FINAL REPORT
CIECA-RUE Road User Education Project

CIECA Secretariat

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1 PREAMBLE: PROJECT ORIGIN, PARTICIPANTS AND AIMS

1.1 Project background, aims and scope

EU Driving Licence Directive focuses on driver testing

Important EU legislation relating to driving licences (EU Driving Licence Directive 2006/126/EC, laying down the requirements for a European driving licence) is already in place. Besides details regarding its format, issuing and transposition procedures, as well as licence categories, minimum ages and definitions, the Directive also details knowledge, skills and behaviour required to pass the theoretical and practical driving test (Annex II), minimum standards for mental and physical fitness (Annex III) and minimum standards for persons conducting practical driving tests (Annex IV). The minimum requirements for driver training are strongly oriented to these requirements (Annex V). The Directive however does not make any reference to the skills, behaviour and knowledge that should be passed on to the learner driver, how these should be passed on and which minimum requirements apply for persons delivering the professional driver instruction and accompanied driving.

Education and training as objective N°1 in road safety policy

The absence of a common European Directive in these areas has resulted in a fragmented system with a range of national strategies and approaches towards driver education. To "improve education and training for road users" is the primary objective formulated in the policy orientation "Towards a European road safety area: policy orientations on road safety 2011-2020" by the European Commission (2010). In this context, one purpose of the project was to contribute to DG MOVE's work on drafting new legislation which may address driver education.

Recommendations for driver education[1]

Therefore, the project was aimed at developing recommendations regarding:

- Minimum driver competence standards,
- A framework for a driver education curriculum, and
- Minimum standards for driving instructors and accompanying persons

These recommendations are not a proposal for future legislation, but they may serve as suggestions for matters to be included and/or a good starting point for the corresponding discussions.

With this project and its recommendations, CIECA hopes to contribute to reaching the 50 % reduction target with regard to road fatalities, as set by the European Commission in its policy orientation. However, the project is not limited to Europe, and also constitutes a response to the United Nations "Consolidated Resolution on Road Traffic" from 2010 pleading for improved training and examination.

[1] *Driver education implies not only teaching by a teacher, but also self-organised learning by a student*

Scope and limitations

The project was designed as an expert consultation, not as a scientific research project. Its aim was to elaborate conjoint expert recommendations within a given time frame. Numerous road safety research projects and working groups in advance had already shown that there was great potential for consensus on such recommendations. Of course there were also aspects of driver education that remained controversial among scientists and experts. There-fore, in addition to conjoint recommendations, the project also sought to identify the aspects and questions of driver education that require further research and development work.

Reviewing the content of the final report now, it has to be added that the project title could be misleading. The project is not targeting all road users, but drivers and riders of motor vehicles only. Hereinafter drivers and riders will be referred to only as drivers in favour of better read-ability.

Work scheme and participants

The work was carried out by a comprehensive group of outstanding CIECA members and partners, bringing along both excellence in the field and insight into specific conditions and institutional settings. In addition, they were well aware of relevant work previously carried out in the field.

Take-off for the project was in Klettwitz/Germany in October 2013. For more efficiency, project members were divided into three groups working on the recommendations mentioned above. They were given one year to work within their international working group structures to develop conjoined recommendations that were documented in corresponding work group reports. In a number of plenary meetings, intermediate results were presented to and discussed with all project members. In the final Plenary Meeting in Brussels in October 2014, all working group reports (see Figure 1) were discussed and first ideas on a draft for the Final Report were put forward. With the help of and in close cooperation with the project's Steering Committee and the CIECA Bureau Permanent, WG1-Chairmann Bernd Weiße and his colleague Dr. Kris Kaufmann (both TÜV | DEKRA arge tp 21, Germany) subsequently combined the workgroup results into the report in hand, so results can be presented with a common formal structure and language.

Figure 1: CIECA-RUE working process over one year

1.2 Overview

Driving standard focuses on observable behaviour

In this report, the recommendations for a driving competence standard may serve as a description of output goals for driving education systems. Criteria for driving license testing may also be derived from the standard. Therefore, it describes mainly observable behaviour. To structure that description, it is separated into clearly definable and observable categories, which are oriented to the tasks of driving. These aspects of safe, eco-friendly and responsible driving are referred to as task-related competences in this report.

The described behaviour implies responsibilty

However, all project participants agreed that showing such behaviour during the driving license test is not sufficient. It needs to be shown every day, in all situations, and under all circumstances and influences. This requires responsible drivers, who behave in a safe and eco-friendly manner in traffic not only because it is demanded by law and regulations, but also because they are actually committed to traffic safety and environmental protection. Being a responsible driver in that sense implies a continuous reflection and evaluation of all factors that influence a driver's behaviour, especially those increasing risks. The matrix of goals for driver education (GDE matrix, see chapter 2.2) provides a good overview of such risk-increasing factors. They range from very traffic-specific influences like the interaction between the driver and his/her vehicle, the road, weather conditions, other traffic participants or passengers, to more personal or general influences like health condition, personality, attitudes, substances, motives, cultural backgrounds and so on. The personal qualities leading to responsible driving are referred to as personality-related competencies in this report.

Fitness to drive as a requirement

Another important concept in that context is the fitness to drive, meaning the suitability according to a special set of legal norms, which are connected with health and performance aspects (e.g. absence of disorders, minimum of intelligence, reaction capacity, concentration and so on) and with factors of personality (such as emotional stability). A responsible driver should continuously reflect upon his/her fitness to drive. In the case of temporary impairments or deficits, he/she should apply compensation measures like the use of technical aids (e.g. driver assistance systems), limit his/her driving to certain areas or conditions, or even refrain from driving (e.g. if under the influence of certain medication). In case of administrative doubts as to a driver's fitness, these doubts need to be assessed with the consequence of modification (driver improvement) or selection. In that process, drivers should not be characterised by diseases or personality deficits, however, but by the way they are coping with them.

Drivers must keep up to date

In addition, a person's health and character may change over time. This applies also to [vehicle] technology, relevant norms and laws and all other aspects of the traffic environment. Therefore, being responsible is not a fixed but a reflexive and active state. It requires the continuous reflection and evaluation of all these factors – in other words: life-long learning.

Consequences for assessment and training

Thus, as the requirements for safe, eco-friendly and responsible driving are very complex and continuously changing, they are very difficult to describe. It is even more difficult to come to conjoint expert recommendations on how these requirements should be assessed or changed.

However, the project showed that all participants consider a client-centred learning and teaching approach to be essential for an education system that leads to safe, eco-friendly and responsible driving. In addition, project participants agreed on standards that all professional driving teachers working in such a system should fulfil.

Scope of developed recommendations

Against this background, our driving standard only describes the behaviour to be shown by safe, eco-friendly and responsible drivers.

In addition, an example curriculum gives an up-to-date and comprehensive overview of pedagogical methods that may be applied to improve a young driver's responsibility. However, organisations will have to decide in correspondence to the characteristics of their national traffic system and their culture as to which of these methods may be applied in which combination.

The standard for professional driving teachers describes the competences that are required when applying a client-centred approach and aiming for the development of drivers who not only display safe and eco-friendly behaviour in a driving license test, but also act responsibly later.

Graphical illustration

The following illustration (see Figure 2) shows how these standards and recommendations are connected. Driving education systems have one main goal: to educate safe, eco-friendly and responsible drivers. Knowing this, it is necessary to create a common cross-national competence framework by defining a task-related standard for drivers and performance-oriented standards for professional driving teachers. This requires a general understanding of competences and competencies which are not only focused on a test but also on general behaviour in traffic and should be taught in a client-centred approach. Most project participants also favour stepwise education systems that start with the lower levels of the GDE matrix and move to the higher levels during the education process.

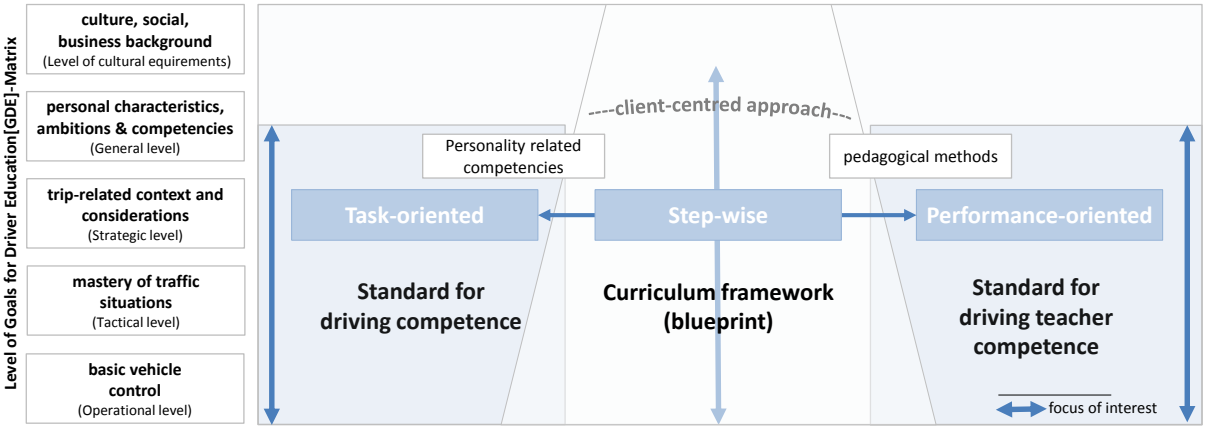

Figure 2: Interplay of standards and curriculum

1.3 General recommendations

Main aims of the application and implementation of project results

Over the years, across Europe and worldwide, very different driving education systems, logics and standards have been developed. Standards of taught and evaluated knowledge and skills differ strongly amongst nations, and as a result knowledge and skills probably differ [widely] between drivers as well.

Thus, the harmonization of task-related competences of drivers in due consideration of their personality-related competencies and the need of life-long learning was the overall aim of the project. In order to maximise the projects contribution to the achievement of this aim, the following two questions need to be answered:

- How can the findings of this project be used to improve driver *education* and make the way in which drivers learn more effective?
- How can the findings of this project be used to motivate learners, novice and more experienced drivers as well as driving teachers to take responsibility for, reflect on and constantly update their competence throughout their driving career?

The following recommendations summarise our suggestions for answers to these questions.

Improving the effectiveness of the way drivers learn

To guarantee a basic quality of education output, it is recommended that the driving standard (based on the proposals set out in WG1's report) is applied and implemented purposefully in nationally organised education processes. The standard should form the basis for each country's driver education and driver assessment process, to ensure that all learners achieve the necessary level of competence to become safe, responsible and eco-friendly.

The developed example of a curriculum and the two corresponding pedagogical toolboxes (based on results of WG2 and both attached to this report) set out a possible way to maximise the development of task-related competences and personality-related competencies during the driver education process and afterwards, in order to empower students to become reflexive and considerate road users. Consequently, toolboxes and the blueprint curriculum help to widen the view of possible ways of teaching to reach the higher GDE levels.

It is recommended that all driving teachers are required to demonstrate their competence regarding the full range of competences identified in the Driver Training Standard based on WG3's proposals to ensure that they are competent to deliver the content of the Driving Standard effectively. To promote a client-centred education process, it has to be ensured that driving teachers possess at least a *European Qualification Framework (EQF)* level 4 background[2]. It is also recommended to combine the context of driving standards with real-life situations during teaching practice. In this way, teachers are able to account for the individual interests and needs of their students, which guarantees the best possible learning outcome. Of course, gained results should be periodically evaluated.

Motivating and supporting drivers to reflect and learn throughout their life

The way in which we interact with other road users is complex and dynamic. As individuals we change over time and situations. Driving tasks are also changing constantly, e.g. as road conditions change and as vehicle technologies evolve. In this context, it is not sufficient for a person to demonstrate that they can pass a test and then stop learning. They have to continue to reflect on their competence in those changing circumstances and, where they identify gaps, must take active responsibility for closing those gaps. Therefore, the way people learn to drive has to give them practice in reflecting and taking responsibility - and establish that as an automated skill in the same way as they learn to change gear without thinking about it.

Therefore, a modern approach of driver education has to reflect explicitly and in detail that life-long learning is becoming more and more important. On the one hand, processes of demographic change imply an increasing number of elderly road users who must continuously update their skills and knowledge. In addition, legal amendments and technical improvements generate new demands on skills and knowledge for novice and experienced drivers.

Consequently, the adoption of a client-centered approach to all driver teaching is recommended in order to maximise the motivation of learners to take active responsibility. A client-centred environment means being open to a wide range of learning opportunities, e.g. the use of simulators, off-road experience, peer group sessions. Standards and toolboxes of pedagogical procedures and pedagogical methods may give some hints on how to animate, to support and to increase the interest of self-organised life-long learning.

Similarly, teachers are subject to continuous personal and environmental change in the same way as all other drivers and therefore should be able and willing to reflect on and develop their own competence.

Possible training opportunities should be interconnected; nationally organised networks and cooperations could be established to maintain and to promote the motivation to learn. Correspondingly new forms of learning media will facilitate learning for different students and persons according to their specific interests and needs. However, this document also could be a starting point for new interactive learning software or creative ideas for the content of new driving manuals.

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[2] *Driving teachers must possess factual and theoretical knowledge in a broad context within their field of work, which in turn demands a range of cognitive and practical skills required to generate solutions to specific problems related to and within the driving education process. They must also provide evidence that they are able to exercise self-management within the guidelines of their work contexts. They are able to supervise the routine work and teaching outcomes of their students and are able to take some responsibility for the evaluation and improvement of work activities (adapted, see European Commission 2015).*

1.4 Explanation of document structure

This document (see Figure 3) has been drafted on the basis of discussions and correspondence within the working groups and their members as well as all transdisciplinary members of CIECA within the scope of different plenary meetings.

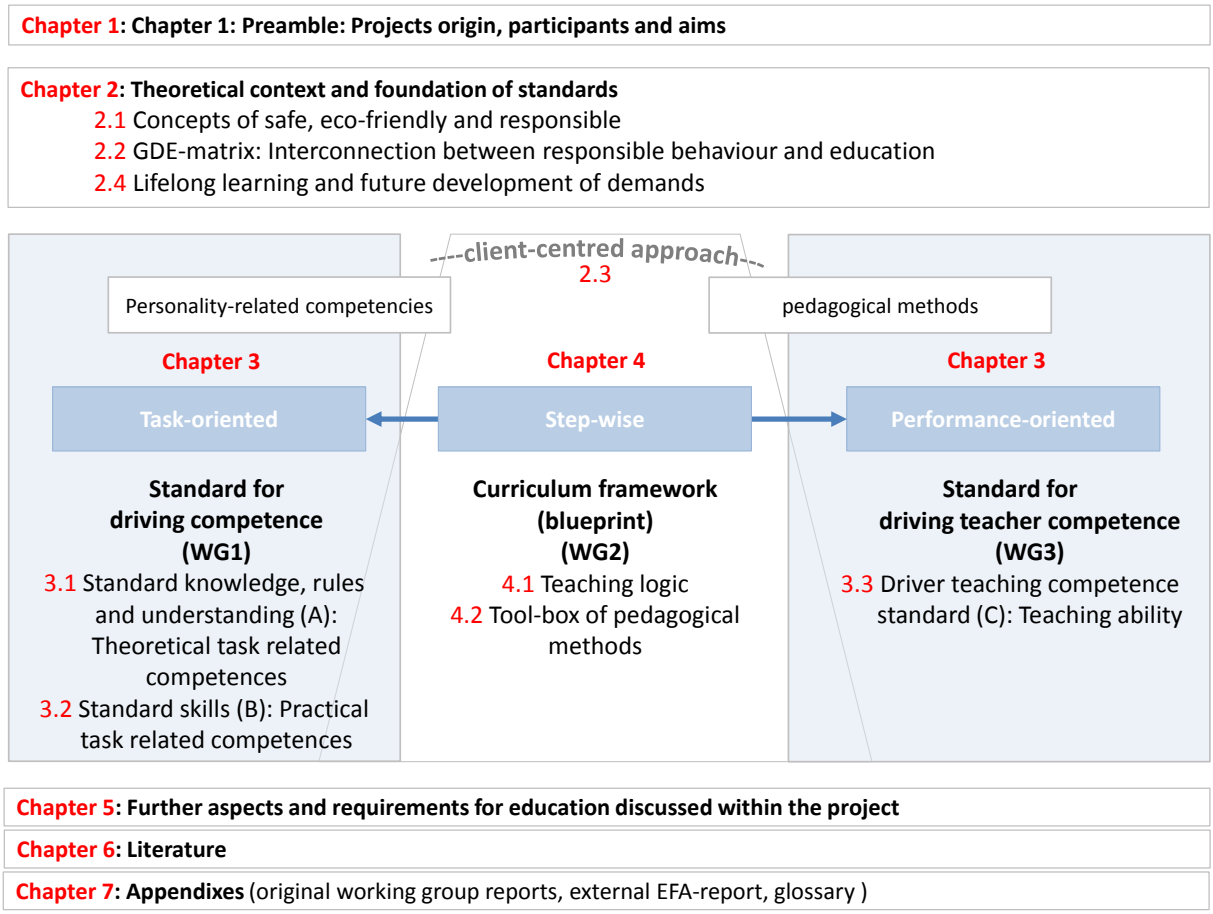


Figure 3: Structure of document

Chapter 1: Preamble: Project origin, participants and aims

Chapter 1 gives an overview of the contextual background and motivation, focus of interest, scope and limitation, working process structure and its participants. Furthermore, a description of our key ideas and key aspects, contextual relationships and the logic of our thinking is given.

Chapter 2: Theoretical context and foundation of standards

Chapter 2 sets out some of the key issues that concern the improvement of road safety and especially of road users. Questions as “What are driving competences?”, “Why and how do they differ from personality-related competencies?”, “Why is the reflected interconnection between them so important for the safety of road users? or “What does fit to drive mean?” will be discussed here. The chapter also acknowledges the importance of the GDE matrix for teaching and driving matters, introduces aspects of a client-centred learning strategy and discusses the importance of life-long learning and future demands.

Chapter 3: Standards: Statements of required competences

The project's working process showed that project participants could agree on a common driving competence standard. It describes what safe, eco-friendly and responsible drivers/riders (hereafter referred to simply as drivers) have to know and understand (chapter 3.1) and what skills they should display (chapter 3.2). Project participants also agreed on what driving/riding teachers (hereafter referred to simply as driver teachers) should know and understand and what skills they should display. This is described as the driver teaching standard (chapter 3.3), which is aimed primarily at professional driver teachers to guarantee a high quality of driving training. It is structured in eight sections.

Chapter 4: Example for a curriculum framework

Chapter 4 describes the teaching logic by explaining the approach and benefit of client-centred learning and teaching and by explaining a model of stepwise education within the driver education process. Further on, the chapter describes an exemplary way to design different learning sessions in a professional and structured way – presenting a possible education plan. Chapter 4.2 offers two toolboxes of pedagogical principles and methods/techniques of driver education. Presented methods can be used during theoretical and practical driver education by professional teachers. The final report does not contain a detailed description of the curriculum. In chapter IV (Best practice) of the original WG2 document (see Appendix), however, it is outlined how task-related competences and personality-related competencies can be trained using client-centred teaching and goal-oriented learning within a stepwise education process. There is also detailed information with examples of how the GDE matrix can be implemented in concrete measures, alongside general ideas on how to build up the competence of “self-evaluation” and "self-reflection".

Chapter 5: Further aspects and requirements for education discussed within the project

Chapter 5 contains recommendations and topics which

- have been discussed controversially within the project, such that not all participants were able to agree or
- could not be fully covered due to the limited project time (e.g. ideas for recommendations which might have been developed within the RUE project, but were not confirmed by working groups or project members)

Among these recommendations and topics you will find

- periodical competence checks for driving teachers,
- critical reviews of the standards for accompanying persons,
- critical reviews of the standards for business management/customer skills,
- aspects of quality assurance for training purposes or
- a standard for driving schools (EFA standard)

Chapter 6: List of references

Chapter 6 gives an overview of literature, documents and information material which were used to initiate discussions, provided new impulses and helped to create this final report.

Chapter 7: Appendix

Chapter 7.1 includes a glossary of important terms and definitions of attitudes, behaviour or skills, which were elaborated during the working process of the RUE project. To ensure the best possible understanding of this document, please refer to pages 99 ff.

Chapter 7.2 contains the original and unabridged CIECA-RUE-working group reports of WG1, WG2 and WG3.

Chapter 7.3 includes a further report on “Minimum Standards for Driving Schools” provided by the European Driving Schools Association (EFA) (see chapter 7.3.1) and a paper about “arguments in favour of minimum requirements for driving schools and proposals” provided by the Ecole de Conduite Française (ECF) (see chapter 7.3.2)

You will find the CIECA-reports also as separate pdf-documents on the CIECA-homepage under: http://www. cieca.eu -> “Road User Education Project”

2 THEORETICAL CONTEXT AND FOUNDATION OF STANDARDS

2.1 Concepts of safe, eco-friendly and responsible

The driving standard described in chapters 3.1 and 3.2 implies a number of concepts as explained in the report overview above. First of all, it is aimed at safe driving that helps to improve traffic safety and thereby to reduce traffic fatalities and injuries, contributing to the realisation of EU and UN traffic safety goals and VISION ZERO. But beyond that, the described driving behaviour should also help to protect and to preserve the environment. Both aims – traffic safety and environment protection – in turn imply responsibility, understood as commitment to these goals and the readiness to act accordingly. In this respect, the meaning of the three adjectives safe, eco-friendly and responsible is somewhat overlapping. Nevertheless, project members decided to put all three of them into the title, as all three stand for important overall driving aspects which should be promoted by this project.

2.1.1 Task-related competences

The description of safe, eco-friendly and responsible driving in chapters 3.1 and 3.2 focuses strongly on behaviour that is closely connected to driving and on behaviour that is trainable. The described competences are understood as knowledge, understanding and skills that enable individuals to solve particular problems (adapted from Weinert 2001: 27). They are applied to demand situations – in this context specific traffic situations. Certain tasks need to be performed in order to master these situations successfully. The mastering of these tasks or situations is measurable and cannot be pretended. With regard to this aspect, the competences are referred to as task-related competences in this report. In this project, it was decided to refrain from specifying traffic situations as demands or tasks, because they may differ between participating countries and because such detailed specifications may draw attention away from the more general aims of the competence definitions. However, national training and test guidelines should specify traffic situations so that the description of required competences is rendered more transparent and easily reproducible, and all participating individuals (e.g. driving beginners, trainers, etc.) can understand and refer to them. In that way, the competence standard can guide education and testing as the output goal of the overall system.

2.1.2 Personality-related competencies

Personality-related competencies are competencies which are directly connected to a person and his or her individual background. Competencies are seen as very important for safe and eco-friendly driving.

Personality-related competencies refer to attributes of individuals which are connected to personal traits (e.g. conscientiousness, politeness, aggression, assertiveness or carefulness), attitudes (e.g. towards safety or risks), motives (e.g. getting to an appointment, driving home, making an impression on friends) or moods (e.g. bad mood, excitement or happiness). They can be influenced by more general factors such as social and cultural norms, peer group pressure, situational context or physical conditions and attributes.

In this project, the concepts and terms behind individual attributes as mentioned above were not exactly defined or distinguished on scientific bases. The extensive and complex empirical

findings on possible modifications of these individual attributes have also not been reviewed or discussed in detail.

However, project participants agreed on the following: Individual attributes differ widely among individuals. Therefore, defining an ideal distribution of these attributes is pointless and unjustifiable from an equal opportunities perspective. Personality-related *competencies* required for safe and eco-friendly driving are thus intentionally described by the following behavioural aspects:

- being responsible,
- being committed to traffic safety and eco-protection,
- continuously reflecting and self-evaluating all influences on driving,
- being social in traffic (e.g. *norms*, communication, vulnerable road users) and
- aiming for safe and eco-friendly driving behaviour under all conditions and situations.

Many project participants consider personality-related competencies to be more relevant then task-related competences, arguing that deficits in the knowledge, skills or ability to drive in a safe and eco-friendly manner can be compensated by limiting driving to certain conditions or speeds, but deficits in the willingness to drive accordingly may lead to risks and accidents despite the best of abilities. According to Weinert (2001), competences consist not only of an individual's knowledge, understanding and abilities to solve particular problems, but also of his or her motivational, volitional and social readiness to utilise solutions successfully and responsibly in variable situations (adapted by Weinert 2001: 27). In this report, therefore, this aspect of driving competence is reflected by personality-related competencies.

Task-related and personality-related competencies have also been distinguished as the ability and willingness to drive in a safe and eco-friendly manner in the past. Responsible driving implies both aspects.

Contrarily to task-related competences, positive attitudes and motives toward traffic safety and environmental protection can easily be pretended, even if they are poorly developed or non-existent. Therefore, personality-related competencies are very difficult to measure in pass/fail test situations that have such far-reaching consequences for individuals as the driving license test. Candidates will just act as expected, if they have the skill, knowledge and ability, regardless of their true personality, attitudes or motives.

Nevertheless, this report recognises the importance of personality-related competencies, and especially measures towards their positive development and/or modification. Therefore, examples for pedagogical methods which may help to influence these competencies in a positive way are described in chapter 4. The competences required from professional driving teachers applying such measures are described in chapter 3.3. Beyond that, the standard description of task-related competences presumes that the described safe and eco-friendly behaviour is shown under all circumstances as an expression of responsibility and personality-related competencies, not only in test situations as an expression of skills, knowledge and ability.

2.1.3 Fitness to drive

Task-related competences presume not only personality-related competences but also the fitness to drive. The fitness to drive can be specified as a set of norms which are connected with

- health aspects (e.g. absence of disorders and disease),
- performance aspects (e.g. minimum of intelligence, reaction capacity, concentration and so on), and
- factors of personality (such as emotional stability)

Such norms are described in ANNEX III of the EU Driving Licence Directive 2006/126/EC for example. Technical aids and medical treatment can enable most people to drive a vehicle safely and in an eco-friendly manner. Disabled or impaired persons should not be prohibited from driving as long as they are able to fulfil the driving standard – e.g. with technical aids. Nevertheless, it should also be ensured that certain diseases which unavoidably lead to impairment of driving fitness lead to corresponding consequences.

Norms regarding personality factors may be seen as a description of personality-related competencies. However, personality-related competencies also include taking individual compensation measures if driving fitness is impaired. Therefore, a responsible driver should continuously reflect upon his or her fitness to drive. Administrations responsible for driver admission generally presuppose driver fitness and usually only assess it in case of doubts (e.g. because of driving under the influence or repeated traffic law violations). However, for driving licenses which imply higher responsibilities (e.g. passenger transport), driving fitness is often assessed in advance of granting the license. In addition, if doubts as to a driver's fitness are raised (e.g. because of traffic violations, such as repeated speeding, drinking and driving, etc. or criminal acts), administrations may order its assessment by traffic psychologists and/or modification measures (e.g. special training courses to change risky cognitive and behavioural patterns or rehab measures).

In this report, driving fitness and questions regarding its assessment and modification are not discussed further. Driving fitness was not the main focus of the project and only few participants were specialised in this field. However, driving fitness is an important concept in the present context. Latest developments in the corresponding research will also be discussed at the CIECA Congress 2015.

2.2 GDE-matrix: Interconnection between responsible behaviour and education

GDE matrix as the most prominent theoretical model in driver education in Europe

The matrix for goals of driver education (GDE matrix) has become the most prominent theoretical concept in the field of driver education. As most experts working in the field are familiar with it, it is often used as a reference in discussions and developments related to driver education measures. Thus, it was also an important theoretical basis for the example curriculum described in chapter 4. Therefore, this section briefly summarises its history and content.

