A Coaching Program for Recently Licensed Young Drivers in the Netherlands: Which Drivers are Attracted?

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Jan Vissers, DHV, the Netherlands
1. Introduction
2. Design principles
3. The DX program
4. The coached drive
5. Research data
6. Results
7. Conclusions
1 Introduction
1.1 Dutch view on driving competence: permanent learning

Acquisition of initial driving competence (Avg. 40 lessons)

Becoming a responsible driver (coaching program)

Sustaining competence and adapting to new roles (fleet training)

Loss of proficiency: compensation training, restrictions and retreat

Permanent learning

Nobody is a competent driver for life
1.2 General aim coaching program

- **Target group:** novice drivers (age 18-24) who held their driving license for about 6 months
- **Aim:** Lowering the typical peak in accidents that novice drivers have at this point in their driving experience
- **Means:** giving them support during this most dangerous phase
1.3 Some facts about the program

- Introduced in 2003 as part of a EU-project
- Participation is free and on voluntary basis
- In 3/12 provinces about 2,000 young drivers per year
- In 2013: 5 provinces
2 Design principles
2.1 Address 4 task levels

- **Life tasks**: may interfere with actual driving
- **Strategic tasks**: planning and preparing, will affect lower levels of driving
- **Tactical tasks**: participation in different tasks conflicting with levels of competence
- **Operational tasks**: necessary but insufficient basis for driving; affected by choices at higher levels

(Hatakka, Keskinen, Gregersen & Glad in Gadget, 1999)
Life tasks (1): may interfere with driving

- Celebrating
- Socializing
- Delivering things
- Going on holiday, long journey
Life tasks (2): may interfere with driving

- Raising kids
- Doing business on the phone
- Having a quarrel
Strategic: buying and maintaining a car

<table>
<thead>
<tr>
<th>Energie</th>
<th>Personenauto</th>
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<tbody>
<tr>
<td>Fabrikant</td>
<td>Merk X</td>
</tr>
<tr>
<td>Model</td>
<td>Model Y</td>
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<tr>
<td>Brandstof</td>
<td>3-drs hatchback</td>
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<td>Brandstofverbruik</td>
<td>handschakeling</td>
</tr>
<tr>
<td>Benzine</td>
<td>Benzine</td>
</tr>
<tr>
<td>7,2 liter / 100 km</td>
<td>Brandstofverbruik 7,2 liter / 100 km</td>
</tr>
<tr>
<td>1 liter op 13,9 km</td>
<td>1 liter op 13,9 km</td>
</tr>
</tbody>
</table>

Zuinig

- Merk X
- Model Y
- 3-drs hatchback
- handschakeling
- Benzine

CO₂-uitstoot

- 173 gram / km

2007

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[Image of a person checking a tire]
Strategic: choice of alternative transport
Strategic: preparing a route

Current Traffic Incidents

- A34 northbound between M4 and A4185 | Northbound | Congestion
  On the A34 northbound between the junctions with the M4 and the A4185, the currently delays of 15 mins due to heavy traffic. Normal traffic conditions expected from 10:00 am. ... More details
- M67 westbound between J2 and J1 | Westbound | Congestion
- M56 eastbound between J9 and J7 | Eastbound | Congestion
- M453 northbound between M11/A50/A6 and A52 | Northbound | Congestion
- A66 eastbound between A685 South and A595 North | Eastbound | Congestion
- M6 southbound within J4 after M42 JTA northbound access | Southbound | Congestion
- M6 eastbound between J8 and J7 | Eastbound | Congestion

More Traffic Services

- Journey Planner
  Use Transport Direct's journey planner tools to:
- Traffic Information Services
  Find out how we can help you or your business with services, RSS and widgets.
- Mobile Services
  Stay in touch with our latest information through the Transport Direct iPhone app.
- Seasonal Advice
  Check out our seasonal advice on planning your journey.
Tactical tasks: participate in traffic

- Crossing and turning
- Merging
Operational tasks: vehicle control

Steering, accelerating

Manoeuvring

Decelerating
2.2 Balancing capability and task requirements (Calibration skills)

- **C < T**
  - Performance capability (C)
  - Task requirements (T)
  - Loss of Control
    - Lucky escape
    - Others compensating
    - Collision

- **C > T**
  - Performance capability (C)
  - Task requirements (T)
  - In control

Ray Fuller (2005)
Personal risk factors influence task capability

Performance capability (C) < Task requirements (T)

Unfavorable Life level choices
Lack of proficiency

Loss of Control
- Lucky escape
- Others compensating
- Collision
3 The DX program
### 3.1 Program components

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7 hours
3.2 Flow of the DX program

- Online registration
- **Pre-assessments**
  - Risk factors
  - Driving behavior
- Coaching day
- **Post-assessment**
  - Situational awareness
3.3 Online Driving assessments

Driver Risk Assessment:
119 questions

Driver background: mileage, active/passive accidents, fines received
Behavioral risk factors: speed choice, lane preference, alcohol, anger, distraction and fatigue

Question: 040 of 119
Speed
How fast do you tend to drive on 120 km/h roads if there is a lot of traffic (but no jams)?

- Up to 120 km/h
- 120-125 km/h
- 125-130 km/h
- 130-135 km/h
3.3 Online Driving assessments

Driver self-assessment:
45 illustrated questions

Driving tasks:
- strategic, tactical and operational behavior, errors committed

Criteria:
- safety, flow, social behavior, control, environment

Do you get irritated by other road users’ mistakes?

