

Driver Improvement: the role of higher-order competences

*Recent developments in the
Netherlands*

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Overview

- **Driver Improvement in the Netherlands: short overview**
- **Architecture behind NL Driver Improvement Courses**
- **More emphasis on Higher-Order Competences**
- **Towards a new Goals of Driver Education matrix**



Legal framework



Legal framework rehabilitation measures

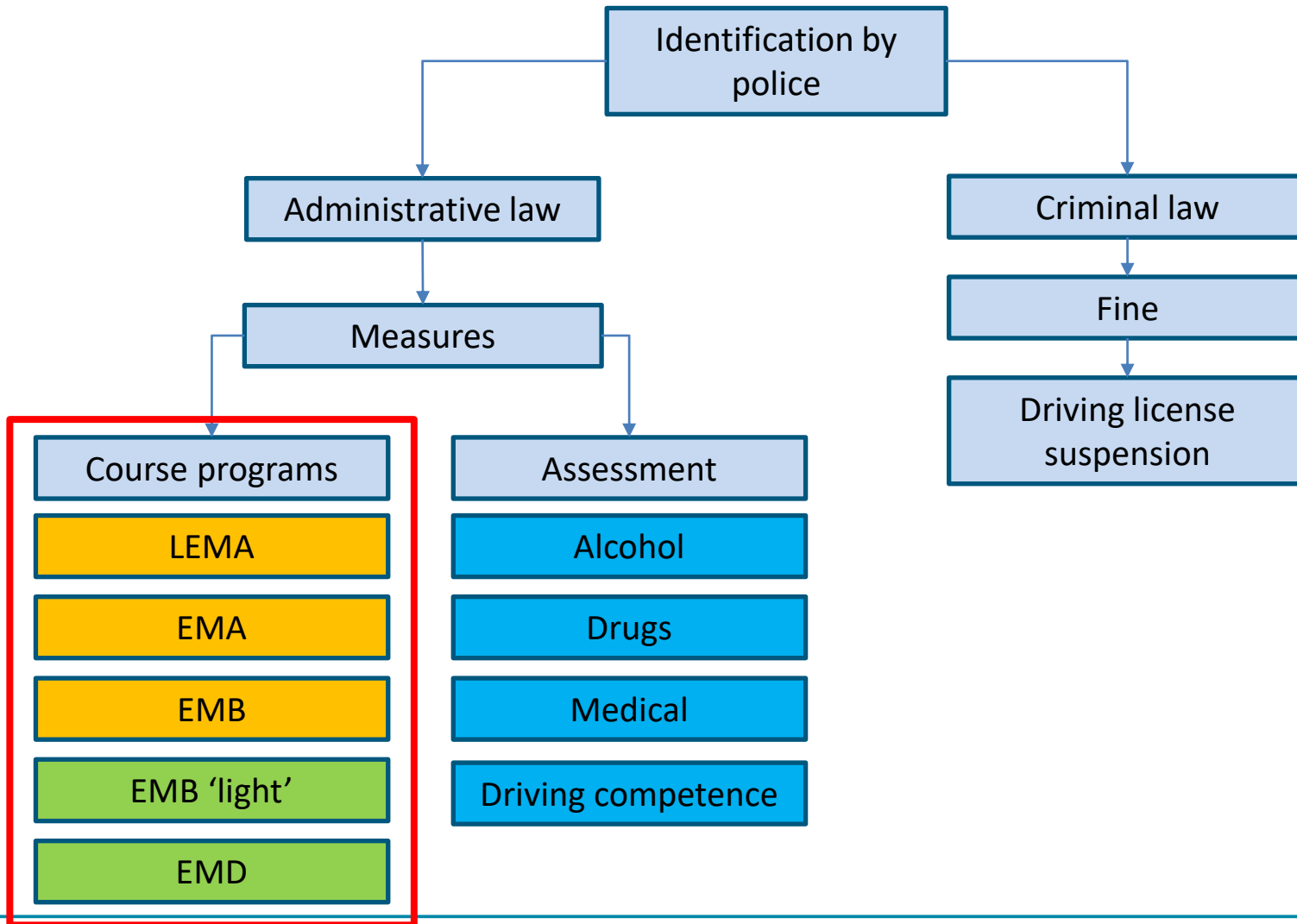
- Administrative law, implemented by driving test / driving license authority CBR
- Assumption: license holder no longer meets required standards of driving
- If no participation or no completion: driving license is invalidated for 5 years
- Driver will also be prosecuted for offences he committed within criminal law
- At the moment: activities within administrative and criminal law are not yet geared to one another



