How an Evidence Based solution such as Hazard Perception/Prediction enhances novice drivers skills and supports testing

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The Stark Reality

3,698 people per day globally*
56 people per day in the EU#

EU represents 9.78% of the worlds' population

Sources:

* World Health Organisation

\# EU Commission Mobility & Transport

Global & EU Road Safety Objectives
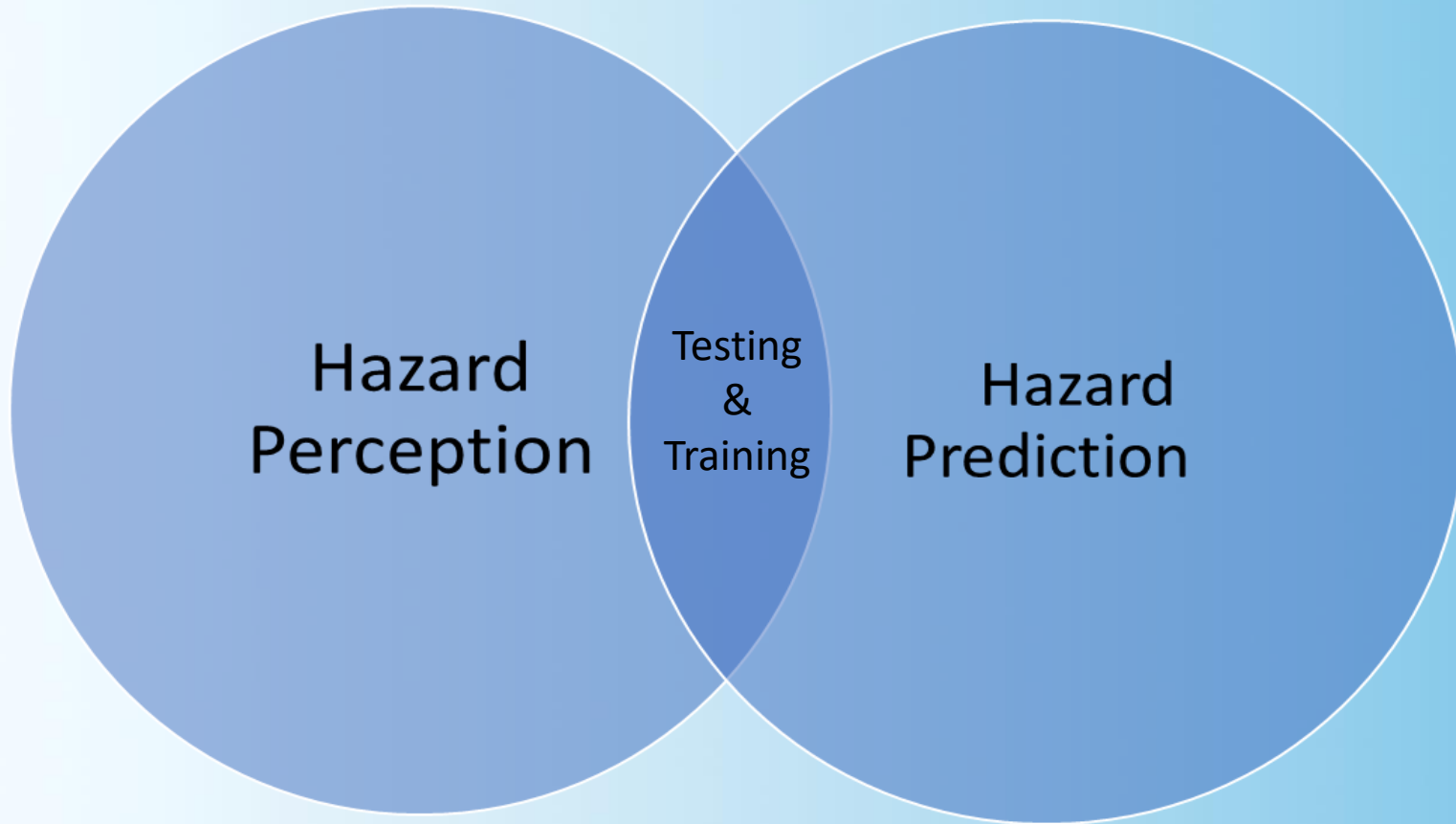
World Health Organisation

