

Good Practice in Pre-driver Education

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1. Introduction

According to Government statistics, the peak age for driver fatalities is between the ages of 20 and 24. The vulnerability of young drivers is often attributed to their relative driving inexperience combined with inappropriate behaviours and attitudes that result in unsafe driving practices.

As part of the strategic vision to improve road safety, the Department for Transport (DfT) commissioned Air Affairs (UK) Ltd to investigate good practice in pre-driver education. The work involved the following activities:

- A critical literature review on attitude development and change, good practice in pre-driver education provision and evaluation [1]
- A questionnaire and telephone survey of the national provision of pre-driver education [2]
- Consideration to the development of a Good Practice Guide to Pre-driver Education

The objective of this paper is to report the key findings of the questionnaire survey of pre-driver education and to outline good practice in pre-driver education.

Throughout the study¹, close consultation was maintained with representatives from LARSOA and UK Road Safety Teams. We would like to acknowledge the industry's keen interest and willingness to participate in the work.

This paper has been produced by Air Affairs (UK) Ltd and is based on work that was conducted under contract with the Department for Transport. Any views expressed in this paper are not necessarily those of the Department for Transport.

¹ Work was conducted during the period January to August 2006.

2. Definition of Pre-driver Education

The study used the following broad definition of pre-driver education, which was defined in consultation with representatives from within the Road User Safety Research Branch, DfT.

Pre-driver education is used to refer to a programme of instruction intended to inform the development of attitudes and beliefs ultimately related to driving that is aimed at students who have not yet obtained a provisional driver's licence.

Air Affairs also took the view that pre-driver education should be delivered within a Learning Pipeline, commencing at the earliest opportunity in the child's development, rather than just in the 2-3 year period before provisional licensing.

3. Survey of Pre-driver Education Provision in the UK

The objective of the questionnaire survey was to develop an understanding of the current provision of pre-driver education in the UK and to investigate, to a lesser extent any good practice applied by international providers. The questionnaire survey was followed by a telephone survey of non-respondents.

Sample and response rate

The questionnaire survey achieved an acceptable response rate of 38% from a sample of 204 questionnaires issued. The sample comprised all UK Road Safety Units (identified via the LARSOA website), seven UK non-government providers and four international organisations. Table 1 provides a breakdown of the sample and response distribution.

Pre-driver education questionnaire

The questionnaire was designed for self-completion by the sample of respondents and comprised 50 questions grouped under five main headings, and 11 topics (refer figure 1).

