

praktische kennis **direct toepasbaar**

A photograph of a woman in a dark dress holding a young child on a tram platform. A blue and yellow tram is stopped at the platform. In the background, there are trees, a traffic light, and a street lamp. The scene is set on a paved area with red bricks.

TOWARDS EVIDENCE-BASED ROAD SAFETY EDUCATION

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OVERVIEW

- **Background and development Lifelong Road Safety Education**
- **Development and implementation Educational Checklist**
- **Results so far**
- **Future steps**



THE TEAM

- **CROW**
 - Alexandra Kluitman
 - Baukje de Vries
- **Royal HaskoningDHV**
 - Niki Hukker
 - Jan Vissers

In co-operation with:

- **Provinces/Regional Road Safety Bodies**
- **Producers of road safety interventions**





Background and development of Lifelong Road Safety Education (LRSE)



NL CONCEPT OF ‘LIFE LONG LEARNING’

- Road Safety Education (RSE) at important shifts in modes of traffic participation
- Know-how, skills and attitudes for safe participation in traffic
- For all age groups: “from the cradle to the grave”



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Preschool education



'learn in traffic'

Primary school



'blind spot lesson'

Secondary school



'Case 101'

Novice drivers



'Traffic Battle'

License holders



'Motorcycle – risk course'

Elderly road users



'eBike Training'

TOOLKIT RSE INTERVENTIONS

- First step in quality assurance
- Inventory and assessment of RSE interventions
- Database with interventions classified by target group
- Used by professionals to give a recommendation about the 'best matched' intervention
- Web-based: <https://www.crow.nl/kennis/tools-mobiliteit-en-gedrag/toolkit-verkeerseducatie>
- At the start 100 products, now over 170 products in The Netherlands



Development and implementation of the educational checklist



EDUCATIONAL CHECKLIST

- Which steps are essential to the development of an effective intervention?
- Have all these steps been passed through and have decisions been substantiated?
- Inspired by 'Intervention Mapping' methodology: tool for the planning and development of health promotion interventions
- Evidence and theory-based approach

10 STEPS

1. Problem analysis
2. Target group specification
3. Educational goals
4. Didactical principles
5. Content and lay-out of teaching materials
6. Assessment and evaluation during the intervention
7. Intervention manual
8. Implementation of the intervention
9. Process evaluation
10. Outcome evaluation