It must be noted, however, that its prominence is not necessarily proportional to its evidential basis or explanatory value. There are many other theories related to driving and education

that should be considered in these respects, and therefore could be described here. But as stated before, this project was not designed as a research project (which might have started with a literature review on such theories) but as an expert consultation. And if there is one piece of theory every expert in the field is familiar with, it would be the GDE matrix. This is probably because it is (or seems) very easy to understand but nevertheless covers and structures many aspects of driver education.

Models of driving behaviour as origin

Driving behaviour is very complex as individual drivers are interacting with their vehicle, their environment and other traffic participants. Models of driving behaviour can help to understand and predict driving behaviour by simplifying the reality. The GDE matrix is based on the "theory of internal models in driving behaviour" by Mikkonen and Keskinen (1980). This model was extended by Keskinen (1996) as an "Extended model of internal models in driver behaviour". To the present day, the hierarchical model describes different functions of driving on four hierarchical levels (vehicle handling and manoeuvring; mastery of traffic situations and goals and context of driving). At the end of the 1990s, a new level 'personal goals for life and skills for living' was added. The reason for that extension was recognition of the fact that not only aspects concerning the knowledge and procedural bases of driving (technical dimension), but also aspects concerning attitudes, the effects of self-control, self-regulatory skills or the controlling effects of emotions and thus personality and motives (social and psychological dimension) influence driving.

The actual matrix

	Essential elements of driver training		
Hierarchical levels of driver behaviour	Knowledge and skills	Risk-increasing factors	Self-evaluation
IV. Personal characteristics, ambitions and competencies (General level)	Knowledge and control of general ambitions in life, values and norms and personal tendencies which effect driving behaviour • lifestyle • peer group norms • motives in life • self-control and other characteristics • personal values and norms • etc.	Risky tendencies • acceptation of risk • self-value through driving • sensation-seeking • adapting to social pressure • use of alcoholl and drugs • attitude towards society • etc.	Self-awareness regarding.: • impulse control • risky tendencies • personal unsafe motives • personal risky characteristics • etc.
III. Trip-related context and considerations (Strategic level)	Knowledge and skills regarding: • choice of route • estimated driving time • effects of social pressure from passengers • estimating urgency of the trip • etc.	Risks relating to: • physiological condition of driver • road environment (urban/rural) • social context and company in vehicle • other motives (e.g. competition in traffic) • etc.	Self-awareness regarding.: • personal skills with regard to planning • typically risky motives when driving • etc.
II. Mastery of traffic situations (Tactical level)	Knowledge and skills regarding: • traffic rules • observation and use of signals • anticipation • speed adaptation • communication • safety margins • etc.	Risks caused by: • poor decision-making • risky driving style (e.g. aggressive) • excessive speed • vulnerable road users • breaking traffic rules / unpredictable behaviour • information overload • difficult (road) conditions (e.g. darkness, bad weather) • insufficient automatisation of basic skills • etc.	Self-awareness regarding: • strengths and weaknesses regarding driving skills in traffic • personal driving style • personal safety margins • strengths and weaknesses in dangerious situations • realistic assessment of own skill • etc.
I. Basic vehicle control (Operational level)	Knowledge and skills regarding: • control of direction and position of car • surface grip, tyre pressure • dimensions of the vehicle • technical aspects of vehicle	Risks related to: • insufficient automatisation of basic skills • difficult (road) conditions (e.g. darkness, bad weather) • improper use of seatbelt, headrest, sitting position • etc.	Self-awareness concerning • strengths and weaknesses of basic vehicle control • strengths and weaknesses manoeuvring in dangerous situations • realistic assessment of own skill • etc.

Figure 4: Original GADGET matrix based on GDE framework

Source: Hatakka et al. 2002, 209 f.

The actual matrix (see Figure 4) was introduced in its present extended form within the EU-funded research project GADGET in 1999 (KfV 1999, original see Hatakka et al. 2002) to describe the elements which make up a good driver (already including also riders); implications for driver education were drawn.

Levels and influences of behaviour

Besides drivers' knowledge and skills, the framework was extended into a matrix which addresses also awareness of the risk-increasing factors and self-evaluation on the already known four behavioural levels of driving. Now, it was discussed not only what a driver *can do*, but also what a driver is *willing to do,* and so the importance of motivational and attitudinal factors became more important. A switch from a pure behaviour description to a more goal-oriented perspective was made. Since then, one dimension defines the hierarchical levels of driver behaviour and the other defines the essential curriculum (KfV 1999, 41). In this connection, it is necessary to take account of the importance to recognise that there are interactions between hierarchical levels, as well as the fact that each lower level is part of the higher one. Higher levels of individual behaviour (values, skills for self-control or self-awareness) strongly influence the lower levels, such as vehicle manoeuvring or mastering traffic situations. "The idea in a hierarchical approach is that failure as well as success at higher levels affect the demands on skills at lower levels" (Hatakka et al. 2002: 203). Therefore, the levels include not only driving tasks and driving behaviour. Levels are also concerned with more lasting individual characteristics of a driver such as personality-related competencies. Those characteristics, particular, can have a significant influence on practical driving behaviour and have to be taken into account in the definition of a catalogue of driving standards and within a teaching standard.

Scope and limits

Even though the GDE matrix is not an entirely new concept, and also not the only one, it provides a very useful handle on some of the factors that influence the process of learning to drive. At least since 1999, the framework has been widely acknowledged within the European traffic research community as a fruitful theoretical starting point when developing traffic education. The widely known '**G**oals for **D**river **E**ducation Matrix' (GDE matrix) contains all aspects of what a competent driver should be able to demonstrate and self-reflect. Even if the framework has been criticised for lack of detail, its description of a quite complicated phenomenon has also been used to evaluate different training methods and their advantages and disadvantages. It is thus not surprising that the GDE matrix plays a central role in European thinking on driver training. Its systematics allow teachers to be aware of and capable of responding to the wide range of factors which can affect an individual's ability and willingness to engage with the process of learning to drive and to become a safe, eco-friendly and responsible driver. Project members view the framework as a possible basis for evaluation of specific driver education methods and also as basis for developing new ideas (Hatakka et al. 2002; see for instance studies on driving training and their recommendations in the EU project BASIC driver training: New models, (Hatakka et al. 2004)).

Cultural requirements and social environment

In 2010, another level of 'cultural requirements and social environment' was added to the model, reflecting the huge variety of different national, social and ethnic circumstances. It is argued that "cultural and societal factors, general goals for living, and trip-related goals and contexts of driving cannot be learned and understood as important requisites for safe driving behaviour if they are not addressed in the training and practice" (Keskinen and Peräaho 2009 in Mynttinen 2010: 10). To meet requirements and demands on safe and responsible drivers, new learning and teaching methods are especially important in the training curriculum and a professionalization of teaching is needed.

Application in workgroup 1

For illustration, Working Group 1 'Driving Competence Standard' divided the hierarchical GADGET matrix into two generic competence sections: a section with a focus on task-related competences and a section with personality-related competences, which have to be acknowledged within the education process (see Figure 5).

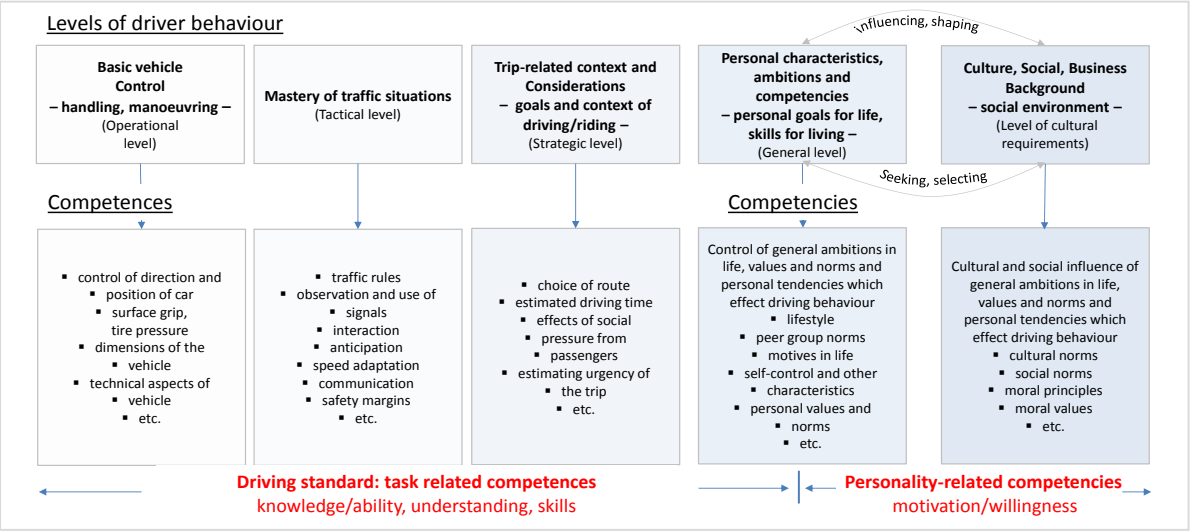


Figure 5: Adapted GDE matrix for elaboration of a driving competence standard

Source: Working Group 1

Application in workgroup 2

Based on the DVR model for education (see Figure 6) used in the EU project Ecowill (**ECO**driving – **W**idespread **I**mplementation for **L**earner Drivers and **L**icensed Drivers, Austrian Energy Agency and Partners) as a main principle, Working Group 2 'Framework for a curriculum (blueprint)' used the GDE matrix as a circle model. The goal was to highlight the connection and interaction between contents related to the different areas of the GDE matrix and to underline the relationship between theoretical and practical education.

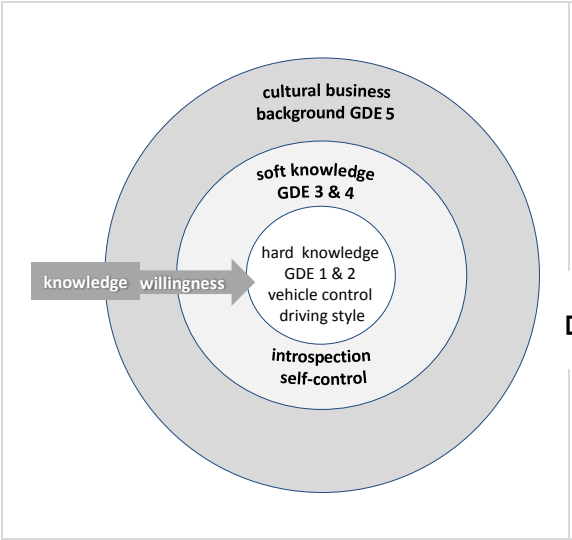


Figure 6: ECO-will model for education

Source: Austrian Energy Agency and Partners

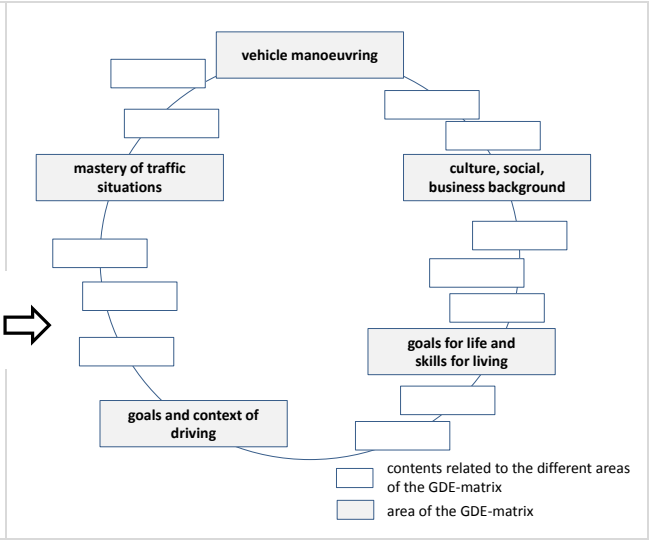


Figure 7: Adapted GDE matrix to structure the learning process in a goal-oriented way, taking into account the relationship of theoretical and practical education

Source: Working Group 2

2.3 Client-centred approach as important 'bridging function'

Europe has a very heterogeneous driving education system covering a wide variety from professional education (paid education) to layman instruction (unpaid education) (see list chapter 4). From this point of view, the understanding of a client-centred approach may be interpreted differently, but it plays a major role as bridging function world-wide. Since this educational approach always includes the idea that a student is responsible for his or her own planning, organisation, implementation and evaluation of the achieved understanding and learning outcomes. Beside that, teachers must carefully develop a structured learning environment in which students are given support and guidance to attain skills through self-evaluation and independence in their individual learning (see Klenowski 1995).

Client-centred learning and teaching is a core aspect of the international work done by CIECA. The approach describes a learning and teaching process in which persons, as paying clients of a driving teacher, learn in different ways and respond individually to each other. CIECA focuses on the outcomes of a teaching and learning process which is goal-oriented (students know what, why and how to learn). Even a client-centred approach should not be seen as the 'genuine approach', although it does grant significance to the fact that learners prefer different ways of learning. Learning and teaching in this way means that students are more likely to retain information and skills, as well as to keep learning, if they are encouraged to take responsibility for their learning at an early stage. Self-awareness and personal responsibility are important aspects of client-centred learning and teaching processes. Therefore, the second aim of client-centred learning is for learners to take responsibility.

There is also a wider understanding of client-centred learning. To meet its wider claim, it needs teachers who are highly educated and familiar with the use of different pedagogical methods and learning materials. This qualified approach, in particular, will be presented in chapter 2.3.

2.4 Life-long learning and future development of demands

Life-long learning (see Figure 8) includes all forms of formal, non-formal and informal learning during a person's entire life.

Learning in this way is understood as a constructive process of improving knowledge, skills, qualifications, competences and competencies through self-awareness, self-monitoring and self-reflection as well as using individual and special techniques of learning. It is based on different learning conditions, environments, needs and occasions. Therefore, aspects of self-controlled learning include not only self-organised learning but also the use of externally organised learning courses. Especially those courses have to be open and easy accessible for everyone, e.g. through suitable and transparent offers of coaching and mentoring for learning

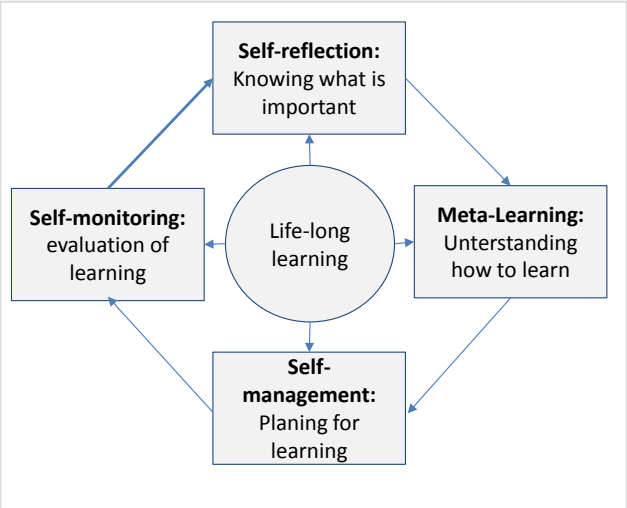


Figure 8: Aspects of life-long learning

Source: virtualinstitute.fti.unige.ch, adapted

Aspects of life-long learning in connection with the claims of the levels of the GDE matrix and the individual maintaining and developing of driving competences play a very important role for safe and responsible driving over a whole lifetime (see Figure 9).

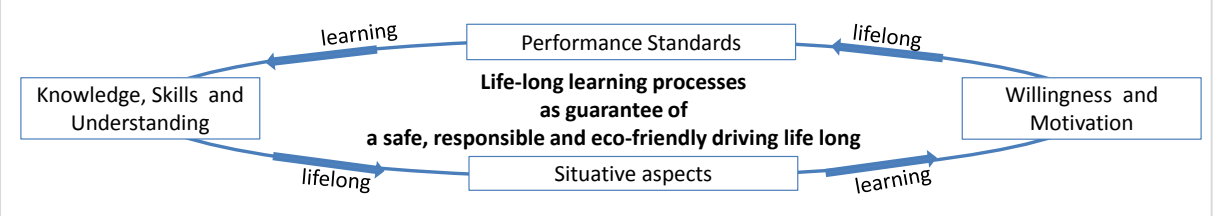


Figure 9: Life-long learning and the improving of competencies and driving competences

Source: Working Group 1

Therefore, professional driving schools and driving teachers should not only offer driver education for new drivers. Instead, they should place additional emphasis on offers:

- containing refreshed educational contents and methods for a modular and life-long learning process (e.g. advanced refresher training to maintain a high level of performance)
- encourage individual life-long learning to enable every driver to motivationally acquire new skills and knowledge which are of benefit both to the drivers themselves and to the safety aspects of traffic

To organise and interconnect the driver education process with aspects of life-long learning is a very ambitious and important goal. Drivers have to be sensitised accordingly from the very beginning. A well-organised process of advanced driving training with aspects of sensitization for personal safety may increase the chance of promoting individual learning processes over lifetime. The idea of the self-managed improvement of task-related competences, as well as

the individual willingness to work on own personality-related competencies concerning health and safety matters, have to be implemented in driving training. It has to be understood as a goal to have the choice of keeping up to date with knowledge and understanding concerning driving, alongside motivation for learning. The independent development of currently needed knowledge through targeted work on and use of relevant knowledge is increasingly important for every road user. From the angle of task-related competences, an effective and urgently needed process of life-long learning means strengthening the will of every person to stay in touch with every single aspect of safe and responsible driving. This includes core standards and competences, as well as dynamic knowledge-based information on technical assistance systems, common first aid measures or the self-reflection of individual physical and mental fitness.

Ideally, life-long learning in connection with a driving standard means that every single driver always

- keeps his or her knowledge and understanding up to date,
- is able to respond quickly to changing needs and the latest traffic-related trends,
- is motivated and willing to behave in a proper, safe, eco-friendly and responsible manner in all situations and under all conditions no matter which performance standards or situative aspects of driving are needed,
- is able to self-reflect his or her attitudes, knowledge, abilities and driving skills, and
- is always equipped to tackle new situations with his or her knowledge and understanding

Expected future developments in driving-specific competence demands related to driver assistance systems or e-mobility are not part of the driving competence standard (see chapters 3.1 and 3.2). Even though it is a very important aspect, there are no specific statements to be made regarding differences between a combustion engine and electric motor right now. In addition, aspects of automatic driving or recommendations related to various different advanced driver assistance systems (ADAS) are mentioned only in more generalised statements. The extensive and growing diversity means that it is not useful to go into more detail. National driving education systems must improve these details in line with new requirements. Where countries decide to implement particular knowledge aspects, this may create a requirement for additional competences.

3 STANDARDS: STATEMENTS OF REQUIRED COMPETENCES

Driving is a physical, social and emotional activity (CIECA 2007, 27). That is why the following standards of WG1 and WG3 must define a framework for driving competences and individual driving-related competencies. Adapted to observable results, this means that after completing driver training a new driver is able to possess the necessary competence to drive a vehicle in a safe and responsible manner, and possesses the knowledge and skills, self-knowledge and understanding of risk required to drive in a manner which he or she

- is safe on the road,
- enters proper interaction, thinks proactively and reacts responsibly in traffic,
- promotes traffic flow,
- shows consideration for the environment and the health and needs of others,
- is in compliance with the regulations in force, and
- improves skills in a life-long process.

Personality-related competencies become more and more important not only for the trainee but also for trainers and often go beyond the realm of educational goals, especially in the case of potentially deviant driving behaviour.

3.1 Standard knowledge, rules and understanding (A): Theoretical task-related competences

Approaching the issue of the minimum standard competences of driving (always including also riders), one single question has to be answered: Which specific knowledge and understandings, as well as abilities and skills, are necessary to be able to drive a vehicle safely, responsibly and in an eco-friendly manner in all situations and under all conditions of road traffic? (see Figure 10 below)

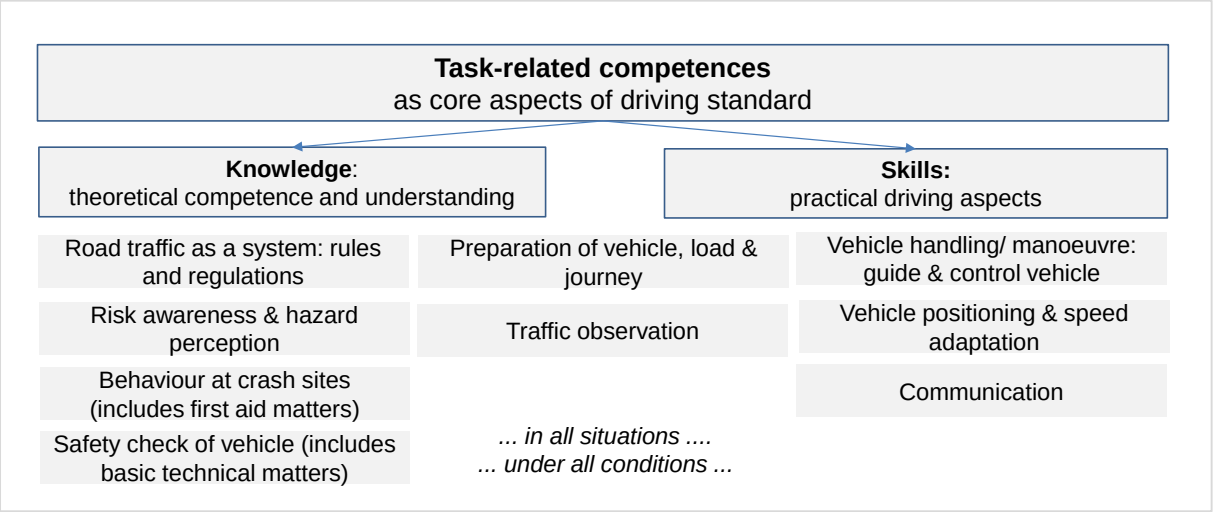


Figure 10: Logic of a driving competence standard

Source: Working Group 1

This question regarding competences has two aspects:

- *Regulative elements* pertain to formal and binding rules, regulations or procedures. They are documented, easy to observe, explicitly respected and refer to specific measures and learning aspects.
- *Normative elements* are similarly prescriptive and evaluative. Interpersonal expectations, common values and norms are contained within this category. When normative elements are observed, systems function and the impact of each individual road user is maximised (e.g. eco-friendliness, assumption of responsibility, etc.).

In practice, there are no clear demarcations. All categories and elements are mutually influential and result in complex unstable combinations. All components have to interact with each other.

In answer to that question of minimum competences, therefore, it is recommended to work with a deductive methodical approach (from general to detailed information):

- Starting with general aspects: Every competence component is defined by a main aim (general issues),
- Moving down to specific aspects: Every main aim can be subdivided into behavioural aspects (e.g. safety, responsibility, eco-awareness, operations, rules, conditions, control, …),
- Ensuring that fundamental principles are respected at every level: Examples of specific situations for illustration

By defining knowledge, understanding and skills and their sub-components, it is possible to clarify and determine binding competences.

3.1.1 Road traffic as a system: Rules and regulations

Main goal: Drivers know the legal framework of the national road traffic system. They know and are able to internalise the rules and regulations of the road traffic system which help protect every road user and enable safe and responsible driving with due regard for other road users, the law and the environment.

Knowledge and understanding:

1. **Drivers know and understand the system and logic of traffic and thus the legal framework of the national traffic system.**

- They know and understand the content of the national road traffic regulations.
- They know and understand the purpose of rules of the road, namely an orderly traffic system that allows all road users to share the road safely.
- They know and understand that the national road traffic regulations, rules of the road and regulatory framework may vary between countries.
- They know and understand what documentation they are required to carry in their country and that these requirements may differ abroad.
- They know and understand that every road user has the same rights and obligations.
- They know and understand the purpose of traffic signs, traffic signals and road markings.
- They know and understand how to interpret traffic signs, the various shapes and colours of signs and their meanings, and the meaning of individual road signs, and they can differentiate between mandatory and advisory signs.
- They know and understand the operation and sequences of the various types of traffic signals.
- They know and understand how to interpret various traffic signals, including traffic lights, pedestrian crossings, level crossings, school crossings, controlled and automatic railways and tram crossings and all other signals.
- They know and understand the priorities at different types of junctions, including marked and unmarked junctions.
- They know and understand how to interpret the various road markings and can differentiate between mandatory, advisory and those which denote restrictions.
- They know and understand key terms or concepts (e.g. one-way streets, roundabouts, tunnels, bends, motorways, etc…).
- They know and understand the theory of driving as safety margins, braking/stopping distances, alertness, attitude and vulnerable road users.
- They know and understand the key terms and/or concepts associated with the vehicles of the particular driving licence category (e.g. motorcycle lanes, advanced stop lines, bus lanes, bus stops, contraflow systems, …).
- They know and understand how to identify height, width, length and weight-restricted routes and any access restrictions (especially bus, van and lorry drivers).

- They know and understand the meaning of the particular signs that apply to the vehicle that they are driving (especially bus, van and lorry drivers, e.g. because of their height, width and weight restrictions).
- They know and understand the speed limits on different classes of road for the vehicle (and trailer combination, where applicable) that they are driving.
- They know and understand what documentation is required if they are transporting dangerous goods (especially van and lorry drivers).
- They know and understand when a passenger-carrying vehicle (PCV) needs to have a valid operator's licence (especially bus drivers).

2. Drivers know and understand their driving licence entitlements and any restrictions attached to their licence.

- They know and understand any restrictions on their licence (e.g. engine size, age, required compulsory basic training) and that they must possess a driving licence valid for the vehicle they drive (especially moped and motorcycle riders with a graded motorcycle driving licence).
- Bus, van and lorry drivers, in particular, know and understand the requirements pertaining to professional driving, especially regarding

    - the legislation on driving hours and rest periods, and the responsibilities placed on drivers and operators,
    - the initial qualification and periodic training for the Certificate of Professional Competence (CPC),
    - driver cards and tachograph equipment and its handling,
    - the sources of further advice,
    - good customer care.
- Car, van, bus and lorry drivers, in particular, know and understand insurance and licensing requirements when towing a trailer/caravan.
- They know and understand that their skills, knowledge and understanding may deteriorate, become out of date or may be affected by their changing physical condition and always have to meet the minimum requirements in order to be safe and responsible.
- They know and understand that their skill, knowledge and understanding can always be improved.
- They know and understand where to go to get support and guidance to allow them to maintain and improve their competence.

3. Drivers know and understand the legal framework pertaining to their vehicle.

- They know and understand vehicle registering, licensing, testing and insurance matters.
- They know and understand that their vehicle must comply with all legal requirements according to the jurisdiction in which they are driving.
- They know and understand the full lifetime costs of owning and running different types of vehicle.
- They know and understand the rules and regulations relating to the carriage and use of safety equipment in the country in which they are driving (e.g. warning triangles, high-visibility jackets, spare light bulbs, tow ropes, spare tyres, run-flat tyres, cold weather tyres and snow tyres).
- They know and understand the rules that apply to the use of warning devices in the country in which they are driving.
- They know and understand the significance of the height, width, length and weight of the vehicle they are driving (especially bus, van and lorry drivers).
- They know and understand how to find out whether the vehicle is subject to any road use charges when entering restricted areas, such as low-emission zones (especially bus, van and lorry drivers).
- They know about different types of vehicle and know and understand the vehicle manufacturer's specifications which apply to towing trailers/caravans with their vehicle.
- Drivers know and understand they take responsibility for the environment and the life, health and property of themselves and others.
- They know and understand the medical requirements attached to holding a licence for the category of vehicle they are driving, as well as the medical conditions, which lead to exclusion from holding a licence of this specific category.
- Bus and lorry drivers, in particular, know and understand whether they need to have regular medical checks or make medical declarations to keep their licence valid, how often this is required, and the need to arrange the medical check in advance of the expiry date so they can continue to drive legally.
- They know and understand which personal changes (e.g. address, medical condition, substantial changes to a vehicle, ownership change) require notification to their national Driver and Vehicle Licensing Agency.
- They know and understand the range of possible solutions that exist to help those with long-term physical conditions to drive safely and responsibly.
- They know and understand the necessary correlation between their level of skill/experience and particular route choices (especially moped and motorcycle riders because of specific dangers/vulnerability, e.g. weather conditions, road surface).
- Vehicle, bus or lorry drivers, in particular, know and understand by using a trailer/caravan what "snaking" is and how to correct it.