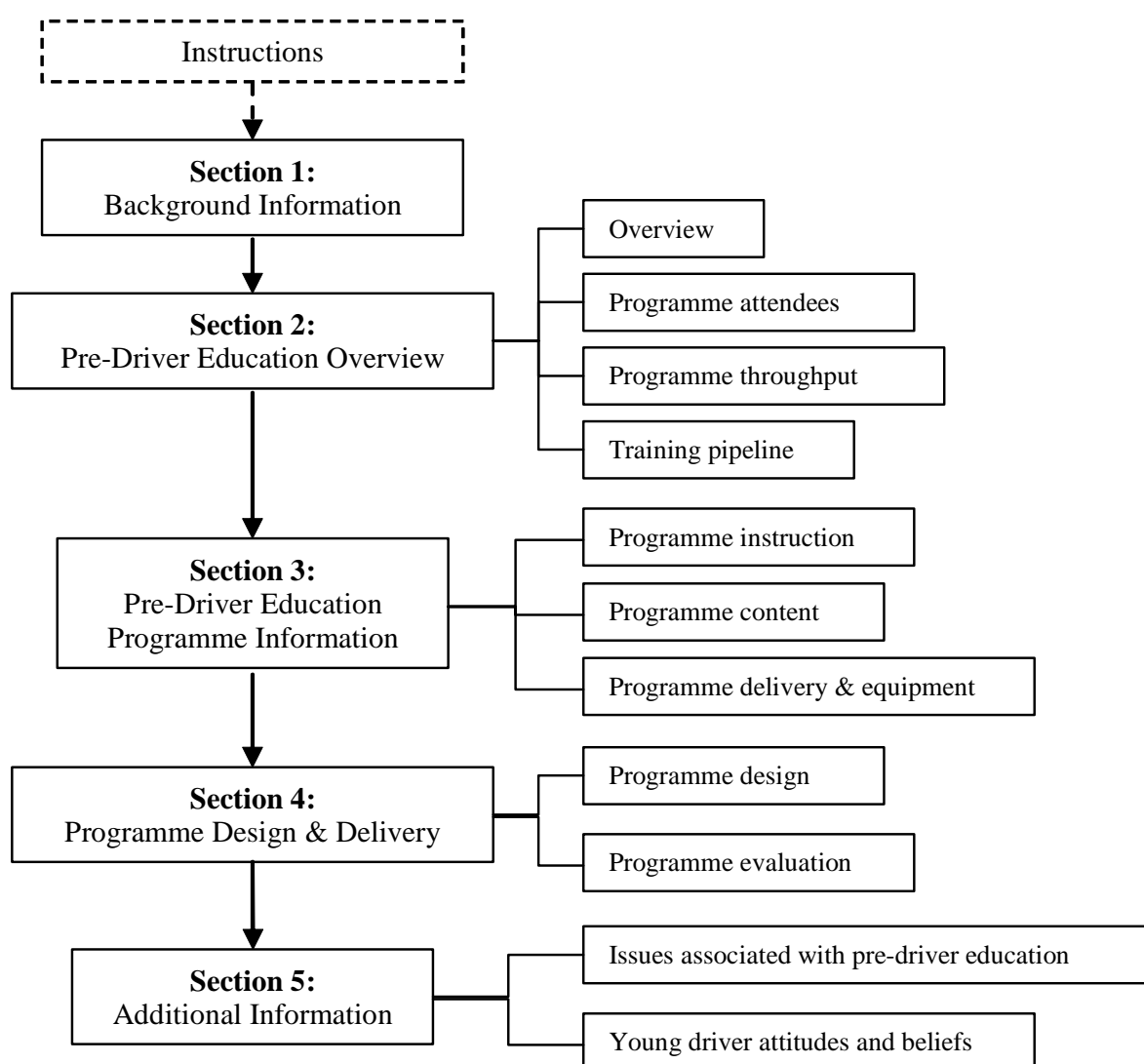
The content of the questionnaire was based upon:

- Air Affairs' knowledge of good practice in learning needs analysis and training design and evaluation;
- Findings of the critical literature review [1]; and
- A pre-driver education questionnaire that had been administered in Irish Secondary Schools by Fuller and Bonney, 2002 [3].

Table 1 – Pre-driver education sample composition and response

Organisation	Distributed	Returned	Response %
Pilot Survey (RSOs)	15	10	67%
Main Survey	189	67	35%
RSOs	178	61	35%
UK Organisations	7	5	71%
International Organisations	4	1	25%
Total (Including Pilot and Main Survey)	204	77	38%

Figure 1 – Outline structure of the Pre-driver Education Questionnaire



Summary of questionnaire survey findings

Data collected from the questionnaire survey was entered into an Excel spreadsheet and analyses limited to descriptive statistics (percentages, averages, frequencies, totals). A summary of key findings is provided in the following sections.

Overview

- a. Two-thirds of UK respondents indicated that they had a pre-driver education programme in place, which was typically delivered locally, and in schools and/or colleges.
- b. The most frequently cited aim of the pre-driver education programme was to reduce traffic accidents among young drivers.
- c. The average time pre-driver education programmes had run was 5.7 years. However, the majority of respondents could not predict how long into the future their programme would last.

Programme Attendees

- a. The age group that pre-driver education was targeted at was predominantly year 12 (16 – 17 year olds). Although the definition of pre-driver provided to the audience at the beginning of the questionnaire was broad, the majority of respondents still interpreted pre-driver education as relating to 14 to 18+ year olds.
- b. Some of the programmes (30%) imposed an age limit on students attending the programme. The average minimum age was 15 years old and the average maximum age was 19 years old. The rationale for the upper and lower age limit given was that the course was aimed at pre-drivers.
- c. The majority of courses were not targeted towards a specific demographic group other than the pre-driver age group.

Programme Throughput

- a. The majority of programmes (57%) are subsidised. Many of the RSO run programmes are subsidised by their local authority (38%) whereas most UK organisations (80%) are subsidised by large companies.
- b. The average number of places available on pre-driver education programmes was 188; however, the size of the venue was typically noted as a limiting factor.