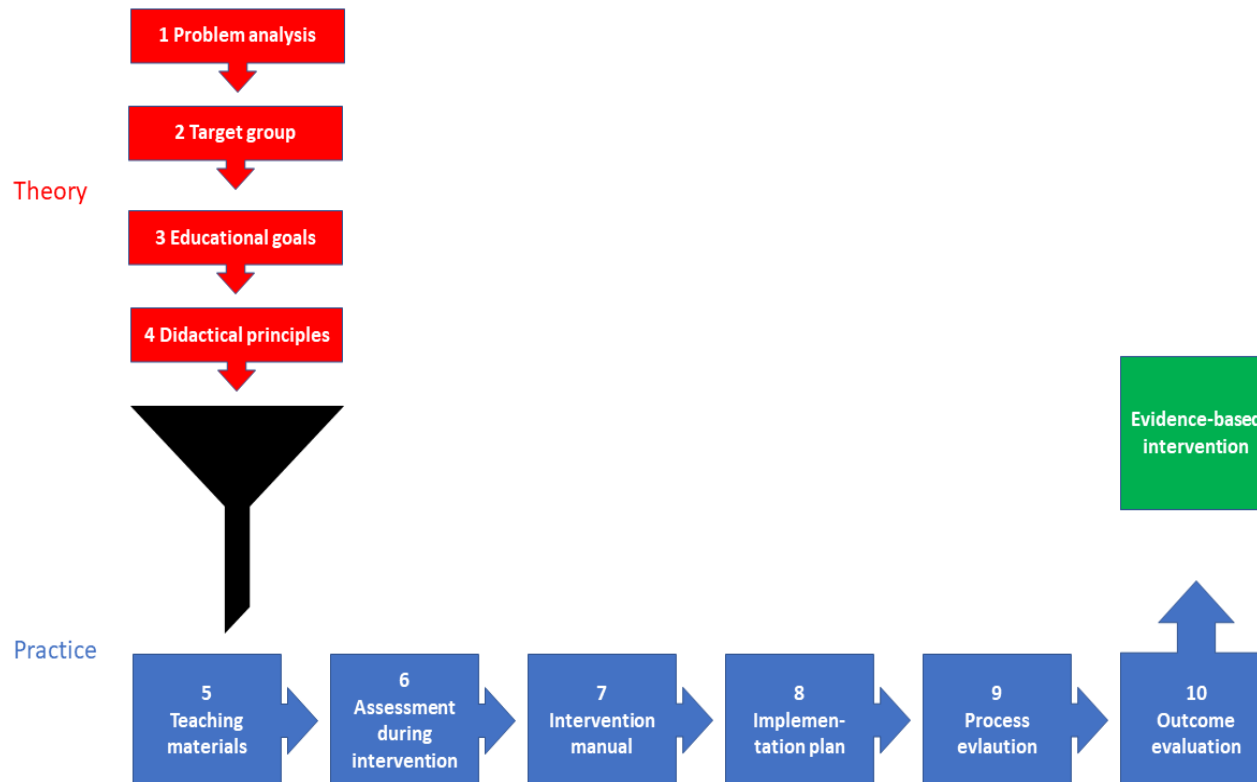


PURPOSE OF CHECKLIST

- **Development tool**
To give support to intervention designers to develop their programs
- **Assessment tool**
To give funding organisations insight into the quality of RSE interventions
- **Stimulate the evaluation of interventions**
See steps 9 and 10



DEVELOPING PROGRAMS



ASSESSMENT PROCEDURE

1. Group assessment
 - two educational experts in each group
 - read through available documentation
 - have personal interview with producer
 - discussion about scores for each step
2. Documentation of group assessment
3. Producer comments on assessment and makes up improvement plan
4. Final assessment is added and assessments are published in RSE Toolkit website
5. Strong but also weak points of interventions are described



Toolkit

Rating

OMSCHRIJVING

Beoordeling

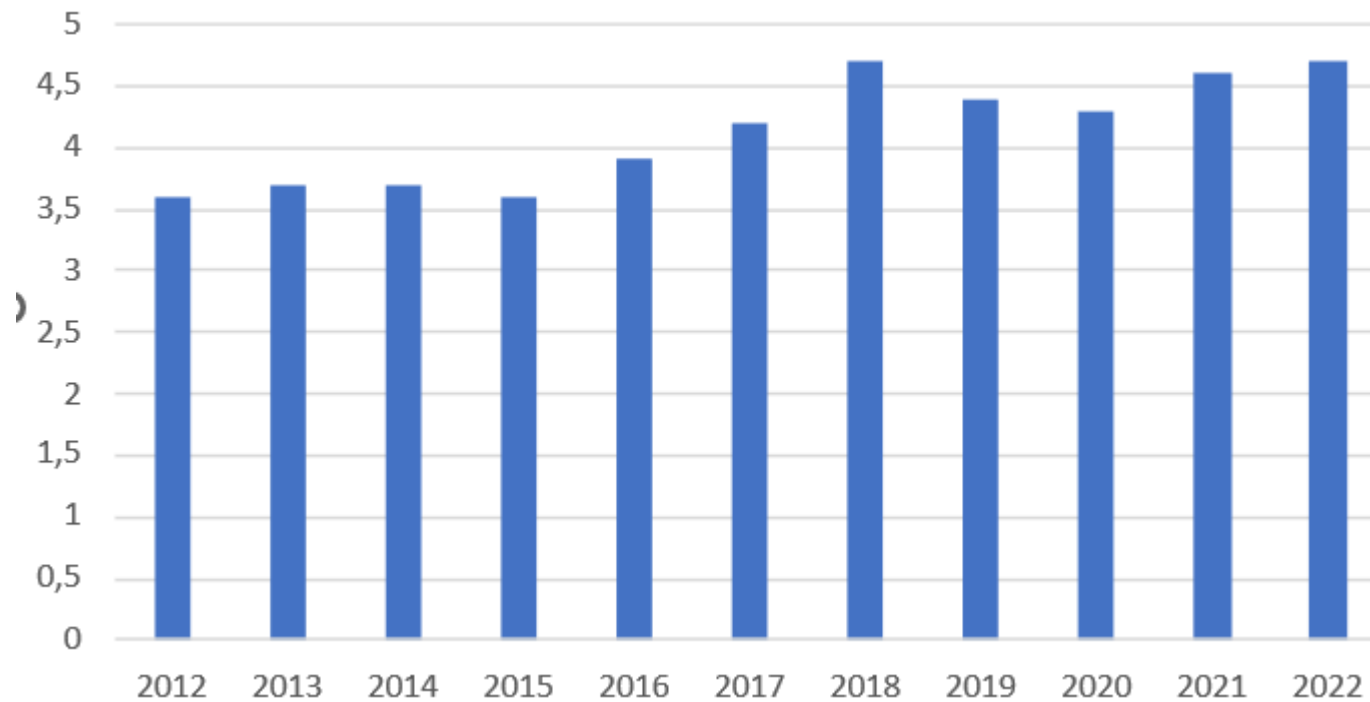
1. Keuze van te beïnvloeden gedrag	★★★
2. Keuze van de doelgroep	★★★★★
3. Het formuleren van leerdoelen	★★★
4. Didactische uitgangspunten	★★★★
5. Inhoud en vormgeving	★★★★★
6. Toetsing en evaluatie in programma	★★★★★
7. Handleiding en draaiboek	★★★
8. Implementatie van het programma	★★★★★
9. Procesevaluatie / gebruikerservaringen	★★★★★
10. Kwaliteit van de effectmeting*	★