System overview



Legal framework



Course programs

Course type	Duration	Number of participants
Alcohol 'light'	8 hours spread over two days	1,800
Alcohol 'standard'	14 hours spread over three days; closed off by personal interview	5,000
Behaviour 'light'	8 hours spread over two days; closed off by personal interview	4,000
Behaviour 'standard'	14 hours spread over three days; preceded by personal interview	2,000
Drugs	12 hours spread over three days; closed off by personal interview	5,000



Course development



Development steps

- 6 steps inspired by Intervention Mapping methodology (<https://interventionmapping.com/>)
 - Step 1: **Problem analysis**
 - Step 2: Formulation of **change objectives**
 - Step 3: Development of **intervention techniques** to realize the change objectives
 - Step 4: Integrate techniques into **coherent course program**
 - Step 5: Make a plan for adoption, **implementation** and sustainability of the program
 - Step 6: Generate an **evaluation plan** to conduct effect and process evaluations

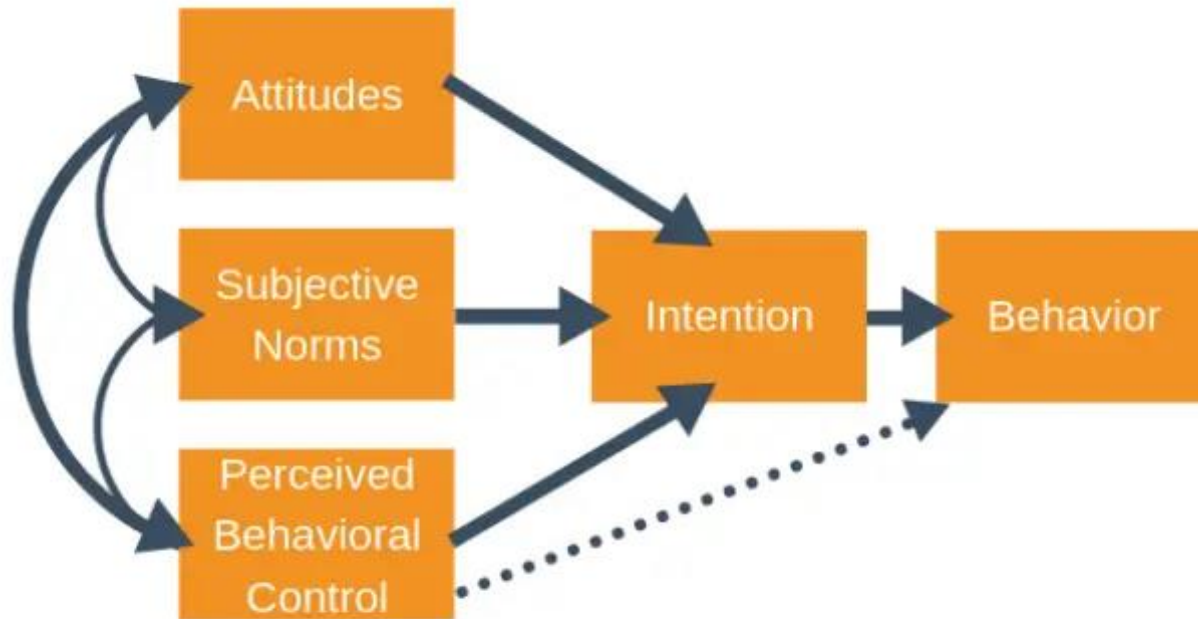
Formulation of change objectives

- Matrix with Goals of Driver Education (GDE) used as a development structure
- Specific goals/ change objectives for each target group/ course program
- Emphasis on higher levels of GDE-matrix and on higher-order skills
- Especially social-emotional higher-order skills are important:
 - **Cognitive higher-order skills:** hazard perception, situation awareness
 - **Calibration skills:** realistic self-image of own skills
 - **Social-affective skills:** social resilience, showing empathy, impulse control, dealing with peer pressure