Road Safety Training Pipeline

- a. Fifty-seven percent of pre-driver education programmes had links with other road safety programmes provided by their own council / organisation. These programmes predominantly comprised of pedestrian skills training, cycle training and theatre in education.

- b. There were slightly fewer links between the pre-driver education programmes and externally provided programmes, with 49% of programmes indicating this was the case. External links included pass plus and young drivers and cycle training.
- c. A large number of respondents (45%) either did not know, or believed that their students had not participated in, any other road safety education programmes. This lack of awareness could create difficulties in developing a pre-driver education course that builds progressively on students' knowledge gained from other interventions.

Programme Instruction

- a. The majority of programmes are instructor led (69%) with a combination of both instructor and self-learning also used by 18% of the programmes; only one programme employed a peer-to-peer learning strategy.
- b. The average instructional time provided is 3 hours and 13 minutes and this was delivered mainly by RSOs (67%). However, driving instructors (43%) and the police (37%) are frequently involved. Only eight programmes (16%) involved parents in the training programme.
- c. Most of the programmes were delivered using classroom instruction (88%) and case studies (47%).
- d. The results indicated that about half of instructors (55%) received training to provide the course. The training consisted mainly of observing other instructors.

Programme Content

- a. The content of the majority of programmes included speed, alcohol, hazard perception and risk.
- b. The average time devoted to the programme elements ranged from 22 minutes to 52 minutes.
- c. Forty-one percent of programmes included practical driving. Of those, which included practical training, 81% included under 17 year olds in their driver training.

Programme Delivery and Equipment

- a. Most programmes use classrooms (78%) and videos (76%) in the delivery of the pre-driver education programme.
- b. Most programmes (61%) provide leaflets for students to take away.

Programme Design and Evaluation

- a. The results suggested that no programmes used a formal design process to *identify* the needs of a pre-driver education programme. The majority of the programmes were developed as a response to the high numbers of young driver casualties.

- b. The results indicated that in the majority of programmes there is no formal *design* processes used for the development of the programmes.
- c. Fifty-five percent of instructors were monitored in the delivery of the pre-driver education programme.
- d. In 38% of cases a third party checks the programme content.
- e. Over half of respondents stated that they have information to support the effectiveness of their programme (55%). Evidence included post course evaluation, a reduction in local casualty records and through feedback from teachers and students.
- f. Almost half of programmes (43%) administer a questionnaire to determine changes in students' attitudes and beliefs towards driving and road safety following an intervention.

Telephone Survey of Non-respondents

The non-respondent sample comprised the 111 UK RSOs who did not respond to the pre-driver education questionnaire. The sample excluded the five organisations (2 UK and 3 international) who did not participate in the main survey.

Information was collected primarily via telephone and contact numbers were obtained from the LARSOA web site. The requirement was to ask RSOs whether their road safety team provided pre-driver education. During the telephone call, RSOs were briefed on the purpose of the survey, the overall objective of the pre-driver education project and the definition of pre-driver education used. All contacts were invited to provide a brief description of their pre-driver education intervention(s) (e.g. target groups, education method and media; and intervention name, if applicable). Call duration was between five and 25 minutes and one Consultant conducted all calls. Information was recorded in an Excel spreadsheet. At least two attempts were made to contact an RSO via telephone; if this was not successful then the RSO was contacted via email.

In summary, information was collected for 103 of the sample (n=111). Of this group, 82 (80%) had a pre-driver education initiative in place and 21 (20 %) did not. In comparison, the questionnaire survey (including late responses) collected information from 70 RSOs representing 70 different Road Safety Teams. Of this group, 40 (57%) indicated that they had a pre-driver education initiative in place and 30 (43%) did not.

Taken together these findings indicate that in 173 cases, 122 (71%) had a Pre-driver Education initiative in place and 51 (29%) did not. It is concluded that the follow-up survey of non-respondents was justified given that the findings of the questionnaire survey underestimated the provision of pre-driver education across UK Road Safety Teams.

General Points arising during the telephone survey

- a. RSOs expressed a keen interest in the project and supported the development of good practice guidance to pre-driver education. In particular, on a number of occasions RSOs were interested in obtaining advice on how best to evaluate the

effectiveness of their interventions. General advice was provided during the telephone conversation.