- Vehicle, bus or lorry drivers, in particular, know and understand how rules can change when towing trailers/caravans.
- Vehicle, bus or lorry drivers, in particular, know and understand how to determine the trailer's 'nose weight' and how to check that this does not exceed the limits of the vehicle's tow bar when using a trailer.
- Moped and motorcycle riders, in particular, know and understand how to dress properly with proper personal protective equipment to

    - increase visibility and safety,
    - reduce the negative effects of cold and noise whilst riding,
    - meet legal requirements regarding the use of helmets and eye protection.
- Motorcyclists, in particular, know and understand that the use of sidecars requires knowledge and understanding of

    - regulations relevant to sidecars,
    - how to check that the sidecar is attached and aligned correctly,
    - how the use of a sidecar will affect braking and steering and overall vehicle dynamics.
- They know and understand the legal requirements regarding the disposal or recycling of oil, batteries and tyres.
- They know and understand the potential impact of noise on the environment.

4. Drivers know and understand that they take responsibility when carrying loads and animals (especially lorry drivers).

- They know and understand how to use the vehicle handbook to identify how best to safely load the vehicle.
- They know and understand that the details of prescriptions related to load (e.g. loading capacity, mode and duration of loading, maximum height, width, length and weight of load) need to be observed strictly in accordance with the manufacturer's guidelines.
- They know and understand how to adjust the vehicle and their driving behaviour to allow for extra weight and changed weight distribution.
- They know and understand how to determine the unladen weight of their vehicle and how to calculate their vehicle's likely actual weight, taking into account the number of passengers, luggage and fuel (especially lorry and bus drivers).
- They know and understand how to find out whether their load falls within the category of dangerous, hazardous or obnoxious goods, and

    - what training, vocational training certificate, hazard warning plates are required before transporting these goods,
    - how to inform the relevant authorities if involved in an incident while transporting these goods.

- They know and understand how to reduce the risk of injury when lifting loads.
- They know and understand what to consider when loading the vehicle, the best way to secure different loads, what the vehicle's payload is or how to calculate it based on its maximum authorised mass and its tare weight,
    - how to determine their vehicle's maximum permitted gross axle weight,
    - the devices that may be used to secure a load and how to use them,
    - how to use straps, chains, wedges and chocks to make sure the load cannot move,
    - that the higher a vehicle's centre of gravity the less stable the vehicle and its load will be.
- They know and understand the risks associated with loss of load and load movement
- They know and understand that the combined strength of the load restraint system must be enough to withstand a force of at least the total weight of the load forward, to prevent the load moving under severe braking, and half of the weight of the load backwards and sideways (especially lorry drivers).
- They know and understand how to spot damage or deterioration in the condition of the load (especially lorry drivers).
- They know and understand methods for protecting different types of load, including when and how often to make checks on the condition of their load (especially lorry drivers).
- They know and understand which routine maintenance checks are their responsibility and, for those that are not their responsibility, how to check that they have been done (especially lorry drivers).

3.1.2 Risk awareness and hazard perception

Main goal: Drivers know and are able to reflect the principles of how risks and road hazards can arise and how they can respond to them with appropriate behaviour based on risk awareness and hazard perception.

Knowledge and understanding:

1. **Drivers know and understand that there is a relationship between perceiving, assessing, deciding and acting in connection with risk awareness and hazard perception.**

- They know and understand that every choice has a consequence.
- They know and understand that risk factors may change with different weather and road conditions and at different times of the day, e.g.
    - braking distances will increase in icy or wet conditions,
    - some road users will be less visible under artificial lighting,
    - a driver's concentration and reaction times may deteriorate at night,
    - perception of speed can vary at night.
- They know and understand that the performance of the vehicle they are driving will have an impact on their ability to overtake safely.
- They know and understand where it is particularly dangerous to overtake and where rules and regulations forbid overtaking.
- They know and understand that most incidents occur on bends. Therefore, when deciding on the line to take and the speed at which it is possible to negotiate a bend safely, they should take into account factors such as adverse camber, uneven or slippery surfaces, other road users or weather conditions (especially moped and motorcycle riders).
- They know and understand how different brake systems take effect and how they differ from vehicle to vehicle.
- They know and understand that larger vehicles may need a greater distance to stop and that harsh braking can destabilise a load.
- Bus, van and lorry drivers, in particular, know and understand the principles of the various endurance braking systems (retarders) that may be fitted to large vehicles (e.g. electric, engine-driven, exhaust brakes).

2. **Drivers know and understand the importance of recognizing and predicting the behaviour of other road users and of recognizing and anticipating road-based hazards and risks.**

- They know and understand defensive driving techniques.
- They know about the importance of reflected and forward-thinking decision-making and decision-taking (e.g. own individual reaction time).

    - They know about and understand the ability and the necessity of self-monitoring and self-reflection.
    - They know and understand how aspects of emotional states (anger, joy…), stress or fatigue may affect their ability to drive safely and responsibly.
    - They know and understand how to assess their own ability to drive safely and responsibly against best practice.
    - They know and understand how to read the road ahead and prepare for unexpected factors that might cause them to skid, such as oil or gravel on the road.
    - They know, understand and are aware of the driving risk factors related to various weather and road conditions during the day and at night.
        - Moped and motorcycle riders, in particular, know and understand how to identify and respond to changes in road surfaces and weather conditions.
        - Moped and motorcycle riders, in particular, know and understand that they are at greater risk in adverse weather condition due to greater exposure.
        - Moped and motorcycle riders, in particular, know and understand the effect that unsuitable gear selection can have on the performance of the vehicle, the rider's ability to ride safely and responsibly and the environment.
        - Bus, van and lorry drivers, in particular, know and understand the risks associated with high-sided vehicles in different weather conditions.
        - They know and understand why a skid may occur, how to avoid skids and how to correct them.
    - Moped and motorcycle riders, in particular, know and understand the importance of riding assertively to maximise awareness of their presence and position their vehicle to maximise visibility to other road users.
    - They know about and understand the importance of safety margins and braking distances in connection with various changes in road surface, traffic, weather conditions, lighting or other factors such as their own fatigue or road conditions.
    - They know and understand how to coordinate front and rear wheel braking safely if it is possible.

- They know about and understand the 'human risk factors' and specificities of other motorised and non-motorised road users by reflecting that particular groups of road users, e.g. pedestrians – especially children –, animals, the elderly, those with diminished hearing or eyesight or cyclists, may require special consideration.
- They know and understand that different loads and types of (larger) vehicles require different driving behaviour.
- They know and understand the importance of using a safe, systematic routine to make sure that they are always in control of their vehicle and travelling at the right speed, in the right gear and in the correct position on the road for the conditions.
- Heavy vehicle drivers, in particular, know and understand that other road users may not appreciate that their vehicle needs more space to manoeuvre, particularly when cornering, at junctions and on roundabouts.
- Heavy vehicle drivers, in particular, know and understand that large vehicles travelling at speed can create a vacuum effect and draw cyclists or pedestrians under the wheels of the vehicle.
- Vehicle, bus or lorry drivers of larger vehicles, in particular, know and understand that the stopping distance for their vehicles is often longer than that for cars, for example, and therefore a larger gap must be observed to keep a safe driving distance.
- Bus, van and lorry drivers, in particular, know and understand the risks of stowaways and smuggling when driving across borders.
- Bus drivers, in particular, know and understand the risk of driving fast on bus lanes when speed differs significantly between parallel lanes.

3. Drivers know and understand that alcohol and drugs are important risk factors.

- They know and understand the risks and legal implications regarding the use of alcohol and legal or illegal drugs and substances when driving.
- They know and understand how alcohol, legal and illegal drugs increase risk and will affect their ability to drive safely and responsibly in traffic.
- They know and understand that the use of alcohol and drugs in combination, including those that do not usually have any negative effect when taken alone, can have a serious impact on their ability to drive safely and responsibly.
- They know and understand that passengers who are drunk or under the influence of drugs may create distractions or hinder their ability to drive or to scan their environment effectively.

4. **Drivers know and understand that their risk awareness in unknown areas must be even higher than in familiar areas.**

- They know and understand that the layout of roads, junctions etc. in other countries may be slightly different and that hazard familiarization and planning will have to be adjusted to take account of these variations.
- They know and understand that the routines of other road-users are not always predictable (e.g. they may use different informal signals to other road users) if they are driving in a country with which they are not familiar.
- They know and understand how and why to adjust their driving routines to take into account any variations in driving practice in different countries.
- They know and understand the risks of leaving their vehicle unlocked and unsecured when unattended.

5. **Bus drivers, in particular, know and understand that they take responsibility for the physical integrity of passengers and their load.**

- They know and understand the effect that passengers may have on their ability to drive safely.
- They know and understand that communicating with passengers while driving may distract attention away from the road.
- They know and understand the risks for passengers associated with sudden use of the accelerator, brakes and steering.
- They know and understand where and how to pick up and set down passengers safely.
- They know and understand current legal requirements for the fitting and use of seatbelts and advise passengers that where seatbelts are fitted they must be worn.
- They know and understand how to deal with the effects of social pressure and distractions caused by passengers.
- They know and understand that they must not use hand-held equipment such as a microphone while driving.

3.1.3 Behaviour at and near crash sites (includes first aid measures)

Main goal: Drivers know about behavioural and theoretical first aid measures at a crash site. They are able to internalise rules and regulations relating to first aid to enable appropriate response and to protect themselves and any other road users safely and responsibly.

Knowledge and understanding:

1. **In case of an emergency, drivers know that personal safety always comes first and anyone can become the victim of a crash.**

- They know and understand the principles of first aid and the limits of their own first aid skills.
- They know and understand where the first aid kit is, if carried, how to access it, as well as how and when to use it.
- They know and understand that in many crash situations there is a high likelihood of other road users also becoming casualties.
- They know and understand the importance of making sure that no further injury or damaged is caused.
- They know about and understand hazard awareness at or near the crash site:
    - Approaching the crash site, they know to slow down and pull off the road, they form a rescue alley with other drivers and contribute to emergency measures.
    - They know about and understand emergency measures:
        - When appropriate, they know to stop their vehicle by turning off the engine at a safe place and distance from the scene of the crash.
        - If necessary, they rescue other persons from the danger zone. They are able to secure themselves and others by wearing a safety vest.
        - They secure the crash site and are able to ensure adequate warning to other road users by immediately turning on the hazard warning lights and positioning a warning triangle at an appropriate distance before the crash site.

2. **In the case of an emergency, drivers know the theoretical principles of first aid. Their basic knowledge allows them to respond effectively in the event of a crash situation.**

- They know how to contact the emergency services in the country in which they are driving.
- They know and understand the danger of moving casualties e.g. where there is a possibility of spinal injuries, unless there is an absolute need, e.g. danger of fire.
- They know and understand that they should not try to remove a crash helmet from a motorcyclist unless there is a compelling reason to do so, and know the safest method of removing a crash helmet when it is necessary.

First aid measures at the crash site:

- Every minute counts: Drivers know and understand that there is an inverse relationship between the time it takes for a casualty to receive appropriate medical care and their chances of survival. They know and understand the principles of first aid, e.g. how to:
    - check for a response
    - check and clear the airway
    - apply CPR to maintain circulation and breathing
    - how to apply these procedures to infants
    - deal with unconscious casualties
    - reduce bleeding
    - deal with shock
- They know and understand why they should talk to crash victims and never leave them alone until the rescuers arrive.
- They know and understand the vital importance of providing ambulance and medical services with accurate information about the status of casualties – calling the emergency services and knowing about:
    - what has happened
    - where it happened
    - the number of casualties
    - what the injuries are
    - waiting time.
- Trained first aiders first check the vital functions of the crash victim.

3. Drivers who are involved themselves in a crash and are not badly injured know about measures to prevent secondary crashes.

- If the vehicle is roadworthy, they remove it from the hazard zone.
- If the vehicle is not roadworthy, they turn on the warning lights and set up a warning triangle.

4. Drivers take suitable action if their vehicle breaks down or has a tyre blow-out

- In case of a tyre blow-out drivers know and understand that:
    - it will make steering difficult, especially if it is the front wheel,
    - if they carry on driving, they risk further damage to the vehicle,
    - rear wheel tyre blow-outs will be more difficult to detect, especially on twin-wheeled or multi-axle vehicles.
- They know and understand the benefits of wearing protective clothing such as a high-visibility jacket or protective footwear.

- They know and understand whether, when and where it is necessary or a legal requirement to carry a fire extinguisher, and also know and understand the various types of fire extinguisher and which fires they are intended to tackle.
- They know and understand that they should never put themselves in danger when tackling a fire.

5. **Drivers enhance their skills over their whole life.**

- They independently and adequately refresh simple first aid rules.

3.1.4 Safety check of vehicle (includes basic technical questions)

Main goal: Drivers are able to ensure that their vehicle is roadworthy and functions technically in a way that they themselves, their passengers and their loads are safe. They know and understand how and when to use technical assistance systems, if required. They know and can identify when it is necessary to have their vehicle checked by an expert.

Knowledge and understanding:

1. **Drivers know and understand how to access guidance on the best way to carry out routine vehicle checks either through the vehicle's handbook or through on-board or online electronic systems.**

- They know and understand how to use the manufacturer's handbook/webpage/app, etc.
- They know and understand the impact that failure to carry out appropriate checks will have on the ability to drive safely and responsibly and take remedial action.
- They know and understand how to interpret the information provided by on-board electronic systems and analogue displays, e.g. oil pressure or water temperature gauges.
- They know and understand the meaning of on-board warning lights and audible alarms and how to respond to them.
- Moped and motorcycle riders, in particular, know and understand how to check the proper functioning the brakes, suspension or shock absorbers, how to check the drive chain for correct tension and wear, how to determine that the rear wheel is correctly aligned, and what electrical equipment to check.
- They know and understand how to check what sort of fuel and engine oil their vehicle uses and the consequences of filling with the wrong sort of fuel (besides increasing the amount of environmental pollution).

2. **Drivers know and understand their responsibility for vehicle safety and maintenance (especially bus and lorry drivers).**

- They know and understand that the vehicle handbook identifies which checks can be carried out by the owner or user and explains how and when to carry them out, either directly or using the vehicle's instrumentation.
- They know and understand what to check for during a vehicle security check and where to find any applicable check lists.
- They know and understand that different vehicles may permit different levels of access to check and maintain fluid levels, check electric systems, etc. (when, what, where and how) and some checks or maintenance on some vehicles should only be carried out by qualified mechanics.
- They know and understand how to check that tyres are correctly fitted and inflated, meet legal requirements for tread depth, e.g. by checking tread-depth indicators, and are free from defects that would make them unsafe or illegal to use.
- They know and understand the rules that apply to the fitting of different types of tyres.
- Bus drivers know and understand

    - that all passenger carrying vehicles (PCVs) are required by law to carry a fire extinguisher and for which fires their fire extinguisher is suitable and how to use it.
    - how to check that seatbelts, fire extinguishers and emergency exits are in good working order and how to report them when they are not.

3. **Drivers know about and understand mechanical aspects with a bearing on road safety. They familiarise themselves with their vehicle and know how to use or respond to any (in-)vehicle assistance systems.**

- They are able to familiarise themselves with the systems on their vehicle which allow them to respond to specific situations safely and quickly.
- They are able to monitor the performance of in-vehicle systems.
- They are able to operate the systems installed on their vehicle and understand that different vehicles may have different systems.
- They know how and understand why to check the fluid levels, engine oil, engine coolant, brake fluid, windscreen washer fluid and fuel.
- They know about and understand the correct use and care of tyres, the tyre pressure recommendations and their impact on secure vehicle handling and environmental aspects and know how to replenish them when needed.
- In case of technical system failure, they know how to react appropriately.
- If anchored in the national legislation, they know about the legal requirement to carry a first aid kit, warning triangle and safety vest and know the benefits of carrying

a spare wheel and any other equipment such as basic tools, set of light bulbs and other legally required equipment.

4. **Drivers know about effects of physical forces during driving.**

- They know and understand the technical basics of fundamental working principles in the context of the vehicle system.
- They know about and understand mechanical aspects with a bearing on road safety such as friction, rolling resistance, effects of different loads when ascending and descending slopes, aerodynamic resistance, cornering force, centrifugal force and breakdown torque.
- They know and understand that correct use of the throttle will have positive effects on vehicle performance, safety and the environment.
- Motorcyclists, in particular, know and understand how to coordinate throttle, lean and steering input to change the direction of the vehcile and understand the importance of adopting a riding position that allows them to use all control elements smoothly.
- Motorcyclists, in particular, know and understand the principles of adverse camber and its relationship to speed and steering input.

5. **Drivers know the meanings of technical assistance systems and dashboard warning lights and alarms.**

- They know and understand how to use (intelligent) technical assistance systems (e.g. cruise control systems, reversing camera systems, proximity sensors, etc.) effectively for their own and others' safety.
- They know and understand how aids such as ABS can help in safe and effective braking and know and understand when to use them.
- They are prepared to have a competent person check out any alarms or warnings when necessary.
- They know and understand the operation of low-fuel, mpg or range indicators and how much fuel is left in the tank when low-fuel indicators react.

6. **Drivers recognise facts surrounding technical standards, their understanding and correct use/application as a basic module of a life-long learning process.**

- They know and understand where to find specific information that enables them to stay up to date with new and required content.
- They know and understand that vehicle technologies are evolving all the time and may change between models.

3.2 Standard skills (B): Practical task-related competences

3.2.1 Preparation of vehicle, load and journey

Main goal: Before they start, drivers are able to ensure that they and their passenger(s) and/or load and their vehicle itself are in a fit condition. Drivers are able to consider all facts to make their journey safe.

Skills and behaviour:

1. **Drivers are able to meet all legal requirements relating to their load and journey.**

- They are able to ensure their vehicle meets all legal requirements, is roadworthy and in a good working order so as to be safe on the road.
- They are able to make sure their driving licence is valid for the category of vehicle being driven.
- They are able to make sure they have valid insurance for the use they intend to make of the vehicle.
- They are able to make sure that the correct documentation is in place even if they do not own the vehicle.
- They are able to make sure that they have the required documentation if they are transporting dangerous goods (especially lorry drivers).
- They are able to make sure that loads are secure and distributed according to the manufacturer's guidelines.
- They are able to check the condition of the load at regular intervals.
- They are able to pack loads safely and when loading the vehicle, they do it in a most secure way
- They are able to determine the exact content of their load and, where dangerous, hazardous or obnoxious goods are involved, they make sure that they, their vehicle and the processes they use to handle those goods comply with the law (especially lorry drivers).
- They are able to ensure that any animals are carried securely and with appropriate restraints.

2. **Drivers are able to ensure the legal use their vehicle by knowing vehicle manufacturers specifications about carrying loads.**

- They are able to anticipate that different vehicles may have very different monitoring and information systems and that they must familiarise themselves with each new type of vehicle that they drive.
- They are able to check that there is enough fuel of the right type.
- Especially if vehicle, bus or lorry drivers are towing a trailer/caravan, they are able to reflect all legal requirements and insurance aspects, as well as driving licence

regulations on towing trailers/caravans. They are able to ensure that it is suitable and legal for use on the road.

- Especially if vehicle, bus or lorry drivers are towing a trailer/caravan, they are able to safely and correctly couple and uncouple a trailer/caravan to the vehicle.
- If motorcycle drivers are using a sidecar, they are able to make sure that the sidecar is safely and correctly coupled, safely and correctly aligned and can be used legally on the road concerned.

3. Drivers are able to make routine checks of their vehicle's roadworthiness and take responsibility for the safety of their passengers and their load

- They are able to check that registration plates are fitted, visible and legally compliant.
- They are able to check that there is no damage that would affect their ability to drive the vehicle safely, make the vehicle illegal or have an adverse effect on its environmental impact.
- They are able to conduct first-use walk-round and pre-journey checks and configure the vehicle correctly.
- They are able to check all electrical equipment, technical systems (e.g. heating, air-conditioning, tachograph), required liquids, controls, horn, lights and reflectors, tyres and spare tyres are in good working order and all viewing devices are clear and adjusted to give the best view.
- They are able to check

    - all fluid levels,
    - that the horn is working correctly,
    - that all lights, reflectors and mirrors, as well as all tyres, including any spare, are in a legal, good working order,
    - that all lights, reflectors and mirrors are correctly adjusted and clean,
    - that tyres are correctly inflated and legally compliant,
    - that there is no damage or fluid leak,
    - that all equipment is in good working order.

- They are able to make routine checks of their vehicle and are able to detect problems with the vehicle's suspension and braking systems, tyres, lights and direction indicators, reflectors, the exhaust system and the audible and visible warning devices.
- They are able to make all recommended basic vehicle safety checks prior to their journey to ensure that all mirrors (and windows) are clean, all lights (e.g. front and rear fog lights) and headlights (e.g. dipped and full beam) are working.
- Bus drivers, in particular, are able to check that fire extinguishers, emergency exits and seatbelts are in good working order.
- Car, bus and lorry drivers are able to detect problems with their interior and exterior mirrors, windscreen, wipers and seatbelts.

- Car, bus and lorry drivers, in particular, are able to reflect the necessity of adjusting the head restraint and seating position correctly for both comfort and maximum protection and know how to adjust them to enable safe driving.
- Motorcyclists, in particular, are able to check
    - that they can move the handlebars easily,
    - that there is no obstruction of the movement.
- They are able to ensure that any loads are carried securely and incompliance with the vehicle manufacturer's specifications and that the insurance for the vehicle covers any proposed carriage of passengers or loads.
- They are able to seat themselves to enable them to use controls correctly and ensure an optimum of traffic observation and safety.
- They are able to reflect the importance of legal requirements for appropriate seating for all passengers, but especially for babies (e.g. baby booster in vehicle) and young passengers.
- Vehicle, bus or lorry drivers, in particular, are able to reflect the importance of wearing seat belts.
- Motorcyclists, in particular, are able to make sure
    - that they have a helmet and eye protection that meets legal requirements,
    - that they have clothing, footwear, gloves, etc. that will maximise their ability to ride safely and responsibly,
    - that passengers have a helmet that meets legal requirements, wear their helmet correctly, and are properly dressed for the journey,
    - passengers are seated legally, correctly and securely,
    - passengers understand how they should behave when being carried.
- They are able to manage the effect passengers may have on the handling of the vehicle and their ability to drive safely.
- They are able to anticipate the effect that extra loads may have on the vehicle's handling characteristics.
- Where required, they are able to operate any bespoke loading or restraining systems, such as roll cages or wheeled racks, following the manufacturer's guidance (especially lorry drivers).
- They are able to make sure that - if their load falls into the category of dangerous, hazardous or obnoxious goods – the corresponding hazard warning plates are fitted.
- They are able to make sure that - if their load is indivisible and extends beyond the dimensions of their vehicle - suitable marker boards are fitted, suitable lamps and reflectors are fitted, an attendant is carried and the police are given notice as appropriate.
- They are able to ensure the integrity of the security equipment in their vehicle, are able to ensure that the expiry date of the security equipment has not been exceeded.
- They are able to use mandatory safety and emergency equipment correctly.

- They are able to ensure that they and their passengers enter and exit the vehicle safely by taking precautions such as consciously dismounting or opening and closing the doors of a vehicle.
- Especially if vehicle, bus or lorry drivers are towing a trailer/caravan, they are able to anticipate height or width restrictions on their route before starting.

4. Bus drivers are able to guarantee a secure and convenient journey for all passengers, their loads and their animals.

- They are able to enforce the regulations that apply to passengers and their behaviour, and make sure that they do not carry more passengers than the vehicle is designed for, or the law allows.
- They are able to ensure the safety and comfort of passengers at all times, and they are able to

    - make sure the doors are not opened when the vehicle is moving and make sure that emergency doors are unlocked when the vehicle is in use,
    - minimise gaps from the kerb when stopping and provide reasonable help to disabled persons, including wheelchair users, to board and alight, and correctly use any system or equipment that is fitted to the vehicle for this purpose,
    - make sure that interior lights are turned on at night or in poor light conditions during the day,
    - stop in a safe, suitable and appropriate place to allow passengers to enter and exit safely, and to make sure that the doors are only opened when the vehicle is stationary,
    - drive smoothly and in a controlled and progressive way to maximise the safety and comfort of passengers because sudden acceleration/deceleration can cause danger or discomfort for passengers, particularly if they are standing or moving on the vehicle.
- They are able to distribute luggage loads safely and to minimise instability of the vehicle.
- They are able to make sure that, when loaded, their vehicle will not exceed its maximum authorised mass and that the load can be carried within the vehicle's maximum permitted gross axle weights.
- They are able to respond correctly to the use of the bell by passengers.
- They are able to take payment, issue and/or check tickets safely and in line with their organisation's procedures.
- They are able to manage the security of luggage to make sure that the risk of theft or loss is minimised.
- They are able to watch out for and be aware of possible threats to their personal safety, passengers' safety and load.

5. **Drivers are able to assess and respond accordingly to their own and other passengers' physical, mental and emotional state at the start of the journey (fitness to travel).**

- They are able to recognise how they should only use their vehicle if they feel fit enough or feel capable of safe and responsible driving.
- They are able to assess whether their ability to drive safely and legally is affected or likely to be affected by the use of over-the-counter medicines, prescription medicines, illegal or controlled substances or alcohol.
- They are able to accept the legal limits on alcohol and know that some medical treatments, including herbal remedies, can cause drowsiness, impair judgement and can alter their self-assessment of driving skills.
- They are able to reflect about changes in driving behaviour due to the influence of alcohol, drugs and medicinal products, state of mind and fatigue and assess whether their own ability to drive safely and responsibly will be affected.
- They are able to assess whether their ability to drive safely and legally is affected by their emotional state, a short or long-term physical condition or tiredness.
- They are able to manage their diet and fluid intake, taking shift patterns into account, to make sure they are fit to drive and to minimise tiredness.
- They are able to recognise if their normal sleep patterns have been disrupted, for example when driving at night or on night or rotating shifts, and they are aware of where this may affect their driving ability.
- They are able to continuously monitor whether they are tired while driving and take appropriate action.
- They are able to make alternative arrangements where their ability to drive safely and responsibly is impaired by any factor.
- They are able to seek support to achieve any changes necessary for them to drive safely and responsibly if they have a long-term physical condition
- Bus and lorry drivers, in particular, are able to operate the tachograph correctly.
- They are able to ensure that all occupants are fit to travel prior to their journey and know about the effects passengers may have on their ability to drive.

6. **Drivers are able to plan their route effectively at the start of their journey. They always choose an appropriate, safe and convenient route.**

- They are able to plan an appropriate route taking into account their level of experience and their knowledge of road and weather conditions (especially motorcyclists).
- They are able to plan their route taking into account the location of any height, width, length or weight or access restrictions that apply to the vehicle they are driving.
- They are able to plan their route to take account of any road-use charge schemes that apply to the vehicle they are driving.

- They are able to plan their route to include rest break and overnight parking locations, where appropriate.
- They are able to estimate environmental impacts (e.g. carbon dioxide, carbon monoxide) when deciding on the need to use their vehicle for the journey.
- They are able to remove any unnecessary items from the vehicle to reduce weight.
- They inform themselves before setting off and during the journey to obtain early warning of incidents, road closures or any other information which could influence the planned journey.
- They are able to calculate enough time for traveling to avoid pressures of time or stress and to allow for adverse weather or hazards.
- They are able to avoid speeding through forward planning.
- They are able to calculate the time required for the journey in ideal conditions but are also able to anticipate necessary breaks for refuelling or refreshments, as well as additional time for adverse travel conditions.