Theoretical models for behaviour change

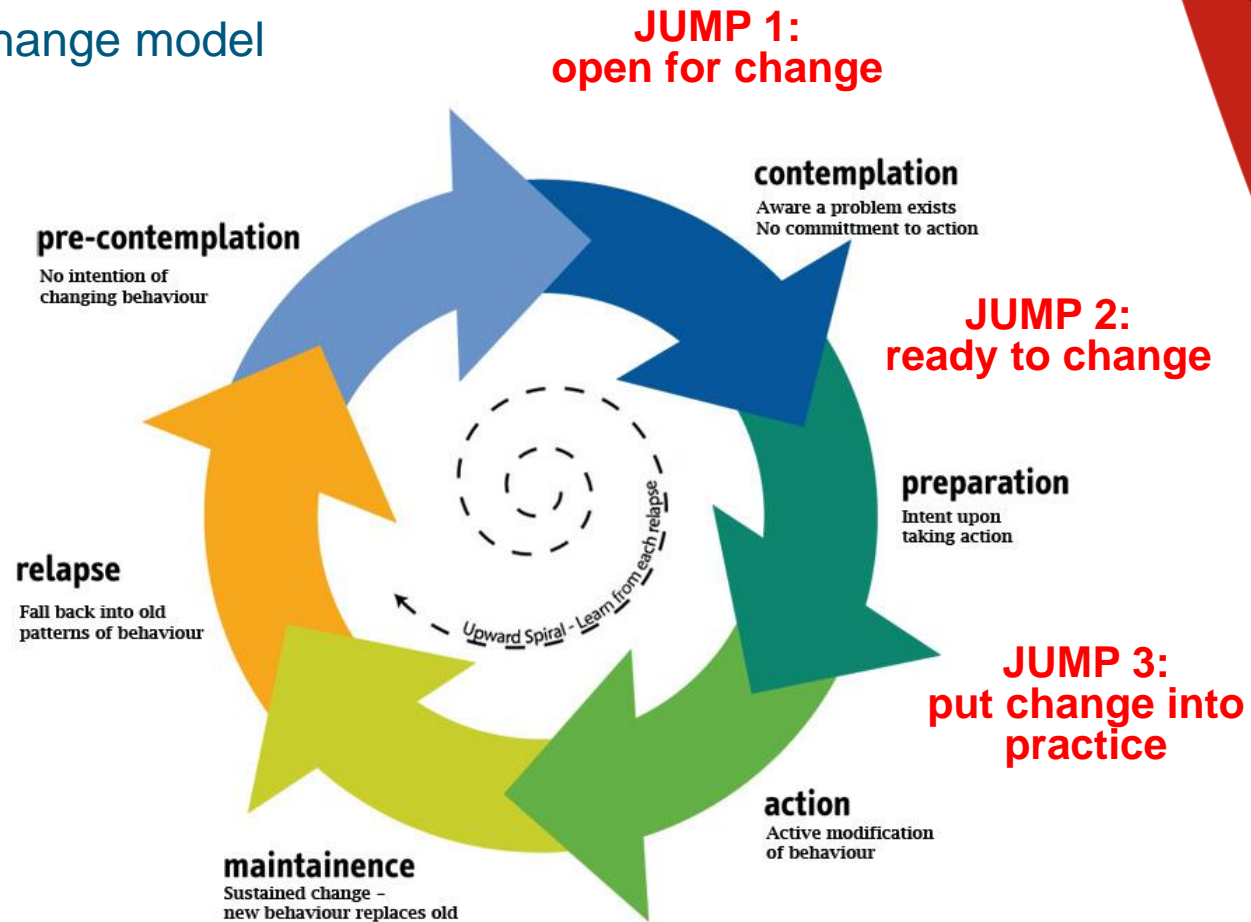
- Theory of Planned Behaviour

Theory of Planned Behavior



Theoretical models for behaviour change

■ Stages of change model



Transtheoretical Model of Change
Prochaska & DiClemente

Individual change plan

- *Tailormade approach: important tool to give attention to the personal needs of each individual participant within the course group and to make a personal change plan.*
- What are my personal problem situations?
- What do I have to change to avoid these situations? What are my personal change objectives?
- What are possible solutions to reach my personal objectives?
- Which solution will work best for me?
- Which actions do I have to take? How should my personal change plan look like? Who can help me to realize my personal change plan?
- Does the change plan work in practice? What do I have to change to make it more effective?