(Almost) always

(Almost) never
4 The coached drive
4.1 Drive-preparation

- Coach discusses **driver profile**
- Driver selects **personal learning goals**; coach assists
- Coach prepares a route fitting with the driver profile and the personal learning goals
- Coach and driver jointly select appropriate **observation points** for the observing passengers
- All participants change turns, carry out two drives which are discussed, based on observations
- Driver draws up a personal **development plan**
4.2 Personal driving profile (data feedback)

### Personal score card

#### Personal details

<table>
<thead>
<tr>
<th>Name</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
</tr>
<tr>
<td>Organisation</td>
<td>ROVG</td>
</tr>
</tbody>
</table>

#### Driver self assessment

<table>
<thead>
<tr>
<th>Driver risk</th>
<th>Scored points from total</th>
<th>Improvement needed</th>
<th>Sufficient</th>
<th>Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>73 / 100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td>54 / 100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic flow</td>
<td>82 / 100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment</td>
<td>30 / 100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>63 / 100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anger/aggression</td>
<td>22 / 50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distraction/concentration</td>
<td>2 / 50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatigue</td>
<td>0 / 50</td>
<td></td>
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4.3 Personal goals

Points to be observed during the on-road coached trip:

Speed choice at intersections

Maintaining safe spaces

Take perspective of other road users
4.4 Observation card coached drive

Driver: Peter
Observer: Bob

- Safe space
- Safe speed
- Nobody is hindered
- Allotting space to others
- Communicating with others

Explanation (be specific!):

1. Close following Renault on motorway
2. Close approach car in front on road outside built-up area
3. Speed difference with cars on main lane high!
4. Cyclist overtaken with large space cushion
5. Reduced speed at intersection
Parts of a personal development plan (Peter)

Points to be observed during the on-road coached trip:
- Speed choice at intersections
- Maintaining safe spaces
- Take perspective of other road users

Strong points that I would like to keep:
- Keep using the road efficiently (all available lanes)
- Speed: keep driving below speed limit

Points I would like to improve:
- Driving behaviour:
  - Scan more thoroughly at intersections
  - Slow down at intersections
  - Following distance: at least two seconds
Points I would like to improve:

Risk factors and driving:

*Impatience: leave earlier from home*

*Distraction: settle arrangements with friends already at home*

*Prevent driving through built-up areas if I don’t need to be there.*
Research data:
Entry characteristics
5.1 Driver coaching approach

Coaching:
- Encourages the learner to learn actively
- Raises the responsibility of the learner
- Raises awareness and self-reflection on the part of the driver:
  - values, motives and attitudes regarding driving
  - knowledge, skills and habits regarding driving
5.2 Research

- Challenge: how to deal with different driver entry characteristics?
- Who is attracted:
  - What type of driver is the DX participant: driving style, self-perception, fines & accident history?
  - How does the DX group look like?
  - How are participants motivated?

**Motivation**

- Extrinsic
- Intrinsic
- Amotivation
5.3 Subjects and instrumentation

- Drive experience group (DX) (n=3117)
- Drive experience sub sample (DX) (n=174)
- Young driver Reference group (YD) (n=345)

- Driver Risk Assessment
- Driver self-assessment

- Motivation questionnaire
  (Deci & Ryan, 2000): 16 items
  (intrinsic and extrinsic motivation)

- Existing questionnaire data:
  accidents, fines
Some results
Entry characteristics:
Driving history
Driving behavior
Clustering of DX participants

- Rule following calm drivers (n=477)
- Average DX participants (n=1315)
- Fast and aggressive drivers (n=27)
- Erratic and distracted drivers (n=70)
## Driving characteristics

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<tr>
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### Proportion scale: 1 - 100
- Rarely (1-16)
- Occasionally (17-33)
- Sometimes (34-50)
- Rather often (51-67)
- Very often (68-84)
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<td>20</td>
<td>14</td>
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<tr>
<td><strong>Rule followers</strong></td>
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<th>Active collisions*</th>
<th>Mileage</th>
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<tbody>
<tr>
<td>Rule following calm drivers</td>
<td>38</td>
<td>24</td>
<td>5</td>
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<td>YD-Ref group (n=345)</td>
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* Per million kilometer
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<tr>
<td>Average DX participant</td>
<td>78</td>
<td>19</td>
<td>8</td>
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<td>Fast and aggressive drivers</td>
<td>120</td>
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* Per million kilometer
Participant motivation
Scores on Deci’s scales of motivation (n=174)

1. Amotivation

2. Extrinsic motivation: conforming to outside pressure

3. Extrinsic motivation: internalized goals offered from outside

4. Intrinsic motivation

Does it apply?

Not at all completely
Motivation and undesirable driving behaviors

<table>
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<th>Extrinsic motivation: outside pressure</th>
<th>Extrinsic motivation: internalized goals</th>
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Conclusions
7.1 Overall conclusions: entry characteristics

- The DX program attracts a wide range of young drivers; among them problematic drivers (fines, accidents)
- Majority is intrinsically motivated or has internalized goals offered from outside
- Special challenge for coaches to address:
  - Participants with unclear motives
  - Participants with high-risk behavior and **not** conscious of their erratic behavior
  - *Consciously* low proficient participants
7.2 Follow-up activities

- In-depth study of coaching interactions during drives
- Degree of active participation (self-regulation)
- Changes in attitude and driving behavior

Long term effects on crash involvement: evaluate the effects of combined measures in driving education
Thank you for your attention

TRAFFIC CALMING DEVICES AHEAD