7. Drivers are able to couple and uncouple a trailer and vehicle safely (especially in combination with Category E [BE, C1E, CE, D1E, DE]).

- They are able to position the vehicle in relation to the trailer ready for coupling and uncoupling and make sure that the trailer's brakes are applied prior to coupling and uncoupling.
- They are able to make all the necessary connections when coupling the trailer and check that the coupling has been performed correctly so vehicle and trailer systems work properly and the vehicle is safe to drive.
- They are able to select a safe location for uncoupling the trailer and disconnecting all connections.
- They are able to drive away from the trailer carefully and make sure that uncoupling has been achieved.

3.2.2 Vehicle handling/manoeuvring: Guide and control the vehicle

Main goal: Drivers have profound knowledge and technical driving skills on manoeuvering the vehicle. They know reliably and exactly which operating and observation controls they must use to guide and to control their vehicle correctly. Controlling the vehicle has to be developed as an automatism: Practical handling is reflected behaviour. They pay attention to environmental aspects as well as to the safety of other road users and themselves. They are able to critically monitor and estimate their own driving performance and driving skills. They are willing to increase driving skills if needed.

Skills and behaviour:

1. **Drivers are able to enter and leave the vehicle safely and appropriately.**

- They are able to check for other and oncoming road users before entering/leaving the vehicle and are able to remind their passengers to do so, too.
- They are able to use best practice techniques to ensure their personal security when parked and to secure their vehicle against thefts.
    - Vehicle, bus or lorry drivers, in particular, secure their vehicle by locking doors and trunk compartment, locking the steering wheel and keeping baggage out of sight
    - Moped and motorcycle drivers, in particular, secure their vehicle by locking steering and storage compartment.
- They are able to consider the road traffic regulations that apply when leaving their vehicle on different roads and in different lighting and weather conditions.
- They are able to set the position of the steering wheel/handlebar and brakes and to select a gear to increase the vehicle's security.
- Drivers are able to start and stop the vehicle safely and appropriately.
- They are able to capably and successfully master basic driving skills (starting, accelerating, steering, braking, stopping).
- They are able to handle a correct starting procedure by
    - starting the engine correctly by knowing the correct starting procedure,
    - driving off smoothly and progressively,
    - stopping the vehicle safely,
    - steering and coordinating the use of controls attentively.
- In the event of a stall, they are able to recover quickly and effectively.
- They are able to steer the vehicle safely and responsibly in all road and traffic conditions, paying attention to any weight, height, width, length and ground clearance restrictions.
- They are able to continue to steer the vehicle safely and responsibly while operating other controls.

- They are aware of the importance of using a safe and systematic routine to move off safely and smoothly in any situation; they are able to coordinate the use of controls, know why to observe and signal appropriately and only move off when it is safe and hazard margins to other road users are moderate.
- They are able to apply to a safe, systematic approach when stopping, are able to estimate their stopping distance at different speeds and respect speed limits.
- They are able to coordinate the use of gears with braking or acceleration and to assist safe parking.
- They are always able to stop within the distance they can see clearly.
- If moving on a road which is so narrow that oncoming vehicles can be endangered, they slow down so as to be able to stop within at most half of the surveyable distance.
- They are able to start and stop safely on any incline – uphill or downhill – in all weather conditions and in forward and reverse gear.
- They are able to select a safe, legal and convenient place to park and, once stationary, secure the vehicle on gradients as well as on the level.
- They are able to use the parking brake, where fitted, or appropriate stand to hold the vehicle safely and, if needed, select a gear to hold the vehicle safely when parked.
- Especially if vehicle, bus or lorry drivers are towing a trailer/caravan, they are able to anticipate that the way they need to handle a vehicle will change and they are able to deal with those changes.

2. Drivers are able to show and use all different and graduated functions, and are able to consciously, safely and correctly operate all the on-board hand and foot controls and switches.

- They are able to locate and demonstrate the various settings of all switches and lights, as well as to switch these on and off if appropriate or needed.
- They are able to read, understand, check and respond correctly to on-board and measurement gauges to monitor operation and performance of their vehicle safely and appropriately.
- They are able to position their feet to operate the foot controls correctly.
- They are able to locate the gear selector and are able to select gears and block change; in an automatic vehicle, they are able to select park, drive, reverse and neutral.
- They are able to select the correct direction indicator in the safest way.
- In case of technical system failure, they are able to react appropriately.

3. Drivers are able to position the vehicle correctly to carry out manoeuvres safely.

- They are able to interact appropriately with any driving, stability or braking aids, e.g. lane control, intelligent speed adaptation, automatic braking systems, ESP or traction control.
- They are able to reflect on their own overall ability to drive safely and responsibly. They are able to identify and implement appropriate strategies to master any problem or deficiencies which they identify.
- They are able to *manoeuvre* their vehicle safely, responsibly and in an eco-friendly driving style by coordinated use of gear, accelerator, brakes and steering/handle bar.
- They are able to change gear smoothly and in good time and are able to reflect the benefit of timely gear selection when ascending and descending gradients, particularly when loaded.
- They are able to select the most suitable gear for the speed of the vehicle and can coordinate this with smooth use of the clutch and accelerator, as well as braking correctly to achieve and maintain a suitable speed in any given road and traffic conditions/situation.
- They are able to drive smoothly and in a controlled and progressive way to avoid destabilising any load.
- They are able to coordinate the use of gears – forward and reverse gears – with braking and acceleration in a convenient and eco-friendly procedure.
- They are able to position the vehicle correctly to carry out manoeuvres safely.
- They are able to reflect the effects of sudden use of the accelerator, brakes or steering whilst manoeuvring.
- They are able to choose the safest method of steering a steady course and to show where and how to hold the steering wheel without drifting while operating other controls in all road and traffic conditions.
- They are able to reflect the effect that the vehicle's turning circle has on steering the vehicle accurately and safely.
- They are able to use the accelerator smoothly and progressively to achieve and maintain a suitable speed.
- They are able to brake efficiently with a good sense of deceleration using appropriate braking techniques to control fuel consumption.
- Especially if vehicle, bus or lorry drivers are towing a trailer/caravan, they are able to reverse and steer the vehicle with the trailer/caravan attached.
- They are able to anticipate what clearances are necessary for the vehicle during different manoeuvres or activities.

    - Vehicle, bus or heavy lorry drivers, in particular, are able to anticipate the additional time to accelerate and decelerate when their vehicle is laden and allow for this when moving off and stopping,

    - Vehicle, bus or heavy lorry drivers, in particular, are able to anticipate the amount of space they need to turn and to estimate the way that their vehicle overhangs kerbs and verges.
    - Bus drivers, in particular, are able to anticipate the potential impact of street furniture, especially at bus stops.
- If using a sidecar, motorcyclists, in particular, are able to take account of the effect of the sidecar on machine dynamics while riding.

4. **Drivers are able to reflect the importance and different usage situations of interior and exterior mirrors for safe and responsible driving and are always aware of potential blind spots.**

- They are able to adjust and correctly set and always use the different mirrors of the vehicle appropriately for a safety check in any specific situation.
- They are able to anticipate blind spots and are able to check them proactively.

3.2.3 Traffic observation

Main goal: Drivers are able to scan their surrounding area for other road users and possible hazards in any circumstances to ensure that their own life and vehicle are safe. Responsible traffic observation enables them to act and react proactively in anticipating and responding to other road users' behaviour and driving skills.

Skills and behaviour:

1. **Drivers are able to alleviate hazardous situations by being aware of them as soon as possible. They can act sooner by scanning and planning their surroundings over 360 degrees.**

- They are able to use a safe and systematic routine, e.g. mirror-signal-manoeuvre, including blind spot checks, at all times when carrying out any manoeuvre in traffic.
- They are able to decide which information and observation aspects are important and which are not or less important to identify cues to hazards and then prioritise hazards correctly.
- They are able to respond to hazards by using effective scanning techniques in all driving conditions and at all times of the day and night.
- They are able to maintain attention when faced with distractions.
- They are able to judge distances by assessing the speed and distance of traffic.

2. Drivers are always aware of (vulnerable) road users and drive defensively.

- They are able to identify other road users (pedestrians, especially children and the elderly, trams, animals/pets, cyclists etc.) to consider their perspectives and to anticipate their behaviour.
- They are able to reflect the importance of scanning the road ahead for reasons to change their position, such as roadworks, and taking timely action to reposition themselves accordingly.
- They are able to anticipate how their own driving will affect traffic behind them. They are thus always aware of what is going on behind and which mirrors to use for their intended actions.
- They are able to reflect that the use of reversing aids does not replace the need to manoeuvre well and perform all-round and effective observations.
- They are able to check for approaching cyclists, pedestrians and other traffic before opening their door.
- Vehicle, bus or heavy lorry drivers, in particular, are able to manage the risk that other road users may not give them enough space to manoeuvre.
- When using a bus lane, bus drivers, in particular, are able to exercise extra caution when passing slow-moving or stationary traffic and are prepared for the end of the lane where other traffic may be changing position
- Especially if vehicle, bus or lorry drivers are towing a trailer/caravan, they are able to anticipate that a trailer/caravan may increase the number of blind spots so they may need to use appropriate aids for better observation, such as extra mirrors.

3.2.4 Vehicle positioning and speed adaptation

a) Speed adaptation
b) Safety margins
c) Hazard avoidance
d) Eco-driving

Main goal: Drivers are able to drive safely, responsibly and in an eco-friendly manner. They apply and master appropriately demanded skills-based manoeuvring, as well as rule-based and strategic-based requirements, in any specific traffic situation under all road conditions. Drivers are always aware of hazards and act accordingly by responsively manoeuvring their vehicle and by changing speed or direction. They master driving with the help of routines sufficiently in advance and have enough reaction time for needed or planned manoeuvres.

Skills and behaviour:

1. **Drivers are able to manoeuvre their vehicle in a safe, eco-friendly and responsible manner which requires a safe and systematic routine when making any possible movement.**

- They are able to plan their driving to ensure that they are in the appropriate gear, travelling at the appropriate speed and are in the best position on the road to be able to respond to hazards when they occur, under any road, traffic, lighting or weather conditions and at any time of the day or night.
- They are able to comply with traffic rules and regulations.
- They are able to make sure that they follow relevant rules and regulations, even if their journey will take them into an area where they change.
- They are able to estimate their own vehicle dimensions.
- They are able to maintain control when negotiating all types of junctions and crossings, taking into account the dimensions of the vehicle.
- They are able to negotiate all types of junctions, roundabouts, pedestrian crossings, railway or tram crossings safely.
- They are able to join and leave motorways, dual carriageways or other high-speed, multi-lane roads safely if it is legal to do so.
- They are able to apply a safe systematic routine when negotiating all types of junctions. At junctions, they are able to adapt to the rules as they proceed left, right and ahead, merge into the traffic flow and cross the path of oncoming traffic safely and responsibly.

    - They are able to acknowledge the right-of-way rule when approaching a junction and are able to apply it. They do not switch lanes when in the middle of a junction.
    - They are able to apply learned aspects of priorities at all junctions and know how to position their vehicle correctly on the approach.

- They are able to decide when and how to signal their manoeuvring intention to other road users when turning.
- They are able to react and are aware of other road users who may not be positioned or signalling correctly and are prepared to make allowances for them
- They are able to perceive, to assess and to decide how to turn left or right safely from a major road to a minor road.
- They are able to perceive, to assess and to decide how to emerge left or right safely from a minor road to a major road.
- They are able to perceive, to assess and to decide how to approach and emerge safely at crossroads, staggered crossroads and roundabouts when proceeding ahead, left and right and they use the safest method when turning with oncoming traffic.
- They are able to perceive, to seek, to read and to observe road markings and lane destination markings.

- Especially if vehicle, bus or lorry drivers are towing a trailer/caravan, they are able to anticipate that it may be necessary to take up a different position on the road when dealing with junctions or roundabouts.

2. Drivers are able to join or leave a motorway, a dual carriageway, a highway or any other high-speed road safely.

- They are able to join or leave a dual carriageway or a motorway safely from the left or the right and can change lanes safely.
- They are able to anticipate and respond safely to other road users joining a motorway or dual carriageway.

3. Drivers are able to reflect and to perceive the importance of speed.

- They are able to drive defensively and internalise the correlations between speed, distance and stopping distance.

  - They are able to reflect that a vehicle's overall stopping distance consists of two parts: first their thinking distance when they decide to stop, and secondly the braking distance during which they start to brake and finally stop the vehicle.
  - They are able to estimate the stopping distance at different speeds and accept speed limits.
  - They are able to stop their vehicle within the distance they can see to be clear and in doing so they are able to judge a safe separation distance.
  - They are able to avoid getting into skids or losing control of the vehicle, but are able to respond appropriately if their vehicle does skid.
  - They are able to use the vehicle's endurance braking system (retarder) when needed or available (especially vehicle, bus or lorry drivers).

- They are able to permanently adapt their speed to traffic, road and weather conditions as well as visibility.
    - They are able to position their vehicle to avoid hazards on the road and always allow and maintain a safe driving distance.
    - They are able to identify and respond to changes in road surfaces and all road, traffic and weather conditions to ensure safe stopping.
    - They are able to keep a safe distance from the vehicle ahead, as appropriate to their speed in specific weather conditions.
    - They are able to select the most suitable gear for the speed of the vehicle given the road and traffic conditions.
- They are able to accelerate normally, to brake gently and to always drive defensively
- When necessary, they are able to adjust their speed smoothly and in good time with the use of brake and shift operations.
- They are able to perceive how and when to switch and engage gears to adjust speed in specific traffic situations. They are able to carry out the process with smooth steering movements.
- They are able to carry out operations smoothly without any haste so as to avoid negative environmental impacts and unforeseen situations for other road users.
- They are able to perceive the relationship between speed and emissions and choose environment-friendly speeds.
- They are able to realistically self-assess their own speed behaviour and know about the thrills of speed.
- To avoid any hazard, they are always able to judge speed and distance correctly and effectively.
- Motorcyclists, in particular, are able to coordinate use of the handlebars and leaning to steer the machine accurately and safely, as well as coordinating steering and leaning with the use of the throttle (and the brake if necessary).
- Especially if vehicle, bus or lorry drivers are towing a trailer/caravan, they are able to anticipate that driving a trailer/caravan needs more time and earlier braking when slowing down or stopping.

4. **Drivers are able to perceive that they always have to maintain safety margins (to the front and to the side) to other road users, to obstacles and possibly to animals that are present on or adjacent to the roadway or to the kerbside.**

- They are able to maintain an increased safety distance (use of a 3-second buffer distance) before coming to a foreseeable stop (e.g. at a junction or at a red traffic light) without using the accelerator and without changing to a lower gear and make early use of the vehicle's momentum and allow the vehicle to coast (disengaged, without gear, with gear).
- They are able to always identify a suitable place for manoeuvring and positioning their vehicle correctly and safely.

- Especially if vehicle, bus or lorry drivers are towing a trailer/caravan, they are able to anticipate that driving a trailer/caravan needs more distance and time to overtake safely.
- They are able to decide to use a permitted lane for their manoeuvre.
    - On the road, they are able to drive stably within their lane (lane discipline) by taking into account the national rules of driving (driving on the left or right) and maintaining a safe position within their lane.
    - They are able to choose the correct lane in good time for the direction they intend to go.
- They are able to perceive that a change of lanes and overtaking have to be done safely, quickly and smoothly. When changing to a different lane, they are able to anticipate and respond safely to other road users.
- They are able to perceive how the performance and handling of their vehicle will affect their ability to overtake safely and responsibly. If they are passed, they allow overtaking vehicles to return to their lane.
- They are always able to maintain safety margins and are able to perceive where they may and may not overtake. When overtaking single-track vehicles (e.g. cyclists), they are able to choose an even wider safety distance.
- Their vehicle positioning and speed adaptation are accompanied by all-round observation and the awareness of 'blind spots'.
- They are able to negotiate bends safely. They are able to stay in their lane and reflect that overtaking has to be completed in good time ahead of the curve. They are able to select a safe position, speed and appropriate gear to enter and exit curves.
    - They are able to assess bend and road characteristics correctly, adjust speed and positioning prior to entering the bend and maintain control throughout.
    - They are able to and know how to assess bends correctly on approach, thereby selecting a safe position and speed to enter and exit a bend.
    - They are able to position the vehicle such that they maintain sufficient distance from the edge of the road and oncoming traffic.
    - They are always able to observe a safety margin to the vehicle ahead and to maintain a safe speed and position throughout the bend.
    - They are always aware of unforeseen circumstances, such as uneven or slippery surfaces, adverse camber, other road users, etc.
    - In situations when there is oncoming traffic and insufficient space for passing, they are able to anticipate the need not to speed up but rather to stop patiently in front of the constriction until the oncoming traffic has driven through.

5. **Drivers are able to reflect facts of hazard avoidance.**

- They are always able to plan ahead and are aware of their surroundings and perceive how to prioritise hazards.
- They are able to adjust their driving behaviour to take into account changes in the road surface, traffic, weather conditions, lighting or other factors.
- They are always able to look out for more vulnerable road users at any time and in every traffic situation.
- They are able to position themselves in the optimum defensive position on the road.
- They know how to identify a suitable place for their own manoeuvring and how to allow for vulnerable road users when carrying out a manoeuvre.
- They are able to perceive all relevant elements of a (traffic) situation.
- They are able to interpret all observed elements.
- They are able to predict possible dynamic developments of situations.

6. **Drivers are able to perceive, assess, decide and act according to the principles of safe, eco-friendly and responsible driving.**

- They are able to reflect the environmental and economic implications of their travelling.
- They are able to drive in a style that contributes to road safety while also reducing fuel consumption and emissions:
    - by increasing their hazard perception
    - through driving with high care and anticipation
    - through planning skills to maximise their vehicles momentum and thus being able to avoid unnecessary braking and accelerating
    - when accelerating, they avoid unnecessarily high engine speeds
    - through engine braking and engine torque, as well as through avoiding unnecessary weight
    - by using the highest gear possible and by turning the engine off, when appropriate
    - by maintaining an appropriate speed.
- In case of delays/speed variations in the flow of traffic (e.g. traffic ahead slowing down or traffic restrictions), they are able to make early use of the vehicle's momentum and allow the vehicle to coast without accelerating and without changing to a lower gear.
- They are generally able to keep their vehicle in the highest practical gear to reduce fuel consumption and emissions of pollutants.
- They are able to make early use of the vehicle's momentum and allow the vehicle to coast (disengaged, without gear, with gear)
- They are able to use the throttle smoothly to achieve and maintain a suitable speed.
- They are able to use vehicle's momentum in stop-start situations.

3.2.5 Communication

Main goal: Drivers always signal their manoeuvring intentions in advance to other relevant road users to prevent misunderstandings or conflicts. With the same purpose, drivers read signals of other road users.

Skills and behaviour:

1. **Drivers are able to pay attention and to effectively communicate with other road users. They are able to give correct and well-timed signals by using the appropriate means (e.g. using indicators, arm signals, the horn if necessary, lights if necessary).**

- They are able to anticipate actions of other road users by using all available information.
- They are able to use a safe and systematic routine e.g. mirror-signal-manoeuvre, including blind-spot checks, at all times when carrying out any manoeuvre in traffic
- They are able to give signals clearly, at an appropriate time and correctly according to the road traffic regulations, so that other road users can anticipate their driving and manoeuvring intentions in good time.
    - If necessary, they are always able and ready to show by clear eye contact or other appropriate signals that they have perceived other road users.
    - They are able to monitor and manage their own reaction to other road users by giving unmistakeable signals to show their intention as well as being able to show awareness and anticipation for other road users.
    - Not only in difficult and ambiguous traffic situations, they are able to communicate with other road users.
    - They use headlights and daytime running lights during daytime according to the regulations of the country they are in.
- They are able to consider and interpret any signals from other road users, such as optical or acoustic warning signals (e.g. brake light of a vehicle travelling in front, headlight flashing, hazard warning lights at the tail of a traffic jam, horn), their driving behaviour and other environmental cues in an appropriate manner.
    - They are able to behave in accordance with other road users.
    - They are able to allow for others' mistakes.
    - They are able to give other road users time to perform manoeuvres, e.g. they are able to examine whether and how quickly other road users and vehicles are approaching, passing, turning, wanting to step onto the road, etc.
    - They are able to interpret hand signals and body language of others, especially vulnerable road users such as cyclists, children or the elderly, and establish eye contact with them when required.

2. **Drivers are able and aware of the need to observe the area in front, to the back and beside them.**

- They are able to use their mirrors appropriately, if necessary, and well before manoeuvring, signalling, changing speed or direction and approaching hazards.

3.3 Driver teaching competence standard (C): Teaching ability

As already mentioned before, nations worldwide have developed a wide variety of very different driving education systems over the years, each of which follows different logic. Some systems are output-oriented (e.g. United Kingdom) and have therefore abstained from creating a detailed catalogue of requirements which a person has to fulfil to become a professional driving teacher. Here, layman and professional teacher can both provide support for educational processes. On the other hand, nations which follow input-oriented strategies have elaborated very specific criteria for an exclusively professional teaching system for driver education (e.g. Germany, Netherlands).

Therefore, the participants were only able to recommend selected common statements. You will find the entire discussion process of the work done by Working Group 3 in the Appendix in chapter 7.2.

In the following statements, paid and therefore professional driving teachers were accepted by the majority of participants.

Entry Criteria

It is recommended that all persons wishing to become professional driving teachers should meet initial criteria before being invited to undertake the qualifying process i.e. they should have:

- successfully completed secondary education or demonstrated an equivalent level of competence, e.g. through vocational training (Level 4 of the European Qualifications Framework [EQF]), and
- held an appropriate driving licence for at least 3 years

The cultural context in which driver education operates in each country will clearly be important in determining whether this recommendation can be applied effectively.

It is recommend that there should be a nominated role within each country's process for the issuing of a licence to practise, with the authority to undertake a 'fit and proper' assessment of all candidates and with authority to exclude those considered to be unsuitable.

Outline competence framework

It is recommended that all persons considered fit and proper and wishing to become professional driving teachers should demonstrate, as a minimum requirement, that:

- they have continued to reflect on and develop their driving competence since they passed their driving test, and
- they are competent to facilitate effective, client-centred teaching and learning on the road.

The details of the required competences can be found in chapter 3.3.
Figure 11 provides a high-level outline of those requirements.

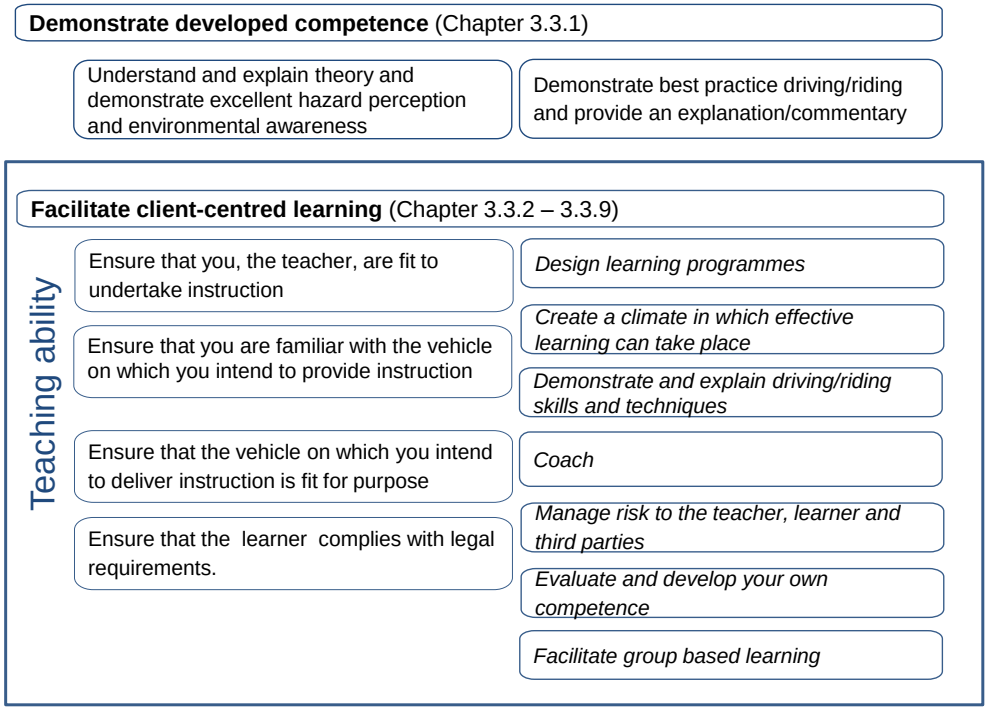


Figure 11: Structure of a driving teaching standard

Source: Working Group 3

Structure of qualifications

Any competence standard should be constructed in two distinct parts to allow for the construction of qualifications which maximise skills, mobility and flexibility both for those wishing to become qualified and for those who decide, part way through their training, that they no longer wish to become a driving teacher. The minimum competence standard for drivers (see chapters 3.1 and 3.2) will require a person to reflect on their driving competence and do whatever is necessary to maintain that competence throughout their driving career – in line with the requirements of the right hand column of the GDE matrix. In this context, a person wishing to become a professional driving teacher should, at the very least, be able to demonstrate that he/she has continued to reflect on and maintain and improve his/her competence. Those who cannot demonstrate a willingness to engage in reflective practice are unlikely to be able to encourage and develop that approach in learners.

Classroom teaching

It is concluded that where a national learning process includes driving education in a group or classroom, the teacher should be required to demonstrate the competences required to teach groups effectively. However, given that group/classroom-based teaching is not a universal requirement, this element of competence should be an option rather than a mandatory requirement for all teachers.

It is concluded that persons who, as part of a national driver education process, provide specialist training which is not directly related to driving, e.g. first-aid, need not demonstrate any driving-related competence (although, of course, familiarity with the context of driving would be an advantage) or any additional teaching or training competences over and above those required by their specialisation.

Teaching attitude and behavioural change

Research suggests that the delivery of group/classroom-based education specifically focused on attitude or behavioural change requires high-level (EQF level 6 or above) competences, e.g. to be able to manage complex or challenging group dynamics. These competences are only taught, as part of driving teacher education, in a few member countries. Making these competences a mandatory part of driving teacher education would very substantially raise the educational level of that process.

Where member countries do decide to incorporate group/classroom-based attitude/ behavioural change lessons, teachers delivering those lessons should be able to demonstrate suitable professional competence. In terms of their credibility with learners, they should almost invariably be experienced drivers (the requirement for personal credibility is, arguably, even higher in the motorcycling world than it is for car driver trainers) and should have a demonstrated competence in the theory element of developed driving. It is likely that their professional attitude/behavioural change competences would exceed the client-centred learning and teaching requirements set out below. It is arguable whether they would need to be qualified to give in-car driving or on-road riding instruction. The viability of that as an option would depend on the overall structure and economics of the driver training and driving teacher "education industry" in each country.

Maintaining competence

It is concluded that, as well as asking them to demonstrate their competence in order to gain their licence to practise, it would also be sensible and reasonable to require driving teachers to demonstrate their continuing competence. There are several ways in which this could be done, e.g. by requiring them to

- undertake formally recorded continuing professional development (CPD),
- undertake periodic, formal re-training, e.g. every 4-5 years, and
- pass an assessment of competence, e.g. every 4-5 years.