Results so far



AVERAGE SCORE



ASSESSMENT RESULTS STEP 1-4

Checklist step	Score 1 or 2	Score 3	Score 4 or 5
	'not or badly substantiated'	'intermediate'	'(very) good substantiated'
Step 1: Problem analysis	5 (4,2%)	9 (7,5%)	106 (88,3%)
Step 2: Target group	0 (0%)	2 (1,7%)	118 (98,3%)
Step 3: Educational goals	7 (5,8%)	20 (16,7%)	93 (77,5%)
Step 4: Didactical principles	2 (1,7%)	7 (5,8%)	111 (92,5%)

EVALUATIONS NEEDED

- The checklist-results give insight in the care and the precision by which the program is produced
- But without an outcome evaluation there is no insight in the actual safety changes in the behavior of road users
- In 34% of interventions an evaluation study was carried out. Proper evaluations have more than doubled (from 12% in 2017 to 21% in 2023)
- Re-assessment of interventions has started in 2021
- 10 'golden rules' of RSE evaluation studies



LESSONS LEARNED

- Checklist useful development-tool and assessment-tool
- Checklist is prerequisite to quality, no guarantee for positive outcomes
- Producers adapt the 10 steps for the development of interventions
- Involvement of producers is needed (personal interview)
- Involvement of a group of assessors is needed: ratings need to be discussed
- Assessment groups need to combine theoretical and practical knowledge and expertise

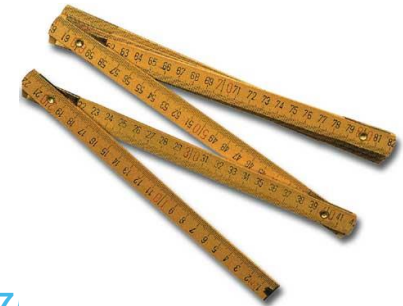


Future steps



STANDARDISED EVALUATION: PRIMARY SCHOOLS

- Standardized assessment instrument: a digital bicycle test for children in primary school:
 - situation awareness
 - hazard perception
 - social behavior and moral reasoning
- Gives (hopefully) insight in overall effectiveness of the total amount of RSE-interventions in primary school in the Netherlands
- Twisk, D., et al., Higher-order cycling skills among 11- to 13-year-old cyclists and relationships with cycling experience, risky behavior, crashes and self-assessed skill, Journal of Safety Research (2018)
- <https://www.sciencedirect.com/science/article/abs/pii/S0022437518305020>



LEARNING GOALS...