- b. The availability of resources and funding was mentioned on several occasions as a factor influencing the implementation of pre-driver education. This supports the need to provide Road Safety Teams with resources (e.g. a toolkit), to support the practical implementation of good practice in pre-driver education.
- c. In general, the question 'what pre-driver education is provided by your road safety team' prompted a discussion of education targeted at year 10 and 11's prior to provisional licensing; some exceptions were noted. In particular, on some occasions contacts did not initially consider theatre-in-education as 'pre-driver education'.

4. Development of a Good Practice Guide to Pre-driver Education

Consideration has been given to a Good Practice Guide (GPG) to Pre-driver Education, informed by the findings of a critical literature review, encompassing fundamental and applied literature and good practice in learning needs analysis; consultation with Road Safety Officers; and the findings of the survey reported.

Status, scope and intended audience

It was clear from the survey findings that pre-driver education is a cross organisational issue, requiring coordination between government and non-government agencies. A GPG would provide a way of quickly developing a shared understanding between these people and organisations on what is expected and how to meet these expectations. The intended audience of the GPG would be personnel within government and non-government organisations and agencies, who have a responsibility for the provision of pre-driver education interventions.

For example:

- Road Safety Officers
- Fire Safety Officers
- Police Officers
- School Teachers
- Health Professionals
- Non-Government Personnel

A summary of the good practice points identified is provided below.

Summary of Good Practice Points

Definition

1. Pre-driver education is used to refer to a programme of instruction intended to inform the development of attitudes and beliefs ultimately related to driving that is aimed at young people who have not yet obtained a provisional driver's licence.
2. Pre-driver education should be delivered within a Learning Pipeline, commencing at the earliest opportunity in the child's development, rather than just in the 2-3 year period before provisional licensing.
3. The full range of options available for addressing risk-related behaviours in young drivers should be identified and their relative benefits assessed. Pre-driver education is one important option, which could be used in conjunction with other strategies – parental education, legislation and enforcement, policy, environmental measures.

Requirements Analysis

4. An appropriate amount of effort should be allocated, within constraints to support a thorough analysis of requirements. The requirements should be used as a basis for the selection and evaluation of interventions and if required the development of new ones.
5. A method for recording and managing requirements in a structured and accessible way should be decided before collecting any information.
6. Unsafe behaviours, which are demonstrated by young drivers, which can be addressed by an education intervention, should be identified. The range of circumstances in which the behaviours are likely to occur should also be clearly identified – e.g. when driving with peers.
7. The knowledge and skills, which could have prevented, or reduced the likelihood of the unsafe behaviour from being demonstrated in the first place, should be defined. The development of these statements should be conducted in consultation with other stakeholders and should be guided by questions relating to behavioural control, consequences and social norms (i.e. legal, social and cultural issues).
8. Learning objectives should be defined and related ultimately to an educational goal. The learning objective should start with an action verb and comprise a statement of the performance to be achieved within a given real-world situation (e.g. when walking to school with peers).
9. The requirements of the environment, in which learning takes place, should be identified by assessing the importance of recreating the physical, social and emotional conditions that would be experienced in the real world situation (e.g. as a pedestrian, passenger, cyclist, driver). This process is facilitated by considering the impact or risk associated with not recreating a high level of realism on learning.
10. The content of a pre-driver education intervention should be determined by the set of learning objectives to be addressed by the intervention.
11. The order in which information is presented within an intervention and the amount of time allocated to a given learning objective should be planned.
12. Delivery requirements should take into consideration a range of issues associated with the characteristics of the individuals (target groups) who will participate in the intervention; the requirements for realism to be presented in the learning

environment; the resources required to deliver the intervention; reinforcement requirements; and whether the intervention is sustainable over time.

13. A combination of outcome and process based measures should be used to assess the effectiveness of an intervention.
14. Evaluation techniques (e.g. questionnaires, observation forms) should be designed in consultation with Stakeholders. In particular, the requirements for evaluating learning and behavioural outcomes should take into consideration the age of the participants.

Programme Review

15. A checklist of questions should be developed to focus the selection of an appropriate pre-driver education intervention to meet the defined set of learning objectives, and content, delivery, monitoring and evaluation and sustainability requirements.
16. Modification to an existing intervention needs to be conducted with caution and requires the discipline of piloting and evaluating changes to determine the impact of such modifications on the effectiveness of the intervention.