All three of these approaches, and combinations thereof, are in operation in one or other CIECA member country. It is recommended not to give any recommendation for one of these methods. The ease of operation and effectiveness of quality assurance systems will clearly vary according to the structure and culture of the driver training industry in each country. However, it will strongly support the idea that the public should be able to be confident that a driving teacher remains competent throughout their career. It is up to each country to decide which method of achieving that outcome is most effective in its individual context.

Developed Driving

The first part of the Driver Teaching Competence Standard (which always includes matters relating to riders) does not comply with the normal competence standard format, i.e. it is not a set of learning outcomes. Instead, it sets out requirements to demonstrate developed competence in the learning outcomes which have already been specified in the driving/riding standard. In that sense, it could more accurately be described as an assessment specification.

Rather than representing what teachers should be 'able to do' and what they should 'know and understand', it sets out what they must be able to do to demonstrate firstly their practical skills and secondly their theoretical understanding.

To demonstrate the required *competence,* teachers	
a, must be able to	b, must be able to
- provide best-practice demonstrations of the competences required by the Driver/Rider Standard, across a representative range of driving/riding contexts and in/on a range of vehicles from the category - be able to provide an explanation/commentary, in real time, while carrying out those demonstrations[3]	- pass a test of objective knowledge about the driver/rider standard and the rules of the road with no errors (or only a very small number of errors) - pass a test of hazard perception and environmental awareness with no errors (or only a very small number of errors) - explain the rules of the road (e.g. as presented in case studies or scenarios.)

[3] *Riders of Cat A/M motorcycles will clearly not be able to deliver an explanation/commentary in real time in the same way as a driver. It will require further work to determine how this level of competence can be demonstrated and assessed adequately in Cat A/M.*

Section 1: Prepare to Teach

This section is about confirming that all legal requirements have been met before teaching begins. A teacher must know and understand what the law says about their entitlement to deliver teaching, to use a vehicle/machine for training purposes and an individual's entitlement to be trained.

N.B. Some of the tasks identified below could be given to another person, who is not a teacher, in a training organisation e.g. the checking of a learner's documentation. However, a competent teacher should still be able to confirm that the vehicle/machine they intend to use is roadworthy, that they are legally able to carry out the training and that the person who wishes to be trained is legally entitled.

To demonstrate the required competence, teachers:	
must be able to	must know and understand
- ensure that they are fit to give instruction - ensure that they are familiar with the vehicle/machine in/on which they intend to provide instruction and that it is fit for purpose - and, check that the machine being used by the learner is suitable - ensure that the learner is legally entitled to take part in a programme of learning on the road.	- the factors which may affect their ability to provide instruction safely and effectively (these will mirror factors which affect the ability to drive safely and responsibly, e.g. fatigue, alcohol or drugs, medical problems, extreme emotions, etc.) - any mandatory minimum test vehicle/machine requirements the limits of their competence and how to familiarise themselves with a vehicle/machine which they have not driven/ridden before (While a high proportion of driving instruction may be given in/on a driving school vehicle/machine, qualification as a driving teacher may lead to a teacher providing instruction in/on a range of vehicles/machines within the relevant categories. Furthermore, vehicle/machine technologies are subject to constant change.) - how to carry out appropriate checks, in line with the vehicle's manual, to ensure that it is fit for the providing of instruction.

	(Where the training vehicle/machine is owned and maintained by a driving school, a teacher must know how to confirm that the appropriate checks and approvals have been carried out before they start to use that vehicle/machine for teaching.) - that a learner rider presenting themselves for teaching on their own machine bears primary responsibility for ensuring that that machine is fit for the purpose - that a riding teacher would fail in their duty of care if they observed something which gave them reason to believe that a learner's machine was not fit for the purpose, e.g. damaged tyres or fluid leaking from the brakes, and did not take appropriate action - the criteria with which a person must comply and the documentation they must hold, etc. in order to be legally entitled to undertake the type of training they intend to deliver.

Section 2: Design learning programmes

It is recognised that most driver/rider learning programmes have some sort of pre-specified structure. This may take the form of a national syllabus, with prescribed content, a workbook or a more informal learning model. However, even where there is a pre-defined structure, it is expected that driving teachers will be able to work with the learner to make the learning experience meaningful to each individual.

To demonstrate the required competence, teachers:	
must be able to	must know and understand

- work with the learner to plan an outline learning programme which:
  - takes into account prior experience, any special needs and any cultural factors
  - encourages them to take responsibility for their own learning
  - progressively transfers responsibility for the management of risk
- work with the learner to agree individual lesson plans with clear learning objectives
- explain how they intend to monitor progress during the programme of learning
- agree the details of the learning plan with the learner within the constraints set by any assessment requirement
- adapt the programme of teaching and individual lesson plans when appropriate
- where relevant, define ways of working with accompanying drivers to gain maximum benefit from their involvement.
	- the content of the relevant driver/rider standard, the learning objectives of licence acquisition or the requirements of any formal programme of training which is to be delivered e.g. Eco-will
	- the range of prior learning inputs which a learner may have experienced, e.g. simulators, off-road driving and the way in which they may affect the learner's readiness to learn
	- the range of special needs a learner may present and their implications for driving
	- what is meant by individual learning styles and how these may impact the learning process
	- how cultural factors may affect the options available to support learning, e.g. inability to attend on particular days, issues around eye contact or the belief that it is bad manners to contradict the teacher
	- the range of tools and techniques which can be used to facilitate effective learning4
	- the way in which some approaches to teaching can encourage the learner to adopt a passive attitude to learning

[4] Within client-centred learning there may well be occasions on which more 'traditional' methods, such as learning by rote, can be deployed effectively, particularly as part of a range of methods which support each other. The key competence is the ability to select a range, from all the available methods, which is effective for a particular learner. Particular attention should be paid to ensuring that the methods chosen support the learner to engage actively with the decision making process and to practice taking responsibility for risk.

	- how to select a range of tools and techniques which are effective for a particular learner - the range of materials, books, apps, etc. which are available to support the learner - what resources, including other teachers with specialist skills, they can draw on to support their learning process - the limits of their own competence and when they should transfer a particular learner to a teacher with specialist knowledge, e.g. sign-language - how to maximise the involvement of accompanying drivers in the learning process - how to make use of digital tools to support the teaching process and to communicate with accompanying drivers.

Section 3: Create a climate in which effective learning can take place

To demonstrate the required competence, teachers:	
must be able to	must know and understand

- communicate effectively, both verbally and non-verbally, in a way which:
  - is free from discrimination
  - does not patronise or exploit the learner
  - does not collude with risky behaviour or attitudes
- explain how they intend to work with the learner and what they expect of them
- establish appropriate limits to the learning relationship, to protect themselves and the learner
- ensure the learner knows what other resources are available to support their learning process
- ensure the learner understands how their parents, partner, friends, etc. can support the learning.
	- that learners who do not actively engage in their learning process, and are simply passive recipients of information, are less well equipped to deal with the wide range of challenges they will meet when they start to drive independently than those who are supported to be active learners
	- that adolescents are at a particularly critical stage in the development of their capacity for self-regulation and their cognitive control system and can easily be pushed into negative reactions if treated inappropriately
	- how to improve verbal and non-verbal communication by appropriate use of eye contact, consistent and clear language, breaking subjects into manageable pieces, using graphics and visual aids, etc.
	- the effects that their own assumptions about particular groups within society, etc. may have on their ability to facilitate effective learning
	- how external factors may influence the learner's attitude to the learning process, e.g. economic factors or peer pressure.

Section 4: Deliver an effective learning process

To demonstrate the required competence, teachers:	
must be able to	must know and understand

- deploy the range of teaching tools that they have agreed with the learner[5]
- select suitable locations for delivering demonstrations
- provide clear demonstrations and explanations of how to:
  - operate the controls of particular vehicles/machines
  - coordinate the use of the vehicle's/machine's controls to manoeuvre and make safe and responsible progress through traffic under a variety of road conditions
  - coordinate the use of the vehicle's/machine's controls to minimise the environmental impact of vehicle use
  - scan the environment effectively and prioritise hazards
  - use a systematic method of vehicle/machine control
  - negotiate the full range of situations and hazards that may be encountered when driving on public roads[6]
- encourage the learner to ask questions, check understanding and, where necessary, repeat or alter their delivery to ensure understanding
- provide sufficient opportunities for the learner to practise skills and techniques to ensure that they move from being conscious decisions to being automatic or motor responses
	- how to use a range of tools and technologies to deliver learning inputs
	- how to select appropriate locations to deliver static or moving demonstrations
	- how to deliver an explanation or demonstration so that the learner gains the maximum learning effect, taking into account different learning styles
	- how each type of vehicle/machine works sufficiently well to be able to provide effective explanations
	- how the rules of the road apply in any given on-road situation
	- how to deliver moving vehicle/machine demonstrations and explanations while maintaining full awareness of the environment and full control of the vehicle
	- how to provide a verbal commentary on what they are doing while carrying out a moving vehicle demonstration
	- how to use radio equipment to provide commentaries or feedback while demonstrating or practicing on a machine.
	- how to check whether the learner has understood the purpose and content of a demonstration and how to adjust the pace of delivery if required

[5] It is impossible for a teacher to know every teaching tool and technique. We expect them to continue to develop their competence after qualification and one part of that process would be to extend their repertoire of techniques. However, it is reasonable to expect that, if a teacher decides that a particular technique is appropriate, they have the competence to deliver it correctly and effectively.

[6] Given that they cannot ride on the same machine as the learner, riding teachers cannot provide demonstrations in the same way as driving teachers. They must, therefore, rely more heavily on explanation.

- provide opportunities to carry out formative assessments, ideally involving the learner, and provide sufficient, timely, effective and appropriate feedback - encourage learners to reflect on their progress - encourage the learner to practise skills and techniques in a structured way outside of the formal learning environment.	- that they may have to find different ways to explain or demonstrate the same skill or technique to different learners because of their individual learning styles or the amount of background knowledge they have - that frequent demonstrations and explanations may be demotivating for some learners - how to carry out formative assessments of achievement against learning objectives - how to provide effective and motivating feedback - how to work with the learner to monitor progress against objectives and to ensure a buy-in to any changes in the learning programme - the importance of moving the use of a vehicle's/machine's controls and other practical skills from the part of our reasoning process which deals with conscious decision-making to the part which deals with automatic functions and motor programmes (implicit or procedural memory) as quickly and as thoroughly as possible.

Section 5: Coach

To demonstrate the required competence, teachers:	
must be able to	must know and understand
- work with the learner to understand and clarify how their learning goals change and develop over time - listen to what the learner is telling them about their preferred way of learning and the things that are getting in the way of effective learning - work with the learner to develop strategies for overcoming obstacles to learning - watch and listen for attitudes or behaviour, about which the learner may be unconscious, which are dysfunctional in relation to safe and responsible driving. - work with the learner to develop appropriate strategies for mitigating the impact of those attitudes or behaviour - support the learner to take active responsibility for their learning process from the earliest opportunity - encourage and support the learner to develop a reflective approach to their learning and their driving - actively transfer the balance of responsibility for the learning process to the learner as soon as they are ready to take it, without forgetting that they have an ultimate duty of care in the learning process - work with the learner to agree when they are ready to undertake formal assessment of their driving competence - help the learner to reflect on the experience of formal assessment and, if they have failed, identify strategies for overcoming any problems or weaknesses that were identified.	- that being client-centred does not mean letting the learner make all the decisions – the teacher still brings essential expertise and experience to the learning process - how to listen effectively - how to use a range of client-centred techniques to help the learner identify and overcome barriers to the achievement of their learning goals - how to use a range of client-centred techniques to support the transfer of ownership of the learning process to the learner - the impact of their own willingness to transfer ownership of the learning - how to use verbal and non-verbal clues to identify when the learner is switching off or not fully engaged in the learning process - that the decisions that we all make are constrained and shaped by a variety of influences, including our skill and knowledge, our personal confidence to act, the opinions and attitudes of our friends, colleagues, peers, learners and the values and norms which operate in the wider society (our life space) - that any of these factors can have a direct impact on the decisions we make when we are learning to drive and when we drive unaccompanied - that adolescents are going through a key formative stage in the development of their personal identity and their cognitive functioning and the habits they establish in learning to drive may be significant in the rest of their lives

	- that adolescents are generally just as aware of risk, just as rational in their information processing and just as risk-averse as adults, but are also subject to a number of psychological, interpersonal/contextual and biological factors which mean that they are more likely to behave in risky ways despite their understanding of that risk - that, for adolescents, being told that they have 'failed' can prompt them to regress into a defensive or reactive mode of behaviour - that there is little evidence that educational interventions moderate risky behaviour in young people - that a person's attitudes are the product of a mix of emotional, cognitive and behavioural factors and can vary in polarity, salience, moderation and in the degree to which they are implicit or accessible - that the mix of those factors can change from moment to moment and over time - that if we are to bring about sustained and robust changes in the attitudes of individuals, we need to encourage them to engage actively with the issues - that learners will disengage if we attempt to teach them one thing and demonstrate something else in our own behaviour

Section 6: Manage risk to the teacher, learner and third parties

This section addresses those risks that can arise in an on-road teaching session. It assumes that learners will always be expected to take their share of responsibility for the management of risk, while recognising that their competence to take that responsibility will change over the period of their training. It also recognises that correctly understanding the nature of the risks that arise during a training session is central to a learner's ability to assess and respond to risk when they drive or ride independently.

The general principle of these learning outcomes applies to those teaching people to ride as well as to those teaching people to drive. However, it is recognised that there are particular problems that arise when the rider and the teacher are on different machines. For example, giving an urgent warning of a hazard over a radio link may, in itself, be a distraction for a learner.

To demonstrate the required competence, teachers:	
must be able to	must know and understand

- ensure, to the best of their ability, that the learner is fit to start the session and take suitable action if they are not fit
- ensure the learner fully understands how they will share with them the responsibility for:
  - their own safety
  - the trainer's safety
  - the safety of other road users
- give clear instructions (such as when and where to start, stop or turn), make sure that the learner understands their instructions and, if not, modify their instructions accordingly
- explain when and how they may use verbal or physical intervention to ensure safety
- continue to scan the environment and assess hazards while observing the learner and providing teaching inputs
- take appropriate and timely action where they identify a hazard that the learner does not appear to be aware of or where they believe the learner is unable to respond safely
	- the signs that a learner's fitness may be impaired by:
	  - alcohol
	  - illegal or controlled substances
	  - over-the-counter or prescription medicines
	  - a physical or psychological condition, including conditions they are unaware of or are actively trying to hide
	- what actions they may take if a learner is temporarily unfit to be taught
	- what actions to take if they believe a leaner has a permanent physical or psychological condition that they have not revealed
	- what the law says about their responsibility for the health and safety of themselves and others in the on-road learning environment
	- how they can take action safely, depending on the type of vehicle being used
	- how to operate dual controls where these are fitted
	- how to take action safely where dual-controls are not fitted

- use client-centred techniques to make sure that the learner is better equipped to deal with such hazards in the future - take suitable and timely action, including stopping the lesson, where the learner becomes unfit to continue or behaves in a way that places themselves, the teacher or third parties at unacceptable risk - take suitable and timely action, including stopping the lesson, if they become unfit to continue teaching - comply with any requirement to record details of situations in which specific risks arise.	- how to give feedback about risk-related issues so that they motivate and help the learner to change their behaviour without increasing fear or failure-based responses - what to do if a learner becomes unfit to continue during the session - how to promptly interrupt deliberate behaviour that places the teacher, learner or third parties at risk - their right and obligation to interrupt or stop sessions where an unacceptable risk arises - how to record incidents in which a risk situation arises - the impact of their own level of competence and attitudes to risk on their ability to minimise risk - the importance of demonstrating consistent attitudes in their own management of risk to make sure that the formal messages being given in the learning programme are not undermined.

Section 7: Facilitate group-based learning

This unit is designed for use where a decision is made that learners would benefit from group-based teaching or where a group-based approach is thought to be the most cost-effective way of achieving a particular learning outcome. Such activity usually takes place in a classroom of some sort. This raises particular issues, e.g. around local fire safety or health and safety regulations. It also raises particular risk management issues, e.g. around dealing with aggressive students. It is assumed that these issues will be dealt with by existing national regulations, etc.

This unit focuses on the issues which arise specifically from the fact that there is more than one learner present, rather than from the physical environment.

To demonstrate the required competence, teachers:	
must be able to	must know and understand

- make sure all learners understand the purpose and intended outcomes of each group activity, and how it links to the rest of their individual learning programme
- make sure all learners feel comfortable and are able to express their views and concerns
- use a range of techniques and learning activities which will encourage and enable all learners to take active part in the learning process
- encourage learners to ask questions and where necessary modify their delivery to ensure understanding
- make sure that the behaviour of individuals or group dynamics do not distract from the desired learning outcomes
- make sure that the behaviour of individuals or group dynamics do not allow individuals to be isolated or excluded
- make sure that they do not collude with inappropriate attitudes to other group members or to road safety
- promptly and clearly interrupt behaviour that is discriminatory, oppressive or prevents any individual from benefiting from the learning experience
	- how to make sure learners feel:
	  - at their ease within the group
	  - safe
	  - able to take active part in the learning process
	- how different learning styles and personal characteristics impact on the way in which an individual interacts within a group
	- how to use a range of learning activities to involve and engage all members of a group so that they all gain the maximum learning benefit
	- how to use learner-centred techniques to help individuals within the group to:
	  - identify obstacles to engagement with the learning process
	  - devise strategies for overcoming obstacles
	- the potential effect of peer group assumptions on the behaviour of learners
	- the risk of group dynamics being dominated by sub-groups
	- how to interrupt individual behaviour or group dynamics which have the effect of excluding individuals or sub-groups
	- the risk of unconsciously colluding with inappropriate behaviour or attitudes

- monitor the progress of individuals and provide feedback to the learner and other providers.	- the risk of being diverted from intended learning outcomes by group dynamics - how to identify opportunities to increase learning that arise in the group, and how to adapt presentations to support that process - how to check an individual's understanding and progress within a group - how to give feedback in a group and on a one-to-one basis - how to provide feedback on individual learner's progress to other teachers.

Section 8: Evaluate and develop your own competence

To demonstrate the required competence, teachers:	
must be able to	must know and understand

- reflect on their own attitudes and motivations and how far they may be influencing the way they teach
- identify the skills, knowledge and understanding needed for the role and evaluate their own capabilities and performance against these.
- evaluate their own working practices against relevant organisational and legal requirements.
- keep up to date with driver teaching issues and recognise when changes in the industry mean that they need to update their knowledge, skills and understanding.
- actively make use of all sources of feedback about their own performance, e.g.
  - the performance records of previous learners, e.g. pass rates
  - feedback from superiors
  - feedback from colleagues or other professionals
- set out realistic and challenging objectives for the ongoing development of their knowledge, skills and understanding.
- identify training or development opportunities that will help them update or close any gaps in their knowledge, skills and understanding.
- develop, and demonstrate, the reflective skills which they are asking the learner to demonstrate
	- that they have their own hierarchy of factors, their own life-space, that they have their own hierarchy of factors, their own life space, which influences the way in which they teach and which may change from moment to moment and from situation to situation
	- the personal and professional benefits of evaluating and developing their knowledge, understanding and skills
	- the requirements of the driver/rider standards
	- the requirements of the driver/rider training standard
	- the requirements of any formal syllabus/training structure in the country in which they are providing teaching
	- any formal periodic quality assurance processes in the country in which they are teaching
	- the specific performance and knowledge requirements of any body by which they are employed.
	- how to maintain a current understanding of development in driver education practice
	- how to obtain feedback on their performance in a non-defensive way
	- how to evaluate their own performance against requirements and recognise where gaps in their skills, knowledge or understanding are affecting their competence
	- the opportunities for formal and informal professional development available through their employers or other providers.
	- the importance of modelling the attitudes and behaviour they are trying to develop in their students.

4 EXAMPLE FOR A CURRICULUM FRAMEWORK

Driving competences and individual competencies need to be taught. Driving competences can be tested during the test, in contrast to personality-related competencies. Personality-related competencies nevertheless correlate with task-related competences. Both are responsible for behaviour in traffic. Evaluations of the causes of accidents show that a lack of personality-related competencies is in many cases a reason for accidents, e.g. speeding, distraction, peer pressure, etc.

Face 15 and active learning methods

"**Face 15** – **F**ramework for **a c**urriculum (blueprint) for driver **e**ducation" is a decision to make professional driver education visible to everyone in 20**15** and describes a client-centred teaching approach linked with a stepwise education process promoting driver education to educate a safe, eco-friendly and responsible driver who complies with the standards of driving competences and individual competencies.

To reach the goal of safe, eco-friendly and responsible behaviour, methods for supporting the process of dealing with the higher levels of GDE are needed. Those levels are only accessible with active learning methods. Knowing that students learn from experience concerning the risks connected with motives and goals at GDE levels 3 and 4, and in the awareness that the practising of self-evaluative and cognitive skills is here best, the educational process should cover a wide range of driving conditions and situations as examples [7]. Aspects of hazard perception, self-evaluation and attitude-related items should be a core part of education.

First of all, therefore, Face 15 defines the contents and objectives (based on the different task-related competence areas) for driver education according to the GDE matrix, before subsequently describing the necessary connections between them.

Worldwide very different driving education systems

Last but not least, a further challenge arises from the circumstance that very different driving education systems exist in Europe and in countries outside of Europe:

- professional education (paid education),
- accompanied driving as a part of education before examination (test),
- accompanied driving after examination (test),
- mixture of paid and unpaid education with professional support,
- mixture of paid and unpaid education without support,
- mandatory theoretical lessons (classroom training),
- no theoretical lessons,
- regulations on a minimum number of driving lessons,
- no regulations on a minimum number of driving lessons,
- mandatory basic professional education on a training ground,
- elements of simulator education,
- professional (paid) multi-phase education,
- monitoring with professional feedback after examination,
- mandatory use of a syllabus,

[7] *See examples from EU project HERMES, alles-fuehrerschein.at GmbH 2010*

- exclusion of certain driving tasks during the learner stage,
- restrictions over a set period of time after examination (GDL system),
- probationary period,
- independent driving integrated into the examination (test), and
- unpaid education (layman instruction)

The following work aims to give every country the opportunity to implement the following teaching logic and its integrated ideas into their national system, in order to increase safety on the roads in the future. With the help of stepwise education, it is possible to train students to become analytical thinkers and problem-solvers by facilitating the learning of principles, concepts, rules, facts and associated skills and values/attitudes.

Guidance on implementing a curriculum: Set of key questions

- Which significance does driver education hold in society?
- What regulations exist for driver education? (law, rules, etc.)
- What regulations exist for the driving examination (test)?
- How is it possible to inform driving teachers about the curriculum?
- Who can design a national curriculum for driver education?
- What should be mandatory (regulated) - what can be optional?
- Does a driving teacher association exist to promote a curriculum?
- Who must be involved to implement a curriculum?
- How is the education of driving teachers organised or regulated?
- Does any mandatory further education for driving teachers exist?
- Who can support the implementation of a curriculum?

4.1 Teaching logic

To increase safety on roads, a system of formal and structured education is needed to address all-important aspects of driving to avoid accidents. For this reason, a client-centred approach is considered and recommended for an effective driver education process. A professional driver education with high quality is needed to discuss relevant aspects of safe and responsible driving and to build up acceptance. Therefore, client-centred teaching and learning implies that a professional teacher has to follow and respect special pedagogical principles. These have to be trained and learned.

Five pedagogical principles

1. *Client-centred (oriented) teaching*: the teacher knows and uses the learning method (style) which is best for the student (see details chapter 4.1.1),

2. *Goal-oriented learning and teaching*: the student always knows what to learn and which goals should be reached (see details chapter 4.1.2),

3. *Motivated learning*: Motivation concerns energy, direction, persistence and equifinality – all aspects of activation and intention. People can be motivated because they value an activity such as learning or because there is strong external coercion. Intrinsically

motivated learning processes describe a natural human inclination toward assimilation, mastery, spontaneous interest and exploration – all aspects which are essential to cognitive and social development. Motivated students tend to approach challenging tasks with greater eagerness, persevere in difficult situations, and take pleasure in their achievements. Students who are motivated to learn also by themselves often perform better. Keywords which motivate students with direct benefit are interest, enjoyment and inherent satisfaction (Ryan and Deci 2000: 69 – 72). Teachers build up a sense of confidence, e.g. by illustrating the whole education process, including the competences which must be reached and competencies which should be kept in mind, as well as the possibilities which the student follow up alone to support his/her learning process (see also Ferlazzo 2013).

4. *Self-reflected learning*: Evaluation and feedback are necessary for a good learning process to reach goals – first, the opinion of the student is important. In this way, reflection leads "to growth of the individual – morally, personally, psychologically and emotionally, as well as cognitively – whereas feedback tends to promote technical proficiency" (Branch and Paranjape 2002: 1187). Reflection integrates skills, knowledge, attitudes and values with the learners' cognitive framework. It allows assimilation and reordering or reworking of concepts, skills, knowledge and/or values into pre-existing knowledge structures (Westberg and Jason 1994). Throughout their practice, students are not just looking back on past actions and events, but rather taking a conscious look at the emotions, experiences, actions and responses, and using that to add to their existing knowledge base to draw out new knowledge, meaning and have a higher level of understanding (Wikipedia 2015). Thus, reflective practice can be an important tool in practice-based professional learning settings where individuals learning from their own professional experiences, rather than from formal teaching or knowledge transfer, may be the most important source of personal professional development and improvement. Furthermore, it is also an important way to be able to bring together theory and practice (directly interwoven); through reflection, students are able to see and label schools of thought and theory within the context of their actions.

5. *Self-evaluated learning*: Is a key factor to develop individual and independent lifelong learning skills, which make students aware of and more responsible for their own learning processes by monitoring knowledge and adjusting instruction. In this context, self-evaluation means the evaluation or judgment of 'the worth' of one's performance and the identification of one's strengths and weaknesses with a view to improving one's learning outcomes. In the classroom context, self-evaluated learning is a developmental process, which is supported and managed together with the teacher and the student's peers and which requires self-reflection on own performances from an improvement perspective (Klenowski 1995). By evaluating themselves, students are able to assess what they know or do not know, as well as becoming more familiar with their own beliefs or possibly their misconceptions (NDT Resource Center 2007). Teachers should

encourage self-evaluation on the part of their students, because self-assessment makes the students active participants in their own education process.

4.1.1 Client-centred approach: Motivation and attitudes will be fully addressed

Learning should encompass the whole person and should address the learner's personal intellect, social skills and personality. Client-centred learning can be characterised by the active participation of students within a climate of trust. Learning units are provided by a teacher who also operates as a facilitator. Ideally, teachers discuss themes by building upon authentic problems which can occur in traffic situations and thus raising the awareness for meaningful ways of inquiry (adapted for traffic education Rogers 1983, 3; Barrett-Lennard 1998, 187 f.). Therefore, learning can be most effective when ideally integrated with the experience of the particular person and hence more persistent than purely intellectual information (Motschnig-Pitrik and Mallich 2004).

While a client-centred-approach takes the whole person into consideration, the education process enables education to become a safe, eco-friendly and responsible driver by discussing individual motivation and attitudes. "In education, the key issues have always included that of deep and persistent learning that allows all participants to develop or grow as whole persons rather than just extend their knowledge on some subject matter or practice" (Motschnig-Pitrik and Santos 2006: 2). Therefore, the main idea is that, in an education process for drivers, factual knowledge and cognitive as well as social skills should be combined with better knowledge of one's self and of interpersonal behaviour.

Client-centred as a key approach for modern driving education

A client-centred approach is seen as a key approach, which enables the development of both task-related competences and personality-related competencies in order to become a safe, eco-friendly and responsible friendly driver.

