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Learning to drive means learning about oneself

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Although knowledge of traffic rules and acquiring vehicle handling skills are essential in driving, they do not suffice to prevent accidents. A combination of a lack of knowledge of traffic rules, and/or a misinterpretation of the traffic situation, as well as the wrong application of certain rules are frequently the causes of accidents especially when young drivers are involved. The reasons for those false interpretations are linked to motivation, unrealistic beliefs of one's capacities and the lack of risk perception skills.

As an example of the above statement, it has been claimed that drivers involved in accidents lack the skills to react properly to critical events. The question is however, would they have found themselves in this critical situation if they had perceived and considered the situation properly and had acknowledged the associated risk beforehand? In addition, research indicates that having a high level of practical skills can even lead to engagement in more risky situations because of a high self-esteem.

A behaviour model

The Task-capability interface (TCI) model of Ray Fuller (Fuller, 2005), which describes the dynamic interaction between the determinants of task demands and driver capacities, can explain these phenomena and provides a good understanding of some problems with drivers.

This model is based on the assumption that drivers will adopt a preferred level of driving difficulty that is the result from the relation between the perceived task demands and the perceived capacity of oneself. The difficulty of the task depend on external factors, such as traffic density, weather conditions, ..., but can be influenced by the behaviour of the driver itself, especially concerning speed choice and safety margins. The process of balancing the task demands and one's own capability is also called 'calibration' (Kuiken & Twisk, 2001).

To drive safely, this calibration process is very important but depends on the accuracy of two higher order capacities. On the one hand one needs capacities to detect and assessing hazards (in general terms: risk perception). On the other hand one needs a good insight in the general conditions and one's own capacities. Davidse (et al.) (Davidse, Vlaskveld, Douwen, & Craen, 2010) speaks of 'self awareness' versus 'risk awareness'. Self awareness is defined as the concurrency between the real capacities and the perceived capacities.

In this presentation, we will focus on how these different aspects can be tackled during driver education.

Self-awareness

Self-awareness and human limitations

In addition to the interindividual difference in personal capacities and abilities, the primary source of its input, namely our **visuo-perceptual system**, is limited. A well-known example of this is the influence of speed on the accuracy within the perceptual field. Also the phenomenon of inattention blindness (Mack & Rock, 1998) is an example and a well known phenomena in accident analysis ('looked but failed to see' (Brown, 2005).

A second limitation is in our **attention span**. We can only pay full attention for a limited amount of time and to a limited number of items at one time. And if we are trying to do two things simultaneously, we lose accuracy or speed. A typical example is a driver who slows down or deviates from the lane while using a mobil phone.

In this context we can also refer to the limitations in our **mental processes**. We fool ourselves with the idea that we think rationally, but in fact it is far away from reality (Kahneman, 2011). A few examples of these 'errors' are: 'fundamental attribution error' (Baxter, 1990), 'omission bias', 'selective perception', 'Well travelled road effect'... (Weusten, 2013).

However, as human beings we are necessarily subject to these limitations and biases. We can't change them nor prevent them to rule our behaviour. We can however be aware of them and make situations easier for us not to be the victim of these pitfalls in crucial situations.

Self-awareness and personal drives

While acquiring driving experience we develop an own driving style, based on our inner drives and personality. This natural 'driving style' (www.nds-test.com) is most visible in vulnerable situations such as stress, time pressure, conflicts, ... Several approaches have been examined in the past. We found some literature about 'lifestyles' (Moeller, 2002); personality traits (Griffin & O'Cass, 2010); basic needs (Murray, 1938) and coping strategies (Matthews & Campbell, 2009). The most explored trait with a strong association toward dangerous driving is 'sensation seeking' (Zuckerman & Kuhlman, 2000).

During the practical driving lessons some of these characteristics or coping strategies are visible and hereby ready for discussion. Changing them is not the issue, but a novice driver can learn about the possible disadvantages or risks.

Self-awareness and emotions

Several emotions can have a different effect on driving. In general, stress and being nervous increases the number of mistakes and estimation errors (Mesken, 2007). Anger could be a trigger for risky driving and provokes more nearly-accidents (King & Parker, 2008). Positive emotions can be influential as well, especially when the passengers are very exuberant in their expression, which could have a negative influence on the driver's attention, which could lead to more errors. Reflecting on these matters can help to be more aware of the own irrational reactions and behaviour. Group discussions are a good tool for this.

Implications for driver education

To implement these higher order skills, four changes are necessary:

- 1) Shift the approach slightly from teaching to coaching. Let the novice driver reflect on his own capacities and skills.
- 2) Try to organize a group discussion during the practical driving phase about risks, emotions, attitudes,...
- 3) Install a 'life long driver education'. More realistic is an obligation to organize a course day after a few months of driving.
- 4) (especially for Belgium) combine the professional instructor training with a lay-instructor training.

Author's CV:

Ludo Kluppels is working as a traffic psychologist at the Belgian Road Safety Institute (BIVV-IBSR) in Brussels.

- Dec 1996 until May 2014: Head of the driver improvement department
- From May 2014 until now: project leader in traffic psychology

Publications:

- (2002) "Agressie: workshop voor rijinstructeurs" handboek in het kader van de bijscholing. Cevora-BIVV
- (2007) "Rijen voor het werk: verkeersagressie", handboek bij cursus VIP-chauffeurs, Syntra-BIVV
- (2013) "Rijden als werk: verkeersveiligheid in een autobusbedrijf" handboek bij de cursus 'Openbaar Busvervoer Ondernemer' Syntra-BIVV
- (2014) "De menselijke factor : verkeersveiligheid behoeften bij weggebruikers", handboek bij de cursus verkeersauditeur, BIVV
- (2015) "Waarom slimme mensen domme dingen doen", handboek bij de opleiding trainer, Trafieq-BIVV.