Usability of the Good Practice Guide

A usability review was carried out and in general, focus group participants acknowledged the need to identify and document requirements to inform the selection of appropriate pre-driver education interventions. However, concerns relating to the availability of resources to support this analysis by Road Safety Teams were emphasised.

The strongest message from the usability review was the need to develop a 'toolkit' to support the implementation of good practice in pre-driver education. This 'toolkit' should provide a central resource of requirements information, e.g. lists of education goals, learning objectives, knowledge and skills statements and programme selection questions.

5. What is the status of Good Practice in Pre-driver Education?

This paper has outlined the findings of a survey of pre-driver education and presented a set of good practice points. In this section, observations on the key deviations between 'good practice' and 'current practice' are made. It is important to note that these observations are based on the *sample* achieved by the questionnaire survey and may not be representative of UK pre-driver education.

Requirements Analysis (related to Good Practice Point 4). The literature review indicated that a thorough analysis of learning requirements, including a clear identification of the target audience, is more likely to result in effective pre-driver education interventions. However, survey results indicated that very few programmes used a formal design process to identify the needs of a pre-driver education programme.

Parent involvement (related to Good Practice Point 12). The literature review indicated that parents could have a significant influence on the road safety attitudes developed by their children. Pre-driver education programmes should also target parents to ensure that they also

have appropriate attitudes towards driving, riding and being a passenger. However, the survey of pre-driver education indicated that only 16% of programmes involved parents.

Practical driver training (related to Good Practice Point 9). The literature review indicated that practical driver training should not be included in pre-driver education programmes because overseas studies have linked it to lower average licensing ages with participants completing the learning to driver process and becoming novice drivers earlier than they would have had they not participated and possible increases in crash rates. However, the survey indicated that a substantial number of programmes include practical driving.

Instructor credibility (related to Good Practice Point 12). The literature review indicated that the credibility of the instructor could, in some cases influence the likelihood of a change in attitude. This indicates that when designing a pre-driver education programme the mode of education intervention delivery as well as course content should be carefully considered. Survey results indicate that few pre-driver education instructors currently receive any formal training.

Peer-to-peer interventions (related to Good Practice Point 12). The literature review concluded, tentatively that peer-to-peer interventions are effective for pre-driver education. The survey identified only one pre-driver education programme currently using peer interventions. The effectiveness of peer-to-peer interventions requires further investigation.

Learning method – student participation (related to Good Practice Point 10). Road transport based attitude change initiatives are more successful when they include active participation, discussion, use of personal experiences, and reflective thinking. The survey of pre-driver education indicated that the delivery of most programmes takes place in the classroom using video materials and provide take home leaflets. Relatively few of the programmes identified in the questionnaire survey appear to involve interactive elements.

Evaluation methodology (related to Good Practice Point 14). The literature review highlighted the importance of well-designed evaluations and found that many road safety interventions are not evaluated properly. Only half of the survey respondents stated that they had information to support the effectiveness of their programmes.

6. Final Comment

The analysis and specification of requirements is fundamental to the achievement of the aims and objectives of pre-driver education. Requirements inform decisions on the most appropriate education methods and media and evaluation techniques. It is human nature to 'get on with the job' and to make a difference as soon as possible. However, it is well documented that many projects, whether they involve the delivery of a service or a piece of equipment, fail to address the original need because not enough time and effort has been allocated to requirements analysis.

It is understood that resources for supporting pre-driver education vary between UK Road Safety Teams and indeed a team may comprise one Road Safety Officer. A key requirement is therefore to minimise the amount of time, effort and expertise that is required by Stakeholders to implement good practice. It is recommended that this is achieved by collecting core 'requirements' information in a form which can be re-used by Stakeholders to

guide the systematic selection of an intervention, or series of interventions to meet specific education requirements.

References

- [1] Good practice in Pre-driver Education: A critical literature review. Conducted on behalf of the DfT by Air Affairs (UK) Ltd (Final release, 31 October 2006).
- [2] Good practice in Pre-driver Education: A survey of pre-driver education provision. Conducted on behalf of the DfT by Air Affairs (UK) Ltd (Final release, 31 October 2006).
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