- Aspects of self-evaluation and self-reflection should be a mandatory part of driver education and supported by the examination, because individual competencies must be built up during driver education. It is recommended to discuss causes of accidents in driver education. Mostly, these causes are associated with a lack of individual competencies. Safe and responsible driving also implies an acceptance of road traffic regulations (Highway Code). Acceptance is not possible by learning by rote.
- It is recommended to combine compulsory professional driver education of high quality with compulsory professional classroom training. In this way, a discussion of relevant aspects of safe and responsible driving and their acceptance can be initiated sustainably.
- Building up attitudes which promote road safety, thinking about the motives and increasing of the willingness to act safely requires special competencies. It is necessary to train professional driving teachers and enable them to motivate students with regard to safety-related values, attitudes and motives. Teachers themselves must be willing to serve as a good example for their students.
- It is further recommended that teacher and learners should ideally know and use the learning methods (styles) which are the best for any individual student and are able to

develop holistic learning. By this thinking, a client-centred approach can evolve best in a climate that is characterised by three attitudinal core conditions (Rogers et al. 2013):

- *Congruence* and *Realness*, with synonyms such as transparency, genuineness, authenticity; openness
- *Acceptance*, also referred to as respect, unconditional positive regard, caring attitude, concern for the individual;
- *Empathic understanding*, a deep form of understanding of the meanings and feelings of the learner

By organizing and arranging units of a stepwise education process (see details below), teachers should know that any attempt to change attitudes will be more successful when a teacher adopts a client-centred approach to teaching to:

- make the issue personally relevant (salient) to the recipient,
- make messages relevant to those attitudes the recipient is aware of and can access rather than those which are more deeply embedded,
- match the message in some way to the recipient's self-conception,
- build sensitivity and identification (priming and labelling) with a concept or attitude before introducing concept-relevant messages,
- increase a person's belief that they are solely responsible and accountable for message evaluation,
- increase the number of message sources,
- provide independent assessments of the issue,
- present information in an unexpected form, and
- provide moderate amounts of repetition – provided it does not lead to boredom.

4.1.2 Stepwise education: Arguments for the choice of pedagogical approach

Stepwise education follows the principle that driver education has to be structured in a client-centred way. Because the intake capacity of a student is limited, stepwise education guarantees and ensures a systematic learning process by organizing units to transfer knowledge and skills in proper situations according to the capacity of the student. In doing so, it is possible to avoid overloading learning processes and thus attempting to transfer too much information in too little time. Tasks and demands should be adapted gradually to the achieved level of learning. Otherwise, the entire learning process will be disrupted, because the student will be overstrained with different tasks and learns less. Of course, all sustainable learning input needs time, but the student must be given the chance to understand all aspects and the possibility to think about the task and his/her understanding and behaviour (self-reflection and self-evaluation).

Stepwise education implies and requires a goal-oriented strategy. Teacher and student need to know: "What are the contents/tasks of the session" with an agreement about the 'goal of the unit' before the session starts.

The educational process can be divided into different stages (see Figure 12):

Preparation Stage

For an effective learning process, it is necessary for a student to know the important and relevant theoretical background to the contents and to understand the goals and the output of the lesson. Some countries use mandatory theoretical education, where it is possible to interlink the theoretical background with practical education. In countries without mandatory theoretical education, the theoretical preparation has to be integrated into a few minutes of the driving lesson or else handled as prior homework (handbook, CBT, WBT).

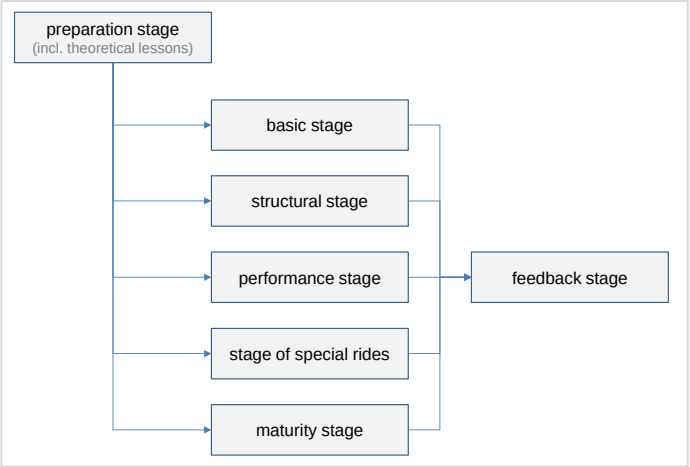


Figure 12: Process of stepwise education

Source: Working Group 2

Basic Stage

The basic stage should be used only to teach basic vehicle control. If a student has enough routine with basic vehicle control, the learning in traffic situations will be more effective and comfortable. If students are unsure of how to control the vehicle, learning in traffic situations can be difficult and can disrupt the whole learning process. At the basic stage, it should be possible to learn without traffic and other road users. The student should concentrate only on gaining experience of basic vehicle control.

Structural Stage

The structural stage should be used to transfer the routine of basic vehicle control into simple traffic situations with low traffic. The student must be given the chance to gather experience of how to control the vehicle in a situation with low traffic. Manoeuvring the vehicle should be combined with behaviour in traffic in less difficult situations. At the end of the structural stage, the student must possess enough routine with the basic vehicle control to manoeuvre a vehicle safely in simple situations without thinking about handling.

Performance Stage

The performance stage should be used to concentrate solely on behaviour in more difficult traffic situations and to transfer the routine of basic vehicle control into more complex situations in traffic. Thinking about the right gear for different speed, the right use of the steering wheel, the use of mirrors or the indicators must be a thing of the past. Observation and behaviour in traffic without thinking about handling of the vehicle is important for the performance stage. Most traffic situations are part of the performance stage.

Verbal support can be useful and necessary when gaining experience with new traffic situations.

By this stage, the driving teacher must reflect his/her intervention with clutch, brake pedal or accelerator and decides if the student has become adequately prepared and has enough routine to manage this kind of situation.

Stage of Special Drives

At the stage of special rides, the student should gain experience with difficult and more dangerous driving tasks such as “driving at night”; “driving at high speed (e.g. highway, motorway)”, “driving on country roads”, “overtaking in different situations”, “driving in mountains” or “driving on slippery roads”.

Maturity Stage

The maturity stage marks the end of the education process before the examination. At this stage, independent driving should be the main task, including the handling of very difficult traffic situations. By this stage, the driving teacher has to be sure that he/she can sign a document which says that the student has gained enough competence to learn further as a responsible and safe driver on his/her own.

Feedback Stage

Similarly to the preparation stage, the feedback stage must always be part of every driving lesson. Feedback is neutral and an integral part of the learning process. It presents information (Hyman 1980). Feedback should be based on observed incidents and modifiable behaviour after valid observation of the student’s performance, presented in small, digestible quantities and in a language which is non-evaluative and non-judgmental (Branch and Paranjape 2002). At the end of every lesson, students need time to receive feedback from the driving teacher and subsequent support for evaluation (reflecting) of the learning process. In this manner, students can compare their intended and actually attained results. One important role of the feedback stage is furthermore to build up and to extend the competence of self-reflection and self-evaluation.

4.1.3 Model of structured driving education

Learning to drive in a safe, eco-friendly and responsible manner is an educational process which benefits from the existence of a well-structured plan with clear teaching objectives, useful methods and a thoughtful self-evaluation system. Most driving teachers today work with the aforementioned goals, methods and even self-evaluation tools, but they often decide according to their instinct or out of their teaching experience in absence of a visible and perceivably structured driving education plan. However, to reach the higher demands of the GDE matrix or to be able to measure and compare individual learning success, a clearly structured procedure is necessary.

Education plan

Elementary requirements for a well-done and well-organised, as well as a long-lasting and successful learning process, are a client-centred approach in combination with a stepwise education plan. By this means, a driving teacher is always able to avoid an overloading of the learning process and remains flexible to re-arrange the teaching without losing sight of educational objectives. A client-centred approach, and thus a personal education plan, must be based on respect and mutual trust, needs information about individual backgrounds, experiences in traffic, individual motivations or preferred ways of learning. Client-centred includes driving teachers being open to every new situation or every new student, and since every student is unique, every education situation will also be unique. Through the entire learning process, mutual communication and understanding are elementary. The student has to know from the beginning what to expect and why.

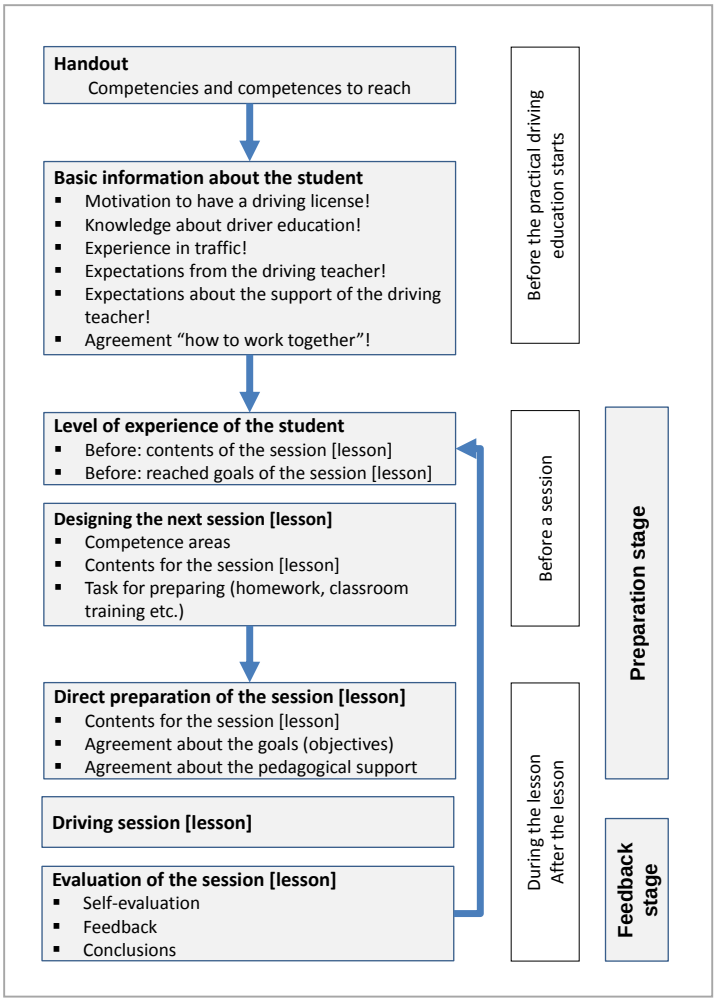


Figure 13: Education plan for practical education

Source: Working Group 2

For this, it can be helpful to work with a written manual. Figure 13 shows a proposal for necessary steps to prepare a session (lesson) in a client-oriented way. Detailed information can be found in the Appendix in the original working paper of working group 2.

4.2 Toolboxes of pedagogical methods

Modern driver education should increase awareness for the importance of the psycho-physiological conditions of novice drivers. It is assumed that this issue works out best if it is treated within a curriculum using active learning methods, and if the issue is embedded in subjects as trip-related goals and context of driving, as well as general goals and skills for living. Therefore, driver education should focus on learning and experience aspects which cover influences related to driving and which try to assess their own capabilities and limitations. Raising the acceptance of regulations by providing a picture of the need and background of traffic rules raises individual understanding and promotes the learning process. Thus, students should understand the reasons and consequences of their own basic motivation, understand the role of motivation in decision-taking to become a safe, eco-friendly and responsible driver (adapted KfV 1999, 48). To improve driving skills and safety-related attitudes, several pedagogical methods and instruments have promising approaches. If they are combined with the principles of a client-centred approach (see statements under chapter 4, page 77 ff.), they will probably bring a very high benefit to the driving education process and might be a good starting point for processes of life-long learning.

Importance of knowledge of active learning methods

Every student is different. To identify the most appropriate individual learning style, as well as the most suitable teaching procedure (method), a special relationship between student and driving teacher is needed. For that reason, every professional driving teacher must master a general array of useful pedagogical procedures (methods) tailored to the contents and related to the student. Knowing that active learning methods are more memorable than passive ones, two key issues have to be considered before the transfer of driving knowledge and the coherences of task-related and personality-related competencies:

- With which methods are students best able to achieve educational objectives?
- Which goal-oriented methods best motivate students to learn voluntarily and in a self-determined and self-organised manner?

Heilig (2008: 331 ff.) describes 25 methods, clustered in four categories in a goal-method matrix, to combine driver education contents and thereby achieve training goals:

1. Category of showing: to demonstrate, to illustrate, to show by way of a model.
2. Category of informing: to explain, to narrate
3. Category of setting tasks: to instruct, to stimulate, to choose tasks, to ask questions, educational games, to prepare learning processes
4. Category of evaluating and moderating: to affirm, to give feedback, to criticise, to correct, to exhort, to self-evaluate, to select and structure of ideas, to try and explore, to practise and repeat, group work, individualised learning, role play, discussion, case studies, moderation techniques

While these methods describe mainly direct activity in working with a student using a special pedagogical learning/teaching method, they do not describe the pedagogical procedure as such which can be used in driver education. By adapting the idea, therefore, the toolbox of pedagogical procedures (methods) is one possibility to decide on the particular procedure (method) which may be most useful for:

- the different areas of competences,
- classroom training,
- theoretical aspects of driver education,
- practical driver education, and
- practical and theoretical education

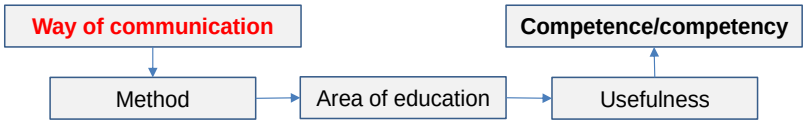
Every learning/teaching situation is unique

Because every student is unique, there are also different ways and methods which can be used to teach in a client-centred way. All pedagogical methods need to be used in a professional and qualified way. Some of them require specific supervised training.

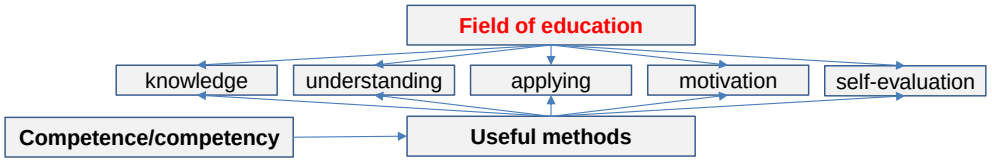
Before using a specific pedagogical procedure (method), a driving teacher should decide which method will be the best for the student to transfer specific competences/competencies and their related contents, as well as whether the method is useful in classroom or practical training or as homework with tasks.

Working group 2 offers two kinds of pedagogical toolboxes, which follow different logics. They give an overview for driver education:

1. Figure 14: Toolbox of pedagogical procedures (ways of communication) (page 87)

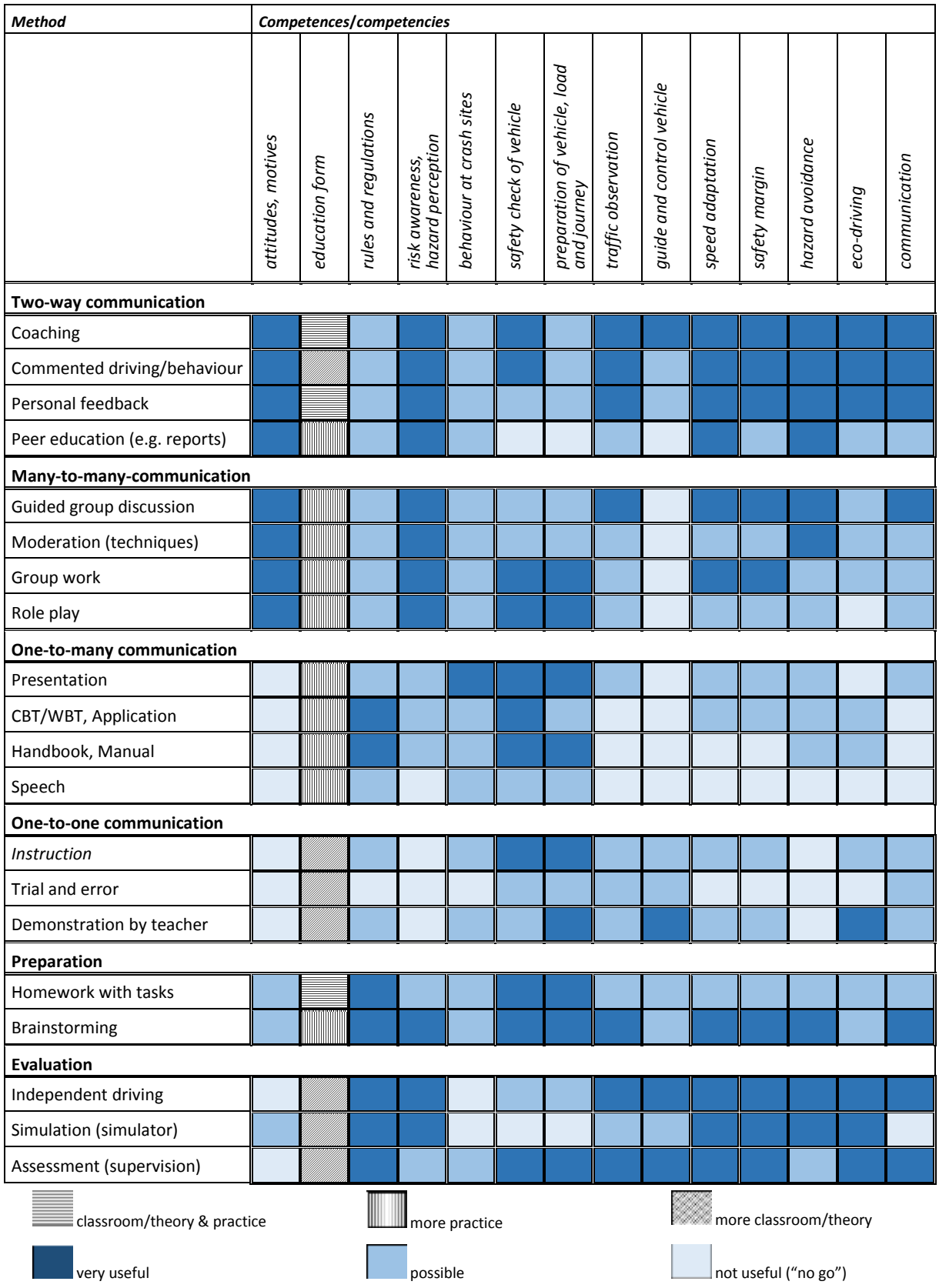


2. Figure 15: Toolbox of pedagogical methods – education field (page 88 ff.)



Technical terms which are used in the following toolboxes are explained in detail in the original document of Working Group 2 (see Appendix, chapter 7.2.2).

Figure 14: Toolbox of pedagogical procedures (ways of communication)



Source: Working Group 2

Figure 15: Toolbox of pedagogical methods – education field matrix

	knowledge	understanding	application	motivation	self-evaluation
attitudes/ motives	- Homework with tasks - Guided group discussion - Group work - Peer education - Moderation (techniques) - Brainstorming	- Coaching - Guided group discussion - Group work - Personal feedback - Peer education - Moderation (techniques) - Role play	- Coaching - Simulation - Commented driving - Guided group discussion - Group work - Moderation (techniques) - Role play	- Simulation - Commented driving - Guided group discussion - Group work - Personal feedback - Moderation (techniques) - Role play	- Coaching - Personal feedback - Role play
risk awareness/ hazard perception	- Homework with tasks - Guided group discussion - Group work - CBT/WBT, app - Handbook, manual - Presentation - Peer education - Moderation (techniques) - Brainstorming	- Coaching - Guided group discussion - Group work - Personal feedback - Peer education - Brainstorming - Moderation (techniques)	- Coaching - Guided group discussion - Group work - Personal feedback - Simulation - Assessment - Moderation (techniques)	- Simulation - Commented driving - Guided group discussion - Group work - Personal feedback	- Coaching - Commented driving - Independent driving - Personal feedback - Assessment - Simulation
hazard avoidance	- Homework with tasks - Guided group discussion - Group work - CBT/WBT, app - Handbook, manual - Presentation - Brainstorming - Moderation (techniques)	- Coaching - Guided group discussion - Group work - Personal feedback - Peer education - Brainstorming - Moderation (techniques)	- Coaching - Guided group discussion - Group work - Personal feedback - Simulation - Assessment - Moderation (techniques)	- Simulation - Commented driving - Guided group discussion - Group work - Personal feedback	- Coaching - Commented driving - Independent driving - Personal feedback - Assessment - Simulation

	knowledge	understanding	application	motivation	self-evaluation
rules and regulations	- CBT/WBT, app - Handbook, manual - Speech - Presentation - Homework with tasks - Brainstorming	- Commented driving - Independent driving - Personal feedback - Guided group discussion - Group work - Moderation (techniques)	- Commented driving - Independent driving - Personal feedback - Guided group discussion - Group work - Assessment - Instruction - Moderation (techniques)	- Guided group discussion - Group work - Personal feedback - Moderation (techniques) - Coaching	- Commented driving - Independent driving - Personal feedback - Assessment
communi-cation	- Homework with tasks - Guided group discussion - Group work - Brainstorming - Moderation (techniques)	- Coaching - Guided group discussion - Group work - Personal feedback - Brainstorming - Moderation (techniques)	- Coaching - Simulation - Commented driving - Guided group discussion - Group work - Moderation (techniques)	- Simulation - Commented driving - Guided group discussion - Group work - Personal feedback - Moderation (techniques)	- Coaching - Commented driving - Independent driving - Personal feedback - Assessment - Simulation
behaviour at crash sites	- Presentation - Homework with tasks - CBT/WBT, app - Handbook, manual - Demonstration by teacher - Instruction - Speech - Brainstorming	- Group work - Guided group discussion - Personal feedback - Moderation (techniques)	- Instruction - Demonstration by teacher - Personal feedback - Commented acting	- Guided group discussion - Group work - Personal feedback - Moderation (techniques)	- Commented acting - Personal feedback - Assessment - Simulation

	knowledge	understanding	application	motivation	self-evaluation
safety check of vehicle	- Presentation - Homework with tasks - CBT/WBT, app - Handbook, manual - Demonstration by teacher - Guided group discussion - Instruction - Speech - Brainstorming	- Group work - Guided group discussion - Personal feedback - Moderation (techniques)	- Instruction - Demonstration by teacher - Personal feedback - Commented acting - Coaching	- Guided group discussion - Group work - Personal feedback - Coaching - Moderation (techniques)	- Commented acting - Personal feedback - Assessment - Simulation - Coaching
preparation of vehicle, load and journey	- Presentation - CBT/WBT, app - Handbook, manual - Homework with tasks - Demonstration by teacher - Guided group discussion - Instruction - Speech - Brainstorming	- Group work - Guided group discussion - Personal feedback - Moderation (techniques)	- Instruction - Demonstration by teacher - Personal feedback - Commented acting - Coaching	- Guided group discussion - Group work - Personal feedback - Coaching - Moderation (techniques)	- Commented acting - Personal feedback - Assessment - Simulation - Coaching
guide and control vehicle	- Homework with tasks - Demonstration by teacher - Instruction - Brainstorming	- Commented driving - Personal feedback - Assessment - Coaching - Demonstration by teacher	- Coaching - Commented driving - Instruction - Independent driving - Personal feedback - Demonstration by teacher	- Coaching - Commented driving - Personal feedback - Independent driving - Simulation	- Commented driving - Personal feedback - Assessment - Simulation - Coaching

	knowledge	understanding	application	motivation	self-evaluation
traffic observation	- Homework with tasks - Presentation - Guided group discussion - Group work - Moderation (techniques) - Brainstorming	- Commented driving - Coaching - Assessment - Guided group discussion - Group work - Simulation - Personal feedback - Moderation (techniques)	- Coaching - Commented driving - Independent driving - Assessment - Simulation - Personal feedback - Instruction	- Guided group discussion - Group work - Personal feedback - Coaching - Moderation (techniques)	- Commented driving - Personal feedback - Assessment - Simulation - Coaching
speed adaptation	- Homework with tasks - Presentation - Guided group discussion - Group work - CBT/WBT, app - Instruction - Moderation (techniques) - Brainstorming	- Commented driving - Personal feedback - Assessment - Coaching - Demonstration by teacher	- Coaching - Commented driving - Independent driving - Assessment - Simulation - Personal feedback - Instruction	- Coaching - Guided group discussion - Group work - Commented driving - Personal feedback - Independent driving - Simulation - Moderation (techniques)	- Commented driving - Personal feedback - Assessment - Simulation - Coaching

	knowledge	understanding	application	motivation	self-evaluation
safety margin	- Homework with tasks - Presentation - Guided group discussion - Group work - CBT/WBT, app - Instruction - Brainstorming - Moderation (techniques)	- Commented driving - Personal feedback - Assessment - Coaching - Demonstration by teacher	- Coaching - Commented driving - Independent driving - Assessment - Simulation - Personal feedback - Instruction	- Coaching - Guided group discussion - Group work - Commented driving - Personal feedback - Independent driving - Simulation - Moderation (techniques)	- Commented driving - Personal feedback - Assessment - Simulation - Coaching
eco-driving	- Homework with tasks - Presentation - Guided group discussion - Group work - Instruction - Brainstorming - Moderation (techniques)	- Commented driving - Personal feedback - Assessment - Coaching - Demonstration by teacher	- Coaching - Commented driving - Independent driving - Assessment - Personal feedback - Instruction	- Coaching - Guided group discussion - Group work - Commented driving - Personal feedback - Independent driving - Moderation (techniques)	- Commented driving - Personal feedback - Assessment - Coaching

Source: Working Group 2

5 FURTHER ASPECTS AND REQUIREMENTS FOR EDUCATION DISCUSSED WITHIN THE PROJECT

Not all discussions led to conjoined recommendations

The previous two chapters illustrated that project participants were able to develop conjoined and detailed recommendations within the given time frame on a number of aspects regarding the improvement of driver education with the aim of higher road safety.

However, one year is of course not enough to subsequently conclude the discussion and decision-making process in every detail. Therefore, the identification of aspects of driver education that appear promising but require more discussions, research and development is seen as another valuable outcome of this project. This chapter describes the most important of these recommendations, topics or details which, on one hand, were discussed controversially such that not everyone could agree, or else, on the other hand, could not be covered completely due to the limited project time. Therefore, they did not acquire the status 'General Recommendations' (see chapter 1.3). This also applies to ideas for which recommendations already existed but were not confirmed by all participants of the CIECA-RUE project or working group members.

Medical standards for driving teachers

WG 3 concluded that the medical standards required of driving teachers should be the same as those required of professional drivers. However, some members of the group considered that this requirement would be disproportionate given the lack of any evidence of benefit and the financial burden that such standards would impose. Therefore, such requirements were not included into chapter 3.3 of this report.

The following statement was conjointly supported by all WG 3 members: "Driving teachers with disabilities, who can nevertheless demonstrate the required competence and who are currently providing high-quality teaching, have not been prevented from practising.". Therefore, it was included into chapter 3.3 of the first draft of the final report. However, with nothing being said about general medical standards (see paragraph above), describing requirements for driving teachers with disabilities seemed rather fragmentary. Thus, the statement was discarded from chapter 3.3.

Periodic competence checks for driving teachers

During the working process, WG3 members recognised that countries have different methods for ensuring that driving teachers maintain competence, i.e. periodic re-testing, mandatory Continuing Professional Development (CPD) and periodic re-training. Because of the different industry and educational structures, as well as the different cultures in which teachers operate, it is not considered useful to recommend a standard method within the brief period of this project. Here, further discussion and considerations are needed to reach a decision as to whether every country should have a regulatory process by which it periodically checks that professional driving teachers have maintained their competence.

