Training in higher-order cognitive skills (HP) addresses the broader driving context, in particular anticipating or avoiding hazardous situations (Beanland et al., 2013).

1. To assess the effect of the video-based Proactive Listening to a Training Commentary on participants' hazard perception performance.

2. To compare the improvement of performance in hazard perception skills of groups of different driving experience and non-offenders vs. re-offenders, in various types of hazardous situation.

A new and improved version of the Hazard Perception Test adapted to a Spanish driving context (HP-WHN, Castro et al. 2014: Castro et al. 2016)


Potentiallistening to a Training Commentary (PL-TC)

Figure 1. Performance in hazard prediction can be improved after PL-TC training but also by practice.

Figure 2. The PL-TC is essential and especially beneficial for training the ability to detect hazards that appear abruptly (which seems to be difficult to improve just by practice). Performance in gradual-onset hazard events can be improved after training but also by practice.

Figure 3. This training shows significant positive effects for all types and groups of participants.

Research Aims

Hazard Prediction

Time (Clips: Max. 46 sec)

BLANK SCREEN

Hazardous situation Development / video exclusion

Videos: Clips between 6 and 46 seconds long

Stopped immediately prior to the hazardous situation

What? Where? and WHN?

Research Procedure

Pre-test

1-16 videos

1-16 video

Post-test

Pre-test assessment

Proactive commentary training

Post-test assessment

10 minutes break

Participants

121 drivers (52 female & 69 male)

(a) 20 (16.5%) learner drivers (18-37 years) who were attending lessons to obtain a driving licence for the first time

(b) 62 (50.4%) novice drivers (18-39 years) who were in possession of a driving licence and had less than eight years' driving experience,

(c) 40 (31.1%) expert drivers (26-53 years) who possessed different types of driving licence.

Drivers' profile

20 novice

20 experienced offender drivers

Conclusions

- Top-down processes play a dominant role in the guidance of eye-movement (e.g. Henderson et al. 2007, Petter and Itti, 2007, Pompeumo, 2006, Zelinsky et al., 2006).

- The Proactive Listening to a Training Commentary helps drivers not only by providing knowledge but also by increasing sensitivity to hazards.

Future Research

- Determine the effect that different hazards have on learners, novices and expert drivers.
- Explore whether this kind of training would be effective long term and whether a transfer occurs in HP during real driving.
- Analyse the trade-off between Proactive Listening to a Training Commentary and other training methods.

References