- Decade of Action for Road Safety
  - Preventing 50% of road traffic deaths and injuries by 2030
    - 650,000 lives
    - 25 million injuries
  - "Road traffic laws are an essential part of ensuring safe road user behaviours"
  - "Its for countries to act"

European Union

- Towards Vision Zero by 2050
- Strategic Action Plan 2021-2030
  - Reduction of 50% of road traffic deaths and injuries by 2030
  - EU Directive 2006/126 - Hazard perception aims to enhance the ability of road users to detect and avoid hazards. Studies show that, overall, hazard perception training has a positive effect on safety, leading to enhanced hazard perception abilities, as well as reduced collision rates and lower driving speeds.
  - Hazard perception driver and rider training (and testing, see section below) should be introduced in all EU Member States.

What do we mean by Perception and Prediction

Perception Clip

1. More about anticipation (pre-cursor) that reacting to a sudden event.
2. Detecting and responding to events that have a probability of causing a collision.
3. Awareness of developing scenarios and good scanning skills.

Prediction Clip

1. More about the hazard that requires a reaction.
2. Understanding what could happen next.
3. Making the right decision about what to do.

What Driving Skills are enhanced by Hazard Perception and Prediction

- **Understanding and assessing developing hazards (precursors)**
  - Different weather conditions
  - What is behind and alongside the car

- **Hazard searching**
  - Scanning the road scene

- **Decision making/Behavioural responses**
  - Making good judgement calls based on the evidence you see
  - Ranking the hazard

David Crundall – Professor of Phycology Traffic and Transport
Nottingham Trent University

Real World Examples

Testing Applications

Driver & Vehicle Standards Agency

Training Applications

BMK

bikeability

VVR

Transport for London

Deep River Development Ltd

Research

FIVE

NTU

Clip examples

Andy Bull

Jellylearn – Production Director

The Legislative Landscape - EU

- EU Initiatives

  - Introduction of Hazard Perception testing for young drivers (EU 2006/126)

    - Studies show that, overall, hazard perception training has a positive effect on safety. Most studies show that hazard perception training leads to enhanced hazard perception abilities, as well as reduced collision rates and lower driving speeds. Wells P et al, (2008) Cohort II: A Study of Learner and New Drivers.

  - Germany – Architecture for new driver training in Germany

Psych. Dr. Jan Genschow
Psych. Bianca Bredow
Prof. Dr. Dietmar Sturzbecher

Competence "traffic Awareness and Hazard Avoidance"
Class B learner drivers are able to assess traffic situations in terms of dangers and possible behaviour. They act with foresight and defensively in traffic situations in order to avoid dangers as far as possible.

Social and Economic Benefits - Ireland

Population c5.1m
Driving Tests per year c120,000
Cost of a fatality* €2.75m

Road Safety Authority*

11%
Reduction in road crashes

11%
Reduction in road deaths

18
Lives saved

11%
Reduction in serious injuries

143
People saved from serious injury

Or in best case scenario, both.
In monetary terms, this reduction could reduce the cost of these incident by:
€49.5 million cost reduction for fatalities
€53.5 million cost reduction for serious injuries
Or €103 million combined for best case scenario for both outcomes

How to Advance Driving Skills

- Improve Quality and Range of Clips
  - DRD – UK based developer of training apps for road safety
    - Ensure you have a wide range of challenging hazards
    - The data clearly shows a difference between standard video and CGI clips is key to the outcome of the learning
    - Create different content for different road users

- Make Hazard Perception training compulsory for all novice drivers

- Ensure more content is available online to support continued learning throughout your driving life.

Summary

- Hazard Perception is an Evidence Based solution
  - 11.3% reduction in RTA's amongst novice drivers

- Hazard Prediction still lacks the same evidence based research as Perception but has a role to play in helping novice drivers.

- HP provides one of the solutions to meet the WHO & EU objectives for novice drivers.

- Training and Testing are going to play a key role in this process and the quality of the content will be a key component in supporting its effectiveness.