No standards for accompanying persons

The majority in WG3 recommended that there should be no minimum competence standard for accompanying persons. Their conclusion was that the introduction of such a standard could lead to the creation of an additional class of 'qualified' persons – effectively lay teachers - within the driver education process, which would undermine the status and role of fully qualified driving teachers. This could change the economic model which underpins the driver teaching industry and, in some countries, mean that it might no longer be economically viable to operate as a driving teacher. In many countries, accompanying persons are seen more as a protective measures than as lay teachers. The positive effect on a beginner driver's behaviour is seen rather in the influence on personality-related competencies than task-related competences, or in other words the accompanying person motivates rather than teaching safe and eco-friendly driving. Contrary to the position described above, the culture and structural conditions prevailing in any particular country might mean that a standard for accompanying persons could be introduced with a positive effect. One example is Belgium, which has already been working successfully on a standard for accompanying persons. Therefore, the recommendation to refrain from such standards could not be given the status 'General Recommendations' (see chapter 1.3). Independently of these controversial aspects, all members agreed, however, that accompanying persons should meet the follow criteria. They should

- have held a driving licence for at least 5 years,
- undergo a short, formal briefing setting out their responsibilities and the limits of their competence (which could be delivered by the paid driving teacher) and
- establish a working relationship with the learner and the paid driving teacher which is formally registered (in whatever way is appropriate and cost-effective in each country)
- be limited in the number of learners they may supervise

It is also common sense that road safety benefits do indeed follow from increasing the amount of supervised practice that a learner receives prior to taking their test and starting to drive solo.

Quality assurance of training

Working Group 3 discussed that there may be situations where countries wish to deregulate or devolve responsibility for the teaching quality assurance process to *training* bodies (partly or completely). In this case, it would be appropriate to develop clear statements on the *standards* which those bodies must achieve. Those *standards* should reflect the particular circumstances in place in that country at that time.

No standards for business management / customer skills

WG3 members agreed that, regardless of the particular business model in use, all driving teachers would benefit from being competent in business management and customer service skills or, as a minimum, being supported by staff with those skills. Nevertheless, these skills are not directly linked to the delivery of effective learning outcomes and are beyond the competence gathered in this project. In addition, the imposition of any greater level of standardisation of the way in which the driving teachers deliver their service would, arguably, be a restraint of trade.

Standards for driving schools

WG3 members initially did not recommend a common, minimum standard for driving schools, because they saw the problem that imposing such a standard would be disproportionate given the different processes in place in each country, the different industry and educational structures and the different cultures in which the participants operate. The competences relevant to effective teaching should be covered within competence requirements of a driver teaching standard (see chapter 3.3).

When this position was proposed at the closing plenary meeting of the project in October 2014, a great number of participants argued in favour of such standards. One argument was that there should be some organizational and formal requirements for different countries for effective driver education. Another argument was that such an international standard could impede the introduction of national standards which are aimed more at foreclosing the market than at education quality. After the closing plenary Gérard Acourt summarized the "Arguments in favour of minimum requirements for driving schools and proposals" on behalf of Ecole de Conduite Française (ECF) in a paper which is added as appendix to this report. However, within the project, there was not enough time left to follow up on this controversy.

Against this background, the European Driving Schools Association (EFA) offered to provide a suggestion for such a standard for driving schools, which the Steering Committee and CIECA Bureau Permanent gratefully accepted to include as appendix into this final report. Its focus is not the content work of driving teachers, but rather the structure, technical aspects and organisational issues of schooling. The uniform application of common rules on minimum standards for driving schools is recommended in order to achieve a high quality and to guarantee fair conditions of competition in driver education.

The document argues that, while the structure of the way driver training is delivered varies considerably between countries in Europe, there is a link between high-quality trainers, working in high-quality driving schools and producing high levels of driving competence. Thus, the standard suggests that, regardless of any particular business model in use, all driving teachers working in driving schools have to be properly licensed, qualified to a high standard and supervised. To be able to provide high-quality driver education, all driving schools should meet a minimum standard which comprises aspects of

- driving school management,
- driving school procedures,
- driving school teaching materials and equipment,
- driving school buildings,
- driving school vehicles, and
- driving school quality assurance

From driving assistant to autonomous driving to future demands of driving competences

The development of various levels of driver assistance systems and their different levels of autonomy has advanced significantly over the last years. Traffic safety has been addressed firstly through improvements to driver education, but also through improvements to the infrastructure by governments, and – of course – through technical improvements to the vehicle (e.g. adaptive cruise control (ACC), blind spot detection or parking assistance systems). While the sight of fully autonomous vehicles on European roads is still something for the future, we today know for sure that further opportunities to enhance safety can be found in

creative utilisation of the interactions between the driver, his or her vehicle and his or her driving environment. Beside many advantages in respect of travel convenience and eco-friendly driving styles, the possible expansion of a driver's interaction with systems inside his vehicle may also raise potential risks with regard to distraction, fatigue and virtual awareness, and therefore new or other aspects of driving competences and teaching standards. Given the extent of possible implications of these developments, the limited project time and all the other RUE topics to be addressed, the participants were not able to make any detailed recommendations on corresponding future driving competences. Therefore, the topic “future demands of driving competences” will surely need a broad future exchange amongst practitioners and experts and their experience and expertise.

6 LIST OF REFERENCES

- alles-fuehrerschein.at GmbH, 2010. EU-Hermes Project Final Report: High impact approach for Enhancing Road safety through More Effective communication Skills. In the context of category B driver training. Grant Agreement No. – TREN-E3-07-S-ST-S07.68721-HERMES European Commission DG TREN. Vienna.
- Austrian Energy Agency and Partners. ECOWILL – The Project. http://www.ecodrive.org/en/home/ecowill_the_project/. Accessed 1/8/2015.
- Barrett-Lennard, G. T., 1998. Carl Rogers' Helping System: Journey & Substance. London: SAGE Publications.
- Branch, W. T., Paranjape, A., 2002. Feedback and Reflection: Teaching Methods for Clinical Settings. Academic Medicine, 2002: 1185–1188.
- Cieca, 2007. Integration der GDE-Matrix in die Fahrschulausbildung für die Klasse B und die praktische Fahrprüfung: CIECA-Projekt 2007. Abschlussbericht. Brussels.
- Cieca, 2014. Discussion paper of Cieca Working Group 1. Minimum driving and riding competence standard. Brussels.
- Cieca, 2014a. Proposal for discussion - Draft version Road User Education Project WG 2 - “Face 15” Framework for a curriculum (or blueprint) for driver education. Brussels.
- Cieca, 2014b. Road User Education Project Working Group 3: Minimum Competence Standards for Driving/Riding Teachers, Accompanying Drivers and Driving Schools. Brussels.
- Commission Communication of 20 July 2010 to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – “Towards a European road safety area: policy orientations on road safety 2011-2020” [COM(2010) 389 final – Not published in the Official Journal]. Website of the European Commission. Accessed 2/23/2015 http://ec.europa.eu/transport/road_safety/pdf/road_safety_citizen/road_safety_citizen_100924_en.pdf.
- DIRECTIVE 2006/126/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 December 2006 on driving licences (Recast). Official Journal of the European Union (L 403), page. 18ff.
- European Commission (2015). Descriptors defining levels in the European Qualifications Framework (EQF) - Learning Opportunities and Qualifications in Europe - European Commission. Accessed 1/14/2015 http://ec.europa.eu/ploteus/content/descriptors-page.
- Ferlazzo, L., 2013. Self-Driven Learning: Teaching Strategies for Student Motivation. Hoboken: Taylor and Francis.
- Hatakka, M., Keskinen, E., Baughan, C., Goldenbeld, C., Gregersen, N. P., Groot, H., Siegrist, S., Willmes-Lenz, G., Winkelbauer, M., 2004. BASIC driver training: New models: Final report.
- Hatakka, M., Keskinen, E., Gregersen, N., Glad, A., Hernetkoski, K., 2002. From control of the vehicle to personal self-control; broadening the perspectives to driver education. Transportation Research Part F: Traffic Psychology and Behaviour (05): 201–215.
- Heilig, B., 2008. Methoden im Fahrschulunterricht [Methods in theoretical driving lessons]. In: Heilig, B. Der Fahrlehrer als Verkehrspädagoge. Ein Handbuch über die Grundlagen der Fahrschulpädagogik [The driving teacher as a traffic educator. A

handbook on the basics of driving school education], 312–336. Munich: Heinrich Vogel.
- Hyman, R. T., 1980. Improving discussion leadership. New York: Teachers College Press.
- Klenowski, V., 1995. Student self-evaluation processes in student-centred teaching and learning contexts of Australia and England. Assessment in Education: Principles, Policy & Practice 2 (2): 145–163.
- Kuratorium für Verkehrssicherheit (KfV), 1999. GADGET Guarding Automobile Drivers through Guidance Education and Technology.: Final Report. Investigations on Influences upon Driver Behaviour - Safety Approaches in Comparison and Combination. Vienna.
- Motschnig-Pitrik, R., Mallich, K., 2004. Effects of Person-Centred Attitudes on Professional and Social Competence in a Blended Learning Paradigm. Educational Technology & Society 7 (4): 176–192.
- Motschnig-Pitrik, R., Santos, A. M., 2006. The Person Centred Approach to Teaching and Learning as Exemplified in a Course in Organizational Development. Zeitschrift für Hochschulentwicklung 1 (4): 5–30.
- Mynttinen, S., 2010. Finnish novice drivers' competences - compared to the Swedish, Dutch and Austrian novices. Helsinki.
- NDT Resource Center, 2007. Teacher Tips: Self-evaluation. https://www.nde-ed.org/TeachingResources/ClassroomTips/Self-evaluation.htm. Accessed 12/18/2014.
- Rogers, C. R., 1983. Freedom to learn for the 80's. Columbus: Merrill.
- Rogers, C. R., Lyon, H. C., Tausch, R., 2013. On Becoming A Teacher. Hoboken: Taylor and Francis.
- Ryan, R. M., Deci, E. L., 2000. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist 55 (1): 68–78.
- United Nations Economic Commission for Europe. Inland Transport Committee. Working Party on Road Traffic Safety (WP.1). "Consolidated resolution on road traffic" [ECE/TRANS/211], August 2010, UNECE Website. Accessed 2/23/2015 http://www.unece.org/fileadmin/DAM/trans/roadsafe/publications/docs/Consolidated_Resolution_on%20Road_Traffic_RE1_e.pdf.
- Weinert, F. E., 2001. Vergleichende Leistungsmessung in Schulen – eine umstrittene Selbstverständlichkeit. In: Weinert, F. E. Leistungsmessungen in Schulen, 17–32. Weinheim: Beltz.
- Westberg J., Jason H., 1994. Fostering learners' reflection and self-assessment. Fam Med, 1994: 278–282.
- Wikipedia, 2015. Reflective practice. http://en.wikipedia.org/w/index.php?oldid=640998390. Accessed 1/7/2015.

7 APPENDIX

7.1 CIECA-RUE Glossary

One of the objectives of the EC's REFIT (Regulatory Fitness and *Performance*) programme is to ensure that legislation is constructed in a way which can be implemented efficiently and effectively. One of the key steps in that process is to ensure that everybody understands the words used in that legislation in the same way.

The purpose of this glossary is to present a shared definition for some of the words that have used in the work on the Road User *Education* Project. Even within one language, the way words are used can vary and can change quite quickly.

This glossary sets out the results of the discussions during the RUE project.

Word	Meaning(s)	Comments
Ability	- an acquired or natural capacity or talent that enables an individual to perform a particular job or task successfully - possession of the qualities, i.e. the skill, competence or power, to do something.	See also: - aptitude - cognitive ability.
Accompanying Driver	- a parent, relative or friend who accompanies a learner driver to give them an opportunity to practise skills and gain experience.	The regulations relating to Accompanying Drivers differ from country to country.
Action	- the fact or process of doing something, typically to achieve an aim - a thing done - the way in which something operates or works.	
Action learning	- a research or learning process in which a small group of people, typically a mixture of practitioners and individuals with theoretical understanding and reflective skills, work together on real challenges, to re-interpret old and familiar concepts and produce fresh ideas - an educational process in which a student performs an activity, typically in small groups or sets, and then studies it, or reflects on it, in order to improve their performance.	See also: - reflective practice.

Word	Meaning(s)	Comments
Action plan/ programme	- a sequence of steps that must be taken, or activities that must be performed, for a strategy to succeed or for an objective to be reached - usually has three major elements a. specific tasks: what will be done and by whom b. a time horizon: when will it be done. c. resource allocation: what specific funds, or other key resources, are available for specific activities - time horizons can work at the level of the overall plan or at the level of the individual activities. Critical paths are built through linking of individual elements, and if their horizons slip, the project will fail.	
Aim	- a purpose or intention to achieve something - a desired outcome - the object at which something is aimed - why someone chooses to perform an act - what an object is intended to be used for - the benefits an object is supposed to generate. - to attempt or intend to reach a certain goal: "I aim to finish this project in a week or less." - a specific goal or purpose "My aim is to be a strong, hard-working employee."	See also: - objective - goal.
Aptitude	- a component of competence to do with a particular kind of work at a particular level, either physical or cognitive - innate knowledge or ability - in contrast to achievement, which represents knowledge or ability that is gained - degree of ease in learning, understanding or acquiring competence - aptitude is expressed in interest, and is reflected in current performance which is expected to improve over time with training	

	- neither acquired knowledge or understanding, nor learned or acquired ability or attitudes.	
Word	**Meaning(s)**	**Comments**
Aptitude tests	- a standardised test designed to measure the ability of a person to develop skills or acquire knowledge - structured, systematic ways of evaluating how people perform on tasks or react to different situations.	See also: - psychometric testing.
Assessment	- the systematic collection, review, and use of information about educational/training programs undertaken for the purpose of evaluation and improving learning and development o summative – assessment designed to produce a final judgment of educational achievement, competence or fitness to practise o formative – assessment designed to provide feedback for the learner and to help the teacher/trainer to plan the next stages of learning more effectively.	
Attitude	- the way a person views something or tends to behave towards it, often in an evaluative way - a predisposition or a tendency to respond positively or negatively towards a certain idea, object, person or situation - influences the way an individual makes choices about actions, and their responses to challenges, incentives and rewards (together called stimuli) - a very personal capacity of favour or disfavour toward a person, place, thing, etc. which may be responsible for individual reaction - there are four major components of attitude (1) Affective: emotions or feelings. (2) Cognitive: belief or opinions held consciously. (3) Conative: inclination for action. (4) Evaluative: positive or negative response to stimuli.	A person's attitudes may be conscious or unconscious, openly displayed or hidden, cognitive or emotional. A person may not be aware of their attitudes until a particular situation occurs. The way a person reacts in any particular situation may have been laid down at a very early stage in their personal development.

Word	Meaning(s)	Comments
Behaviour	- the way in which a person acts or conducts themselves, especially towards others - the action, reaction or functioning of a system under normal or specified circumstances - the response of an individual or group to an action, environment, person or stimulus.	Particular patterns of behaviour are often an expression of underlying attitudes. However, active repetition of particular behaviour may also result in changed attitudes.

Client-centred learning	- an approach to learning which places the learner at the centre of the process.
	- a learning process designed to produce communication between the learner and the teacher/instructor/trainer that is based on mutual respect
	- an approach to learning based on the idea that people resist taking on new understanding and resist attempts to modify their behaviour if the person who is trying to teach them:
	  ○ fails to respect and value their idea of who they are
	  ○ is not seen as 'genuine'
	  ○ is not seen as having legitimate authority
	- may include instruction, demonstration and coaching.
		See also:
		- coaching.

Word	Meaning(s)	Comments
Coaching	- a process, based on partnership, in which the coach encourages the person being coached to come up with their own answers and solutions to the problem in hand - a process designed to empower people to learn rather than to teach them - a training or development process through which an individual is supported while achieving a specific personal or professional competence result or goal - focuses on understanding the needs and existing accomplishments of the person being coached, closely observing their behaviour and performance and providing impartial and non-judgmental feedback - a process of professional counseling and attendance of a person (coachee) by a coach, while the person is exercising complex actions - a process designed to enable the person being coached to achieve their personal optimum outcome - a process in which the coach is a neutral partner in communication and interaction, - a process in which the coach enables, accompanies and facilitates the coachee`s individual development process - can be practised in many different ways, e.g. by asking questions or remaining silent, by challenging, inspiring, supporting and encouraging.	The word is very frequently confused or used interchangeably with client-centred learning. The role of a coach is not to represent a “knowledge pool” but to be an interested companion, allowing the coachee to find their own way with the help of a range of techniques. A coach can help to maintain the learner’s focus and to help them move from thought to action.
Cognitive	- of, relating to or involving mental activities (such as thinking, understanding, learning and remembering.	

Word	Meaning(s)	Comments
Cognition	- the mental activity of thinking, understanding, learning and remembering - the mental act or process by which knowledge is acquired, including perception, intuition and reasoning - a psychological process involved in the acquisition and understanding of knowledge, the formation of beliefs and attitudes, and decision-making and problem-solving - distinct from emotional and volitional processes involved in wanting and intending - the knowledge that results from such an act or process.	
Cognitive ability	- the capacity to perform higher mental processes of reasoning, remembering, understanding and problem-solving - closely linked to but not exactly the same thing as intelligence - measured generally with 'intelligence' quotient (IQ) tests.	
Cognitive system	- a system consisting of interrelated assumptions, beliefs, ideas and knowledge that an individual holds about anything concrete (person, group, object, etc.) or abstract (thoughts, theory, information, etc.) - it comprises an individual's world view and determines how he or she abstracts, filters and structures information received from the world around. (Also called cognitive belief system)	
Competence	- the set of skills, knowledge and understanding required to perform a task to an agreed standard - the proven ability to perform a defined task successfully to an agreed standard - the quality or state of being able or suitable for a particular task - the state of being legally competent or qualified.	See also: - competency - level - proficiency - skill.

Word	Meaning(s)	Comments
Competency	- the proven ability to use knowledge, skills and understanding, social and/or methodological abilities in work or study situations and in professional and personal development - a cluster of related abilities, commitments, knowledge and skills that enable a person (or an organization) to act effectively in a job or situation - sufficiency of knowledge and skills that enable someone to act in a wide variety of situations.	Competence' and 'competency' are often used interchangeably, particularly in management literature. For the purposes of writing a common competence standard, it is helpful to keep the two separate. Competence is about being able to accomplish a particular task to a particular level. Competency relates to more generic issues such as 'leadership' or 'ability to work in groups' and is used in recruitment and promotion, etc. It is not possible to define what competency looks like or to train and assess it in the same way as competence can be trained and assessed.
Criterion	- a principle or standard by which something can be judged or decided - in a typical context, there is more than one criterion under consideration and thus the plural 'criteria' is more commonly encountered.	
Criterion referenced assessment	- a test or other type of assessment designed to provide a measure of performance that is interpretable in terms of a clearly defined and delimited domain of learning tasks - evaluation that attempts to uncover the strengths and weakness of a student or trainee in terms of what he or she knows or doesn't know, understands or doesn't understand, or can do or cannot do, as measured against a benchmark or standard.	

Word	Meaning(s)	Comments
Curriculum	- the planned interaction of pupils with instructional content, materials and resources, and the processes for evaluating the attainment of educational objectives - the means and materials with which students will interact for the purpose of achieving identified educational outcomes - a set of courses, and their content, designed with descriptions of the goals, sub-goals and objectives. - combination of different training courses arranged in a sequence - all the planned experiences that a school/college/university or training centre offers as part of its educational responsibility - a course of study in one subject at a school or college - a list of all the courses of study offered by a school or college - the means and materials with which students will interact for the purpose of achieving identified educational outcomes - any programme or plan of activities - the goals, the contents and the process/methods of learning including the evaluation/assessment.	This word is used in a lot of different ways, all of which are legitimate in a particular context. See also: - syllabus.
Education	- the process of receiving or giving systematic instruction, especially at a school, college or university during childhood and adolescence - the knowledge and understanding gained by an individual as the result of studying particular subjects formally and through their upbringing and less formal life experiences - works to prepare learners to be analytical thinkers and problem solvers by facilitating the learning of principles, concepts, rules, facts, and associated skills and values/attitudes - a particular kind of instruction or training: a university education, a vocational education.	Requires inputs in terms of information and other resources, provided by people or through visual, written, electronic or other media. Requires the provision of opportunities to practise and to test understanding. See also: - training.

Word	Meaning(s)	Comments
Element	- a component or constituent of a whole or one of the parts into which a whole may be resolved by analysis - the individual components which go together to construct a competence standard.	
European Qualifications Framework (EQF)	- a framework designed to allow the qualifications offered in different European countries to be compared - consists of eight common reference levels, described in terms of the learning outcomes, i.e. knowledge, skills and competence which must be demonstrated in order to achieve a qualification at a particular level.	
Failure	- non-performance of a task - not achieving an objective or goal - the neglect or omission of an expected or required action - not reaching the required standard in an assessment - a person, or thing, that is unsuccessful or disappointing.	
Fault	- responsibility for an accident or misfortune - an error caused by ignorance, bad judgment or inattention - an example of deviation from correctness which, on its own, or when grouped with other faults, may be taken as evidence of failure to demonstrate competence - a term used within some forms of driver assessment to identify driving errors - to criticise for inadequacy or mistakes - a failure in a machine or system which stops the whole system from working correctly.	

Word	Meaning(s)	Comments
Goals for Driver Education (GDE) Matrix	- a hierarchical model of the driving task (Hatakka et al., 2002), based on the principles of cognitive psychology - identifies that the individual actions of individual drivers may be affected by a hierarchy of increasingly remote personal, structural and cultural influences - suggests that further improvements in driving competence may or may only be achieved if driver teaching increases its focus on the higher-order influences, e.g. an individual's goals for life and skills for living and their cultural, social and business background - argues, in its right hand column, that in order to be, and remain, a safe and responsible driver, an individual must learn to reflect actively on the impact of the hierarchy on their decision-making throughout their driving career.	Applications of the GDE matrix have been used to explore the interaction between "soft" competencies and "hard" competences within driver education. WG2's report deploys a 'Circle model', covering the five levels within the latest version of the GDE, to explore the relationship between the different aspects of safe, responsible and environmentally friendly driving.
Goal(s)	- the aim or object towards which an endeavour is directed - the place to which we hope our efforts will ultimately bring us - an observable and measurable end result having one or more objectives to be achieved within a more or less fixed timeframe - high level statement of intended direction of travel.	See also: - objective.
Habit	- a tendency or disposition to act in a particular way - a learned behavioral response that has become associated with a particular situation, especially one frequently repeated - a 'good' habit is one which continues to be entirely appropriate in the way in which it is applied, e.g. always checking mirrors before manoeuvring. - a 'bad' habit is one which embodies and repeats an error.	Individuals are often unaware that their behaviour is habitual. Learners can benefit from being guided to reflect on their unconscious, habitual behaviour and review whether it is still appropriate.
Hazard	- a potentially dangerous condition which is triggered by an event - a set of circumstances which has the potential to trigger or give rise to an event which will be harmful to those involved.	See also: - risk.

Word	Meaning(s)	Comments
Hazard assessment	- Evaluating and ranking potential hazards, using factors such as frequency and intensity, to enable effective planning and prioritization of actions - a stage in risk analysis.	
Hazard perception	- scanning an environment to identify conditions or circumstances which might trigger a harmful event - the degree or level of ability to scan an environment effectively to identify conditions or circumstances which might trigger a harmful - the view which an individual takes of the likelihood and impact of a particular hazard.	See also: - risk propensity.
Instruction	- an educational process which places the emphasis on the person giving the instruction - a process or act of imparting information about the appropriate way to perform a task - a process or act of imparting knowledge, rules, requirements or guidelines.	

Word	Meaning(s)	Comments
Knowledge	- the outcome of the assimilation of information through learning - the body of facts, principles, theories and practices that is related to a field of work or study - awareness, consciousness, or familiarity gained by experience or learning - a human faculty resulting from interpreted information - understanding that grows from the combination of data, information, experience and individual interpretation - justified true belief that increases an entity's capacity for effective action - specific information about a subject - is frequently contextual or cultural, and its basis may be unquestioned - things that are held to be true in a given context and that would drive us to action if there were no impediments.	Challenges to contextually or culturally based 'knowledge' may cause irritation, fear or anxiety. In the European Qualifications Framework, knowledge is described as theoretical or factual. See also: - understanding.
Layman	- a person without professional or specialised knowledge in a particular subject.	
Learning (Individual)	- to commit to memory - to become informed - a measurable and relatively permanent change in behaviour as the result of experience, instruction, study or reflection - the acquisition of knowledge, skills or understanding through study, experience or being taught - acquiring new or modifying and reinforcing existing knowledge, behaviour, skills, values or preferences, which may involve synthesizing different types of information.	Cannot be measured as such, though its results can be, e.g. by increased objective demonstration of knowledge or more skilled application of skills in practice.

Word	Meaning(s)	Comments
Learning Group/ Community	- a collection of persons who are emotionally, intellectually and aesthetically engaged in solving problems, creating products and making meaning - a group in which each person learns autonomously and through the ways of learning of others - a group of people who share common values and beliefs and are actively engaged in learning together from each other - a small group of students working together to maximise their own and each other's learning.	Individuals may benefit from the extension of understanding and options through exposure to alternative worldviews and new information. If badly managed, learning groups can reinforce incorrect assumptions and negative attitudes and work against individual learning. See also: - norms.
Learning Outcomes/ Objectives	- statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence (EQF) - what a student is expected to learn from a lesson - a detailed description of what the student will be able to do when a period of instruction/learning ends.	Clarity about their desired learning outcomes helps a student to understand how to make practical use of information learned during the lesson.
Level	- a statement of where a particular programme of learning is located on one of the recognised vocational qualification credit frameworks, e.g. the European Qualifications Framework.	Progression to the higher levels of vocational qualification credit frameworks usually represents an increase in the degree of personal responsibility, autonomy and discretion expected of the person holding the qualification.

Word	Meaning(s)	Comments
Method	- an established, habitual, logical or prescribed practice or systematic process of achieving certain ends with accuracy and efficiency, usually in an ordered sequence of fixed steps - orderliness of thought and action.	See 'pedagogical method' below. See also: - procedure - process.
Methodology	- a system of methods used in a particular area of study or activity - a system of broad principles or rules from which specific methods or procedures may be derived to interpret or solve different problems within the scope of a particular discipline.	Methodologies usually make fundamental assumptions about ontology and epistemology. The paradigms defined by those assumptions may or may not be reconcilable. The principle methodological paradigms are positivist (quantitative)' and phenomenological (qualitative).
Mistake	- A 'mistake' is an error caused by a fault: the fault being misperception, attention lapse, memory lapse, misjudgment or faulty action.	Example: I run a stop sign because I am in a hurry and not concentrating. The police stop me. That is a mistake. If, however, I decide to park in an area with conflicting signs and I get a ticket because I am incorrect in my interpretation of what the signs mean, that would be an error. The first time it would be an error. The second time it would be a mistake, since I should know better.

Word	Meaning(s)	Comments

Motivation	- why a person does something
	- a person's reason or reasons for acting or behaving in a particular way
	- the process that initiates, guides and maintains goal-oriented behaviour
	- has three components:
	  ○ the decision to initiate a behaviour (activation),
	  ○ continued effort toward a goal even though obstacles may exist (persistence)
	  ○ the concentration and vigour that goes into pursuing the goal, (intensity)
	- may arise from outside of the individual (extrinsic), and often involves rewards such as trophies, money, social recognition or praise, or from inside the individual (intrinsic), e.g. personal satisfaction at completing a challenging task.
		Motivation may be the product of the correlation between a person's needs and their attitudes.