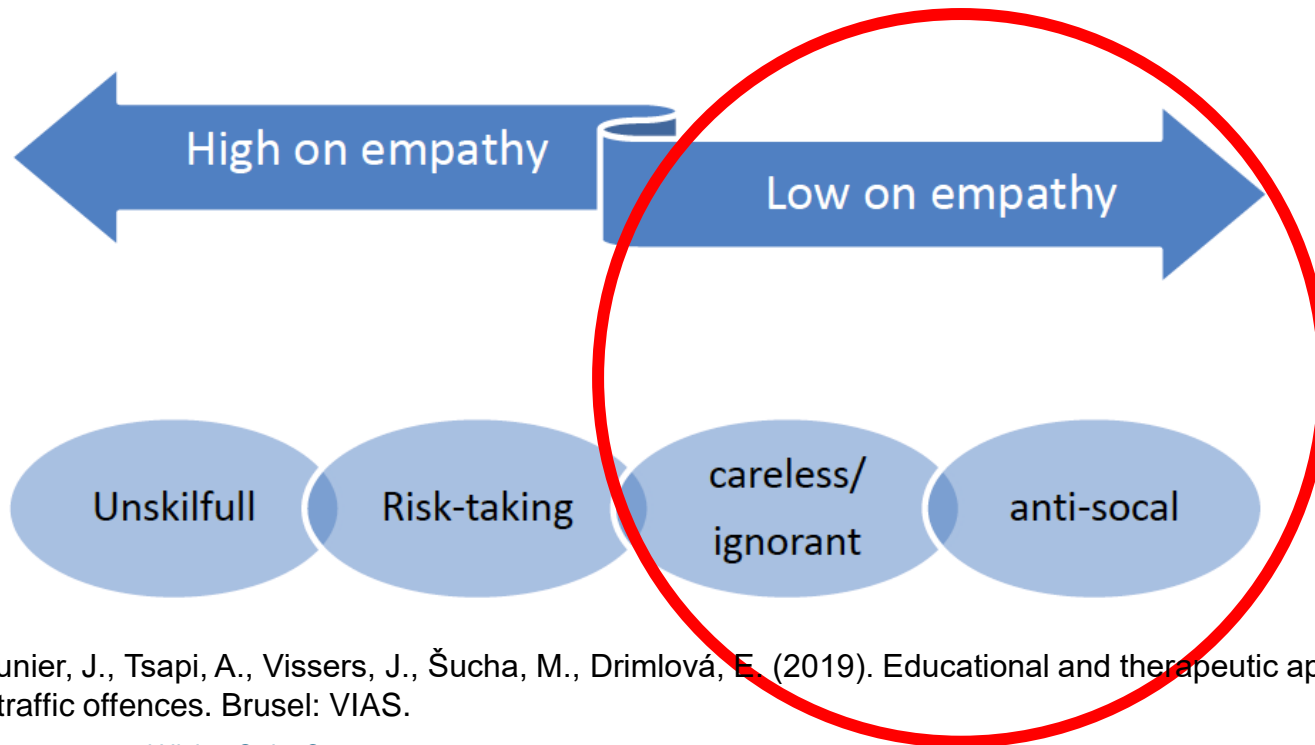


Emphasis on higher-order skills



Typology of course participants

- Driving is complex process that requires social-affective skills to interact in a social and responsible way
- (Brion et al, 2019) conclude that four groups of offenders can be distinguished according to their level of empathy: anti-social, careless/ignorant, risk-taking and unskillful:



Brion, M., Meunier, J., Tsapi, A., Vissers, J., Šucha, M., Drimlová, E. (2019). Educational and therapeutic approaches as responses to traffic offences. Brusel: VIAS.