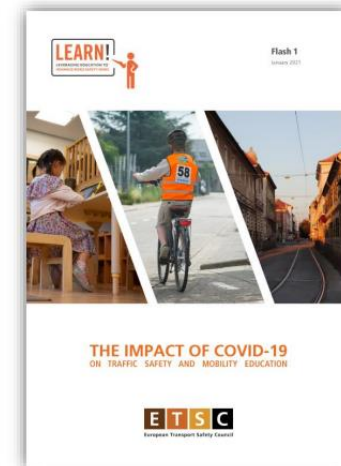
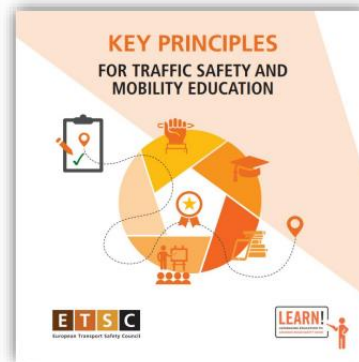


Vissers et al. (2004) Learning goals for lifelong road safety education

<https://www.crow.nl/getattachment/22e215e0-0532-4a03-aec7-efb27eb2565c/Learning-goals-for-lifelong-road-safety-education.pdf.aspx?lang=nl-NL&ext=.pdf>

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LEARN!



The LEARN! Material can be downloaded for free at:
www.trafficsafetyeducation.eu



SUMMARY

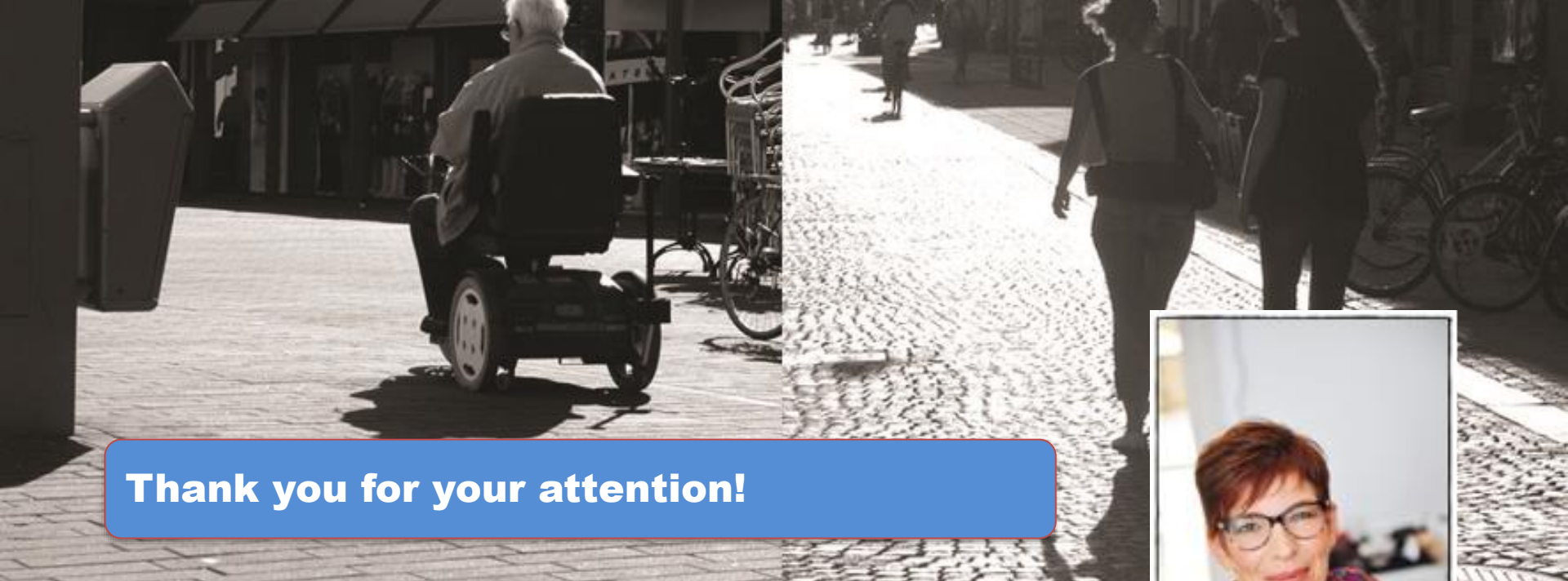
- 120 interventions assessed between 2012 and 2023
- Increase of quality in developing and implementing interventions
- Stimulation of co-operation between all parties involved
- Decision process for funding more transparent
- More emphasis on evaluation



ULTIMATE GOAL

- All interventions are being developed according to the ten steps of the educational checklist
- All interventions are being evaluated and monitored
- Only evidence-based interventions are being implemented and subsidized by the government





Thank you for your attention!

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