of the sample, driver training was a mid-career change, though it might also be the case that fewer young people are pursuing driver instruction as a career.) Most instructors worked between 35 and 70 hours a week. Twenty-eight instructors held a basic Motor Driving Instructor's Certificate or Licence (from a state road transport authority), 25 held the Australian National Training Authority endorsed Certificate III (Motor Driving Instruction) and 16 of these also had a Certificate IV (Assessment and Workplace Training - Driving Instruction).

Visual examination of the responses to the open-ended questions about general teaching approaches and in relation to naïve and experienced novices suggested the collective responses could be grouped in four ways. Two of these ways were teacher-focussed and student-focussed approaches that were congruent with the earlier definitions. A third group were responses that suggested empathy with students' needs, but were not strictly student-focussed (e.g. 'I help the student to relax'). The fourth group contained other responses that were not directly relevant to teaching approach (e.g. 'instructors need good business skills'.) The researcher's categorisation of each response, with respect to the earlier definitions, was confirmed by a colleague acting independently of the researcher.

A majority (51%) of the responses concerning general teaching approaches were teacher-focussed. That is, they primarily related to the transmission of knowledge, with some mention of expectations of what has to be learnt. The most frequent of these responses concerned road rules, vehicle handling and teaching techniques. This finding accords with that of Fitzgerald et al. (1999) concerning the three most important skills driving instructors considered they had learnt in their training. In addition, Fitzgerald et al. (1999) asked instructors to describe 'the best general method for teaching learner drivers to drive'. Their most common responses related to developing a gradual build up of skills and requiring a great deal of driving practice, also primarily teacher-focussed responses. In the present study, 10% of the responses were primarily student-focussed, in that they indicated attempts to help students construct their own knowledge, for example, through encouraging them to ask questions of the instructor about things that happen in the lesson. Just over a quarter of the responses showed empathy with students' needs, for example, 'Helping the student to feel confident in themselves'.

In relation to teaching naïve learners, a total 312 statements were made of which 71.5% were teacher-focussed, involving teaching such things as low-speed manoeuvres, driving in quiet areas and mastering vehicle controls. Often, the stated main aim of such tasks was to teach higher order skills of observation, anticipation and concentration. Surprisingly, very few instructors spontaneously mentioned use of teaching aids, such as diagrams, toy cars and discussing other drivers' behaviours as examples of their teaching approaches. Despite their low frequency (5.4%), there was a wide variety in student-focussed responses. For example, such responses ranged from, 'I encourage the students to ask me questions about what happened in the lesson', to 'We choose a quiet road, I let them experiment with braking and stopping distances, then get them to tell me what they learned.' Yet it was rare for an instructor to make more than one or two student-focussed responses. This suggested there was only a spasmodic student focus in teaching approach among the driving instructors. Almost a quarter of the responses expressed empathy with students' needs.

In relation to teaching experienced novices, 255 statements were made. However, compared with naïve novices, a greater proportion (82.7%) of these were teacher-focussed, valuing the teaching of various high order thinking skills to experienced novices, just as the majority did for naïve novices. Whereas much of the teacher-focussed approach with naïve novices related to high-dependency learning situations requiring quiet driving areas and concentration on vehicle control skills, there was still a need for dependency on the instructor by more experienced novices in so far as instructors structuring a session requiring high demands on the driver. Thus, it would seem for driving instruction generally a teacher-focussed approach of some form is necessary. A range of student-focussed responses was received, but they were proportionally more common (12.9%) than such responses for naïve novices. They ranged from 'My students need to experience busy areas to help build their knowledge about driving' to, 'I ask them to think about different driving scenarios and to tell me what they think their reaction would be'. While it seems the instructors had a stronger student focus for experienced novices than for naïve ones, the responses still occurred in an ad hoc fashion. It was very unusual to have a single instructor make more than two student-

focussed responses in relation to teaching experienced novices. Just 4.3% of responses for experienced novices indicated empathy with students' needs.

These qualitative findings were interestingly contrasted with the analyses of the ATI scores. It was found that the vast majority of all mean ATI ratings from all 36 instructors tended to lie between 3.5 and 4.75, thus indicating that many instructors tended to adopt *both* teacher and student-focussed approaches (both in intention and strategy) for the greater proportion of their teaching time, (with very few mean ratings lower than 3). This main trend matched that found when analysing the responses to the initial open-ended questions about general teaching approaches. On examining individual ATI scores for teacher focus versus student focus approach, however, three groups emerged. It was found that 15 instructors had an equal focus between the two approaches. The ratings of three instructors suggested they possessed an almost exclusively teacher-focussed approach. Half the instructors (18), though, gave ratings indicating they were more student-focussed than teacher-focussed in approach, with many of these instructors being heavily student-focussed. It is intended to continue the study by exploring these three groups, with respect to any differences in background variables and the survey responses they made.