Focus on higher-order skills

- Thus, rehabilitation programs should focus on the low empathy offender types
- With the aim of supporting self-reflection, understanding (place yourself in the position of the other), impulse control and the development of positive coping strategies
- In the end course participants should be able to avoid getting involved in situations that have a high personal risk



Towards a new GDE-matrix



‘Good old’ GDE-matrix

(GDE Matrix – Goals for Driver Education)

Levels	Area	Knowledge and skill	Risk increasing aspects	Self assesment
Goals for life and skills for living		Lifestyle, age, group, culture, social position etc. vs. driving behaviour	Sensation seeking, Risk acceptance, Group norms, Peer pressure	Introspective competence, Own preconditions, Impulse control
Goals and context of driving		Modal choice, Choice of time, Role of motives, Route planning	Alcohol, fatigue, Low friction, Rush hours, Young passengers	Own motives influencing choices, Self-critical thinking
Driving in traffic		Traffic rules, Cooperation, Hazard, perception, Automatization	Disobeying rules, Close-following, Low friction, Vulnerable r.u.	Calibration of driving skills, Own driving style
Vehicle control		Car functioning, Protection systems, Vehicle control, Physical laws	No seatbelts, Breakdown of vehicle systems, Worn-out tyres	Calibration of car-control skills



GDE-matrix 'new style'

	Basic Skills		Higher Order Skills		
	Know and understand (necessary underlying knowledge)	Decide and act (properly execute task processes)	Higher-order cognitive skills (situation awareness, hazard perception)	Calibration (realistic self-image of own skills)	Social-affective skills (showing empathy, impulse control, dealing with peer pressure)
Combine life-tasks and drive with a goal	Influence of personal characteristics, factors and circumstances on basic skills		Influence of personal characteristics, factors and circumstances on recognizing and dealing with risky situations	Influence of personal characteristics, factors and circumstances on the choice of situations to suit your own safety	Influence of personal characteristics, factors and circumstances on the perception of situations, feelings and interests of other road users
Prepare, plan and navigate	Consequences for the execution of basic skills of choices you make before entering traffic		Consequences for recognizing and dealing with risky situations of choices you make before entering traffic	Consequences for entering situations that may or may not suit your own ability of choices you make before entering traffic	Consequences for other road users of choices you make before entering traffic
Resolve situations-participate in traffic	Knowledge, insight and skills to safely resolve traffic situations: what are the rules and agreements and how do I apply them safely?		Knowledge, insight and skills to recognize traffic risks in time and then avoid them or prevent unsafe situations from arising	Know which traffic situations you can and cannot handle and choose your behavior in such a way that situations are manageable for you and can be solved safely	Know what the consequences can be for other road users if you do not resolve traffic situations according to agreements and make unsafe choices
Vehicle control and manoeuvres	Technical control of the vehicle		Knowing the risks you run if technical control is insufficient and knowing what to do to prevent these risks	Know how well you control the vehicle technically and choose situations in such a way that you can technically handle them	Knowing what the consequences can be for other road users if technical control is insufficient

Focus on personality-related competences

	Basic Skills		Higher Order Skills		
	Know and understand (necessary underlying knowledge)	Decide and act (properly execute task processes)	Higher-order cognitive skills (situation awareness, hazard perception)	Calibration (realistic self-image of own skills)	Social-affective skills (showing empathy, impulse control, dealing with peer pressure)
Combine life-tasks and drive with a goal	Influence of personal characteristics, factors and circumstances on basic skills		Influence of personal characteristics, factors and circumstances on recognizing and dealing with risky situations	Influence of personal characteristics, factors and circumstances on recognizing and dealing with risky situations	Influence of personal characteristics, factors and circumstances on recognizing and dealing with risky situations
Prepare, plan and navigate	Consequences for the execution of basic skills of choices you make before entering traffic		Consequences for recognizing and dealing with risky situations of choices you make before entering traffic	Consequences for recognizing and dealing with risky situations of choices you make before entering traffic	Consequences for recognizing and dealing with risky situations of choices you make before entering traffic
Resolve situations-participate in traffic	Knowledge of traffic situations: Task-related competences 'Vehicle control'		Knowledge of traffic situations: Task-related competences 'Vehicle control'	Know which traffic situations you can and cannot handle and choose your behavior in such a way that situations are manageable for you and can be solved safely	Know what the consequences can be for other road users if you do not resolve traffic situations according to agreements and make unsafe choices
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**Personality-related competences
'Personal self-control'**

**Task-related competences
'Vehicle control'**

Current status use new GDE-matrix

Based on new GDE-matrix learning goals have been developed for three target groups:

- Primary school education
- Secondary school education
- Novice drivers: basis for new driver training curriculum



**Thank you for your
attention!**

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