The ATI ratings were also examined in terms of instructors' intentions and strategies for both types of teaching approach. For *teacher-focussed* approaches, there was a very slight but non significant correlation between ratings on the intention and strategy statements in the ATI ($r = 0.20$, $p > 0.05$). However, it was found that teachers who rated *student-focus* intention statements highly also rated highly the corresponding student focus strategy statements, as there was a moderate and significant correlation between intention and strategy for student-focussed teaching approaches ($r = 0.42$, $p < 0.05$). Thus, where instructors adopted student-focussed approaches, there was a degree of consistency and coherency across their intention and strategy that was not apparent for teacher-focussed approaches.

Finally, each instructor's ATI ratings for teacher-focussed approaches were compared with the proportion of all their open-ended responses that were categorised as teacher-focussed. There was no correlation between the ATI ratings and the open-ended responses ($r = -0.04$, $p > 0.05$). By contrast, when the student-focussed ATI ratings and open-ended responses were compared, a significant correlation was found ($r = 0.34$, $p < 0.05$). Thus, while there was very little student-focussed talk when the instructors described their teaching approaches in response to open-ended questions, the moderate correlation found with the ATI ratings for student-focussed items suggested that their approach to student-focussed teaching is a more coherent and consistent one than is the case with their teacher-focussed approaches.

4. CONCLUSIONS

Although this paper is based on a small sample of responding driving instructors to date, it is worthwhile to consider the findings in terms of what they can tell us about differences in driving instructors' teaching approaches. Both the ATI ratings and the open-ended responses indicated that driving instruction necessarily involves a substantial component of teacher-focussed approaches to teaching. However, the ATI ratings indicated that many instructors also value student-focussed approaches, to greater or lesser extents. This is an encouraging finding, as the teaching intention and strategy ATI items were correlated for student-focussed approaches (but not for teacher-focussed approaches). Moreover, the student-focussed ATI items correlated with the student-focussed open-ended responses, suggesting that adoption of some amount student-focussed teaching can lead to a more consistent and coherent approach to driving instruction. This may be particularly valuable when attempting to nurture those higher-order thinking skills associated with the driving task discussed in the reviewed research literature.

While the instructors tended to sustain, even strengthen their teacher-focussed approaches from the naïve to the experienced novice stages, there was a decreasing tendency to exhibit student-focussed and student empathic approaches (when added together) for the experienced novices. Nevertheless, the instructors collectively did tend to become more student-focussed when teaching experienced novices.

More importantly, however, although most instructors were aware of the importance of student-focussed approaches, they generally offered relatively few practical examples when responding to the open-ended questions. This is unfortunate for experienced learners because, just at the time they have acquired the basics of vehicle control and have become readier to make their own driving decisions, student-focussed teaching, which has great potential for this area, seems likely to be only spasmodically put into practice. It may be the case that many instructors accepted that experienced novices are more capable of making their own complex driving decisions, but it seemed they were uncertain about the teaching implications of how to support this learning as they were either unwilling, or experienced difficulty, in giving tangible examples of student-focussed teaching for experienced novices.

Fitzgerald et al. (1999) reported a similar finding in relation to instructors teaching higher order cognitive skills. From their interview study, they found that, while their instructors were aware of the importance of such skills, they performed poorly when asked to explain *why* the skills are important (except in simplistic terms such as 'for safety as a driver'). More seriously, the instructors in Fitzgerald et al. (1999) had difficulty in detailing their teaching methods for cognitive skill development. Such responses as 'explaining the skill', and 'practice', are general rather than specific instructional strategies for these skills. For example, commentary driving is a specific way to develop the higher-order cognitive skill of one's control over attention to the driving task. Yet, the instructors in both the present study and Fitzgerald et al. (1999) rarely mentioned it as a teaching strategy.

Fitzgerald et al. (1999) suggested this problem could have three implications for improving driver training. Firstly, if cognitive skills for driving are amenable to being taught, then there may be a need for further training of driving instructors to enable them to develop effective teaching approaches for developing these cognitive skills in novice drivers. However, as the results of their study and the present one suggested, if instructors consider that only generic teaching methods such as explaining and practice are sufficient to effectively teach the range of cognitive skills involved in driving, then there would also be a need to extend the training of instructors to address this.

A third possibility raised by Fitzgerald et al. (1999) is that there maybe very few specific and effective instructional strategies for cognitive skill development in driving, despite the continuing research in this area, notably in Scandinavia. Some of this vanguard research is pointing towards quite promising ways for driver training to effectively tap into the higher-level cognitive and motivational aspects of driving and, as discussed earlier in this paper, adoption of student-focussed teaching approaches should be a central component of such training. The current study in progress suggests many driving instructors already have an appropriate mindset towards student-focussed approaches of teaching, but in which there is a need to more tangibly translate this intentional knowledge into more specific practical teaching strategies.

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