Norm	- a standard of achievement or behaviour that is required, desired or designated as normal - an informal guideline about what is considered normal (what is correct/ incorrect) social behaviour in a particular group or social unit – sometimes expressed as: 'the way we do things around here' - the basis of collective expectations that members of a community have of each other.	Norms act as key element in social control and social order by exerting a pressure on the individual to conform. May be a source of attitudes.
Objective(s)	- a specific result that a person or system aims to achieve within a time frame and with available resources - tactical steps to achieving a goal - a near-term target within a larger expected outcome - basic tools that underlie all planning and strategic activities.	An objective may modify a goal, but will seldom change it in a fundamental way, even if the objective isn't reached.
Off-road training	- training which involves manoeuvring a vehicle on private land, with or without a tarmac surface, which is not subject to road-traffic legislation - driving related training which takes place in a class-room or other facility but does not involve the actual use of a vehicle.	

Word	Meaning(s)	Comments
Pedagogic Method	- the elements used in a pedagogical scenario or referred to in a pedagogic strategy - a particular method of teaching and educating designed to start and influence and structure an individual's learning process.	
Performance	- the action or process of performing a task or function - a task or operation seen in terms of how successfully it is performed - the actual output achieved by a system/person against a particular standard or measure - the accomplishment of a given task measured against preset known standards of accuracy, completeness, cost and speed.	A person may be competent but their performance at any particular time and in any particular circumstances may not be at the level of competence.
Plan	- written account or graphic presentation of an intended course of action aimed at achieving specific goal(s) or objective(s), usually within a specific timeframe - what needs to be done, when, how and by whom in order to achieve objectives, aims or goals.	A plan can include estimates of best and worst case scenarios, risk, contingency and optimism bias, etc. See also: - programme.
Planning	- the formulation of plans to achieve objectives, aims or goals including identification and scheduling of tasks, the identification and provision of required resources and the implementation and monitoring of the plan to ensure it remains on time, budget and within quality specifications until completion - the implementation of strategies to avoid or mitigate the impact of hazardous situations while driving - the process of ensuring that you have the information you need, you are in the correct position on the road, driving at the correct speed, in the correct gear and using your accelerator appropriately to maintain vehicle stability and make safe and responsible progress through traffic.	

Word	Meaning(s)	Comments
Procedure	- a fixed, step-by-step sequence of activities or course of action (with definite start and end points) that must be followed in the same order to correctly perform a task. - a way of acting or progressing in a course of action - an established method.	See also: - routine.
Process	- the series of actions or steps that must be taken in order to achieve a particular end - a sequence of interdependent and linked transformations, inspections, decisions, transports and storage operations, which consume one or more resources (employee time, energy, machines, money) to convert inputs (data, material, parts, etc.) into outputs - to perform one or more transforming operation on something, e.g. a piece of information, a document or a piece of raw material, in order to change it.	
Professional teacher	- in the driving context – an individual who has completed the process in place in their country to gain a licence to practise as a professional driving teacher and is trading on the basis of that licence to practise.	
Proficiency	- mastery of a specific behaviour or skill demonstrated by consistently competent performance, measured against an established standard - having great facility in an art, occupation, etc. - level of skill.	
Programme	- a planned series of future events or performance - a plan of action aimed at accomplishing a clear objective, with details on what work is to be done by whom and when, and what means or resources will be used - arrange according to a plan or schedule - cause (a person or animal) to behave in a predetermined way - an educational programme – generally consisting of a series of discreet elements, i.e. lessons.	

Word	Meaning(s)	Comments
Psychometric testing	- any standardised procedure which claims to measure sensitivity or memory or intelligence or aptitude or personality - testing done with individuals in order to measure their competence in a specific area of functioning.	Some psychometric testing is subject to criticism to the effect that it is not valid and, because of a wide range of controllable and uncontrollable factors, may not be measuring what it claims to measure. Psychometricians would argue that most tests have been validated and shown to measure what they claim. The application of psychometric testing may raise ethical issues.
Qualification	- the process of becoming qualified - the formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved outcomes to a given standard (EQF).	

Word	Meaning(s)	Comments
Reflective practice/ reflection	- the capacity to reflect on your actions so as to engage in a process of continuous learning - a tool in practice-based learning settings where individuals learn from their own practical experience, rather than from formal teaching or knowledge transfer.	Reflective practice transforms 'single-loop' learning, in which a learner continues to rely on current strategies and techniques even after an error occurs, into 'double-loop' learning in which errors lead to modification of strategies and techniques so that a wider range of options is available when faced with similar situations. Is required to fulfill the self-assessment requirements of the GDE matrix. In a client-centred context requires reflection on attitudes and feelings as well as practical or theoretical factors.
Responsibility	- a reflexive and active state of a driver who shows competences which are morally right and legally required. - Responsibility related to driving matters requires the will of a driver to enhance safety in traffic, the ability to act social in traffic (norms, communication), care about the environment and insight regarding one's own behaviour in traffic (safety impact of personality)	-

Word	Meaning(s)	Comments
Risk	- a situation involving exposure to danger - the effect of uncertainty on objectives - the probability of something happening multiplied by the resulting cost or benefit if it does - the probability or threat of quantifiable damage, injury, liability, loss or any other negative occurrence that is caused by external or internal vulnerabilities and that may be avoided through preemptive action - expose (someone or something valued) to danger, harm or loss.	
Risk Propensity	- the extent to which a person is willing to take chances with respect to the risk of loss or injury.	Adolescents are frequently seen as having a propensity for uninhibited risk-taking, e.g. in relation to experimentation with drugs and alcohol.
Routine	- a sequence of actions regularly followed - an action or series of actions performed as part of a regular procedure rather than for a special reason.	
Self-evaluation	- a process of reviewing and assessing one's own performance against a set of criteria - a key tool within reflective practice and thinking.	See also: - Reflective practice/reflection.
Situation	- where a person considers themselves to be in relation to the various pressures, obligations, norms, etc. that they feel subject to - physical placement, especially with regard to the surroundings - state of affairs - combination of circumstances.	

Word	Meaning(s)	Comments
Skill	- the ability to apply knowledge and use know-how to complete tasks and solve problems (EQF) - special ability in a task, sport, etc.; ability acquired by training - ability and capacity, acquired through deliberate, systematic and sustained effort, to smoothly and adaptively carry out complex activities or job functions - cognitive - involving the use of logical, intuitive and creative thinking - practical/technical - involving manual dexterity and the use of methods, materials, tools and instruments - interpersonal – involving people.	
Standard(s)	- an agreed and accepted concept, norm or principle against which to compare the performance of some action or practice or some output - a written definition, limit or rule approved and monitored for compliance by an authoritative agency, such as a professional or recognised standards-setting body, as a minimum acceptable benchmark for qualification or entry to professional membership - a norm - a level of excellence or quality.	
Success	- achievement of a goal or objective within the agreed performance criteria, e.g. time, cost, quality - achieving personal goals, e.g. being accepted into a new career, where criteria are more subjective - the favourable outcome of something attempted - a person who has achieved their personal objectives - a person who has achieved more, in relative terms, than others - a person who is seen as having reached the top of their chosen career or profession.	

Word	Meaning(s)	Comments
Syllabus	- a formal description of the content of a programme of education including the goals and objectives of the programme, duration, how it will be delivered and assessed, course texts and study materials, timing of teaching sessions, etc. - the subjects studied for a particular course - a concrete and detailed description of how to steer a learning process with contents, goals, pedagogical methods, materials and assessment forms based on a curriculum.	See also: - Curriculum.
Training	- the action of teaching a person a particular skill or type of behaviour - the process of bringing a person to an agreed standard of proficiency by practice and instruction - an organised activity aimed at imparting information - instructions intended to improve the recipient's performance or to help him or her attain a required level of knowledge or skill - concerned with acquiring a skill or the psychomotor domain of learning - has a definite goal and a time, and requires a show of proficiency.	
Understanding	- knowing what words, symbols or actions mean, what impact they have on you and how you should respond - knowing how to make sense of complex situations, including emotional situations - may be very culturally specific - a personal opinion or interpretation of a subject - a mutual agreement or compact arrived at between to individuals or groups, especially an informal or private one	

7.2 Original CIECA-RUE-Working Group Reports

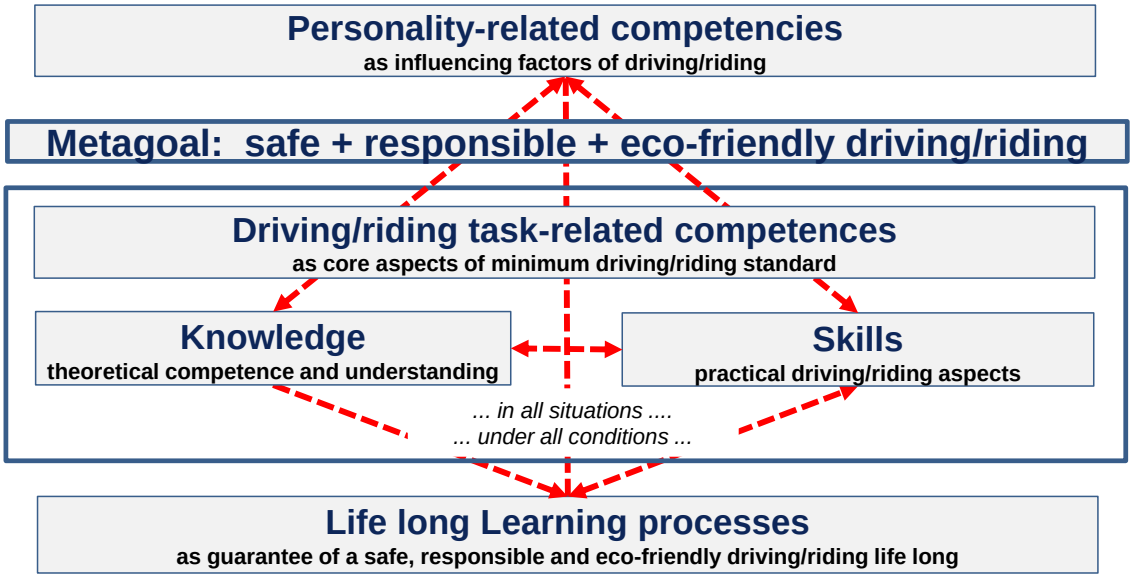
7.2.1 Working Group 1

The International Commission for Driver Testing

Discussion paper of Cieca Working Group 1

MINIMUM
DRIVING AND RIDING
COMPETENCE STANDARD

state of work 2014-10-28



The International Commission for Driver Testing

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A. PREAMBLE: BASIC UNDERSTANDING OF MINIMUM DRIVING/RIDING STANDARDS

Different countries have different systems of training, education testing and driving license. Educational systems have been historically developed and follow country-specific legal and infrastructural logics but all have one main goal: to educate safe and responsible drivers/riders. Knowing this it is necessary to create a common cross-national driving and riding competence framework by defining minimum driving/riding standards. This requires a general understanding of competence and competency, which are not only focused on a test but on a general safe and responsible behaviour in traffic, which should be taught during training.

Therefore, the standard sets the frame for driving as well as riding competences and individual driving/riding related competencies. Adapted to observable results it means that after completing driver/riding training a new driver/rider is able to possess the necessary competence to drive/ride vehicle in a safe manner, has the knowledge and skills, self-knowledge and understanding of risk required to drive/ride in a manner which:

- is safe on the road,
- provides proper interaction,
- promotes traffic flow,
- shows consideration for health, environment and the needs of others,
- is in compliance with the regulation in force.

A.1 Competences, competencies and standards

Minimum driving/riding standards are framed by driving/riding competences, which require individual competencies, which ensure a safe, responsible and eco-friendly driving/riding.

While competences describe a set of trainable and testable skills, knowledge and understanding, which are required to perform an agreed standard successfully, competencies refer to characteristics or attributes of individuals, such as abilities or attitudes. Therefore, they enable a person on those basic of skills, knowledge and understanding to act motivationally, willingly and effectively in a specific traffic situation and might support competences. Competencies are only trainable but not testable (because they can be faked in a test).

So defining minimum driving/riding standards they always have to be achieved through driving competences which are understood as cognitive abilities, skills and strategies processed by or which are able to be learned by individuals enabling them to solve particular problems in a specific traffic situation, as well as the motivational, volitional and social readiness and ability (subject-specific knowledge and practice-related experience) to utilise the solutions successfully and responsible in variable driving/riding situations (adapted by Weinert 2001: 27). So competent drivers/riders master specific situations appropriately in knowing, understanding and adapting minimum competence standards. This includes that they use their acquired cognitive or motoric proficiencies attitudinal, self-motivated, volitionally and deliberately.

Which aspects include safe, responsible and eco-friendly driving/riding?

A minimum driving and riding standard always need to include aspects of safety, responsibility and eco-friendly driving/riding, which are connected with

- aspects of knowledge, rules and skills,
- individual physical, mental and social aspects,
- behavioural and motivational aspects

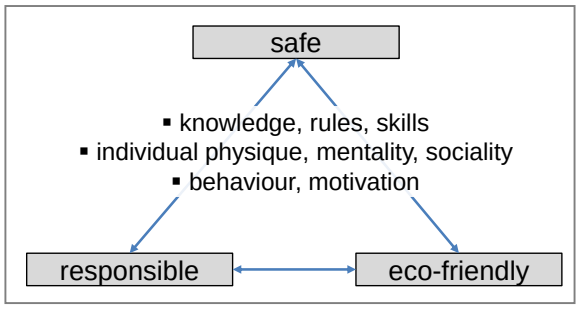

Figure 1: Triangle of minimum driver/riding standard

A minimum driving and riding standards as minimum driving/riding competences have to specifically state what appropriate decisions a driver/rider has to take, what information and rules he or she needs, and how they will be used *in any situation and under any condition*.

Under any situation, we understand different geographic areas like urban, suburban or rural; traffic jams and empty roads as well as crowded places and streets. Nevertheless, we also focus on situations in the inner of or on a vehicle which can be stressful or aggressive as well as a ride under time pressure. Under any condition, we understand weather, road and daytime conditions, which mean a driver/rider has to correctly master situations within sunny, foggy or rainy weather as well as on icy or broken roads at any day- and night times.

A person is competent if he or she not only has the proper knowledge, skills and attitudes, but also is capable to use knowledge, skills and attitudes in any traffic situation and any circumstances in such a way that he himself or she herself and other traffic participants are not exposed to risks. If risks cannot be avoided he or she will know how to act in a way that consequences of the risks are minimized as best as possible. Even if there is a difference between the performance levels of new and experienced drivers/riders both have to apply to the same basic competences. So to us the only differences are that experienced drivers/riders have a higher performance level and are higher skilled but are not understood as the better drivers/riders.

A minimum driving/riding standard should be initially valid for all European Countries but also contain looking-forward statements for all drivers/riders around the world. This standard is understood as core competences and the highest common denominator of all national approaches and national perspective of driving/riding standards. A minimum driving/riding standard has to focus on both – training and testing. Even if only observable (hard) driving/riding competences can be tested in a test, personality-related competencies like a willingly and self-reflected control of temper or a ‘respectful-to-others-driving/riding style’ can intensively and self-reflected be taught.

Of course driver and rider education will not radically change a person`s life goals or his or her personal background, but education should make a person conscious of those of his or her personal tendencies that also effect driving/riding behaviour. So defining a standard it has to be kept in mind that attitudes and motivation always matter and make the difference between a safe, responsible and skilled driver/rider and just a driver/rider.

A.2 Structure of document

Overall metagoal

Driving and riding minimum competences lead to a metagoal of drivers' and riders' education: safe, responsible and eco-friendly. To reach this goal you have to anticipate different aspects, which are influencing driving/riding matters (see Figure 2).

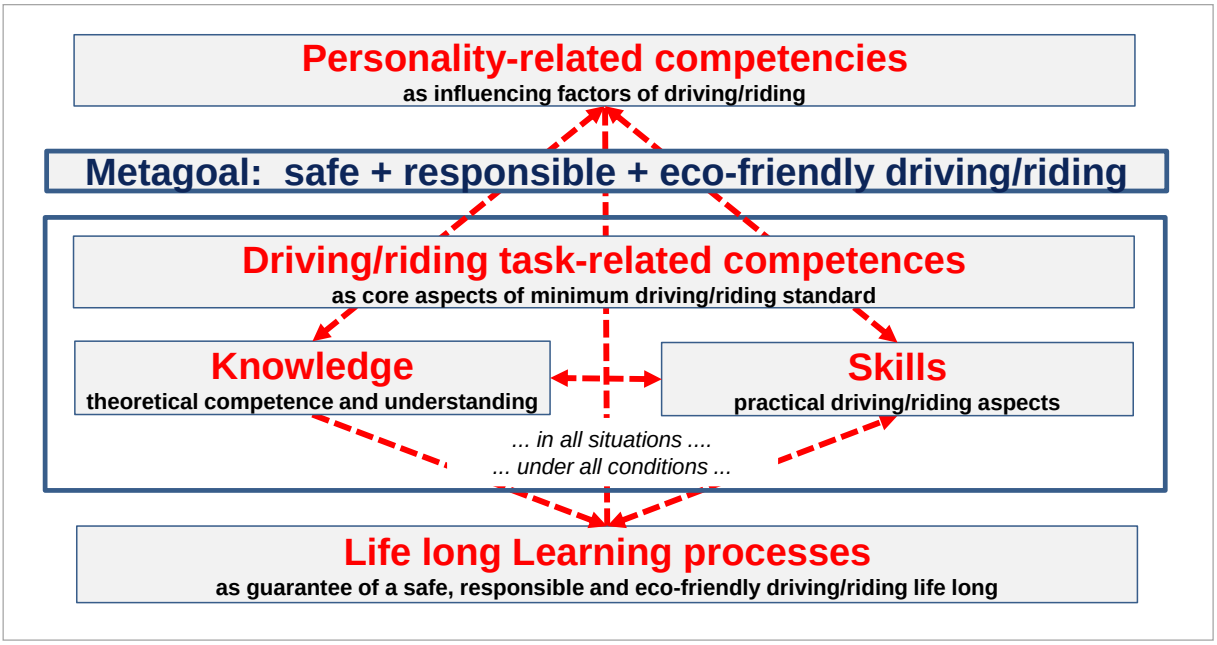

Figure 2: Approach 'minimum driver and riding competence standard'

Relevant competencies (Chapter B)

Safe, responsible and eco-friendly driving and riding may be demonstrated by a corresponding driving/riding behaviour. This behaviour is strongly influenced by personality traits. They are very different among people and hardly changeable by teaching. Therefore, we cannot describe a standard of these traits with minimum or ideal specifications of these traits. However, they strongly affect driving competences as well as aspects of lifelong-learning. Therefore, a safe and responsible driver should be aware of those personality traits to ensure a self-reflected participation in traffic. Chapter B gives an overview of relevant traits.

Minimum driving competence standards (Chapter C)

Chapter C describes the knowledge (as explicit or declarative knowledge) and skills (combination out of explicit and implicit knowledge) we expect from a driver and rider as an actual competence standard. The scope of the standard of minimum driving and riding competences includes all types of vehicle covered by driving licence categories A, B, C and D

- manual and automatic vehicles,
- on any class of road,
- at any time,
- in any weather conditions,
- with any number of passengers,
- with any load (subject to legal requirements and the manufacturer's specification),
- for private use and for commercial purposes (subject to legislation) and
- sustainable in the future (as far as we can foresee it)

For description purposes, our paper structures these competences into different components (e. g. traffic observation or communication). Therefore, the standard will be easier to understand. These components are to some extend artificial and do not at all imply an order of training.

The standard does not reflect country-compliant requirements but additionally implies that drivers' and riders' adapt and gain knowledge and skills as competences in accordance with country-compliant requirements.

Illustration of interplay of all components in an example situation (Chapter D)

In real traffic situations all competence components described separately in the chapters B and C have to interplay together to result in safe, responsible and eco-friendly driving/riding. Thus, they cannot be separated anymore. Chapter D describes an example of this interplay in an example situation.

Life-long-learning (Chapter E)

In addition what safe, responsible and eco-friendly driving and riding is may change over time. Therefore, drivers and riders need to keep their competences up to date. It is seen as another aspect of a minimum driving and riding standard, which is reflected in Chapter E.

Implications for teaching and testing (Chapter F)

This document is supposed to describe what competences are expected from a safe, responsible and eco-friendly driver and rider without explaining how these competences may be acquired. However, the description of the necessary competences and competencies for safe, responsible and eco-friendly driving/riding require answers of some questions on teaching and testing which are discussed in chapter F.

B. PERSONALITY-RELATED COMPETENCIES

If we define factors of a minimum standard, we have to approach to different perspectives and different time frames. First of all and in principle a driver/rider has to be 'physically and mentally fit to drive/to ride' by having the ability to develop skills and acquire knowledge (aptitude). Therefore, we differentiate between so-called driving and riding task-related competences (also known as hard competences) and personality-related competencies (also known as soft competencies). With our work, we focus and conceptualise hard competences (ability and knowledge see chapter C). They are measurable, visible, (quantitatively) analysable and closely connected with driving. So-called personality-related competencies are competencies, which are directly connected to persons, and their social and cultural backgrounds (see Figure 3). Even if aspects as mentality, willingness or motivation have a more distant connection to driving, different personalities, social and cultural norms can make a significant difference. They can have positive or negative effects, influences and impacts on driving/riding behaviour, risk awareness or the motivation and willingness of learning, understanding and adapting competences into *real* driving/riding situations (see chapter D).

Figure 3: Physical attributes and social competencies

B.1 Physical attributes

Even everyone is equal before the law every driver/rider differs in his or her physical attributes: in age, in gender or in suffering on physical disabilities like missing limbs, weak eyesight, multiple-sclerosis, paraplegia, any motor or mental disorders like epilepsy, depression, attention deficits or schizophrenic disorder makes every driver special. To be a safe and responsible driver/rider the minimum standards of physical and mental fitness for driving/riding always have to be guaranteed (see Directive 2006/126/EC of the European Parliament and of the Council of 20 December 2006 on driving licences, ANNEX III drivers of vehicles of category B). A driver/rider has to ensure that he or she is authorised by or supported by medical opinion and/or regular medical check-ups appropriate to his or her individual case and necessities.

Therefore, it further has to generally recognize that every driver/rider will have differing levels of aptitude and ability, good or poor coordination or retention of information or learning difficulties.

Technical aids and medical treatment can enable most people to drive/ride a vehicle safely and responsively. So for instance, every driver/rider has to have adequate eyesight or specific aids for their specific disease/disability for a motorized travel on the road.

Beyond that, physical requirements are actually defined through the minimum standards. Disabled or impaired people should not be prohibited from driving/riding as long as they are able to fulfil this standard – if necessary with technical aids. But it should also be ensured that certain diseases that cannot provide a safe transport option can be excluded.

B.2 Personal attitudes as motivation and willingsness

Before people are taught minimum driving/riding related competence, they run through a long-term socialisation process beginning within their earliest childhood, which also includes matters of driving/riding. Thereby socialisation describes a process of forming and developing a human personality in mutual dependence of and in conflict with the historically mediated social and rem-material living conditions. Therefore, every individual and every driver/rider is the producer of his or her own development and surrounding.

Every driver/rider:

- has a very specific social, economic, cultural or ethnic background, which means that drivers from different cultures e. g. may have a totally different way of looking at problem-solving, risk taking and percepting hazards,
- has in this way specific personal attitudes, different personal goals and future expectations, personal beliefs, assessments and values,
- has personal traits as his or her personal characteristics and every day changing mental states. Traits like politeness, aggression, assertiveness or carefulness describe stable attitudes and behaviours, which are independent of a specific

situation. States are situational factors that occur at a specific moment as bad mood, excitement or happiness.

- has different social and soft competencies, which are the combined product of competences as skills, knowledge and understanding and on the other hand personal motivation and willingness which enables a person to act reflected and effectively (e. g. being courteous, appreciative or dependable). Soft competencies are manifested in aspects as self-esteem, self-reflection, self-motivation or self-confidence.

All aspects lead to different volitional readiness and motivational tendencies because every decision-making and responsibility bases on self-perception and identity which leads to observable actions as consciously controllable, directed towards targets and individual planned behaviour. Even if shared backgrounds, worldviews and prior interactions can shift the pattern of behaviour all aspects are stable influencing factors towards driving/riding style.

So based on the general considerations we always have to keep these personality-related competencies – on the whole aspects of motivation and willingness – in mind and mentally connect them with individual driving/riding related task fields of ‘driving/riding task-related competences’. So one principle is a safe, responsible, and eco-friendly driver/rider has the motivation and willingful determination to behave as such.

- The will to drive/ride safely is more decisive and important as the ability to drive safely. While a lack of ability can often be compensated by caution or even waiver. However, a lack of will usually increases the risk and lowers a personal risk assessment.
- The will can only be slightly influenced during or by driver/riding training. This phase of life is just a small part of the entire experience of life. Is there no personal will, desired and sustainable effects of training will fail.
- Willingness to drive/ride safe, responsible and eco-friendly is easy to fake. Probably the main individual motivation is it to first quickly obtain a driver's/rider’s license. However, challenging driving situations can easily be affected and influenced by other motives.
- Willingness cannot really be observed or measured. Therefore, it cannot be part of the minimum driving/riding standard. Nevertheless, by seeking every opportunity in novice drivers’/riders’ training a teacher or mentor should try to positively influence the will to drive/ride safely, responsible and eco-friendly after testing.

C. STANDARD: KNOWLEDGE AND SKILLS AS DRIVING AND RIDING TASK-RELATED COMPETENCES

Approaching the issue which are the minimum standard competences of driving/riding one single question has to be answered:

Which specific knowledge and understanding as well as abilities and driving/riding skills are necessary to be able to drive/ride a vehicle safely, responsibly and eco-friendly in all situations and conditions of road traffic?

This question about minimum competences has two aspects:

Regulative elements pertain to formal and binding rules, regulations or procedures. They are documented, easy to observe, explicit respected and reference to specific measures and learning aspects.

Normative elements are similarly prescriptive and evaluative. Interpersonal expectations, common values and norms are contained within this category. When normative elements are adhered to, systems function and the impact of each individual road user is maximized (e. g. eco-friendliness, assumption of responsibility etc.).

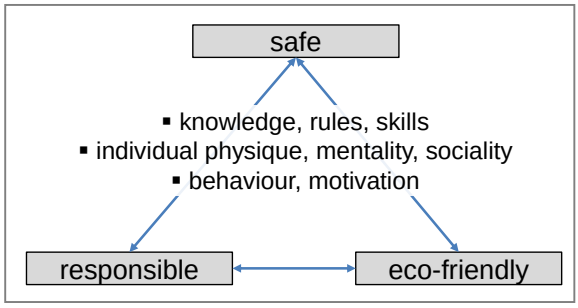

Figure 4: Causal link between knowledge/understanding and skills

In practice, there are no clear demarcations. All categories and elements are mutual influential and result in complex unstable combinations. All components have to interact with each other.

So in answer to that question of minimum competences it is recommended to work with a deductive methodical approach (from general to detailed information):

- Starting with general aspects: every competence component is defined by an main aim (general issues),
- Moving down to specific aspects: every main aim can be subdivided in behavioural aspects (e. g. safety, responsible, eco, operations, rules, conditions, control, …),
- Ensuring that fundamental principles are respected at every level: examples of specific situations for illustration

By defining knowledge, understanding and skills and their sub-components it is possible to clarified and create a binding minimum driver/rider competences toolbox. In this way (Sturzbecher/ Rüdel et al. 2012) argument, that

- each operationalisation of a competence refer to a specific main goal and binding principles, specific sub-aims and specific classes of demand situations,
- the scope of demand situations should mirror a broad performance spectrum (situative aspects as examples)

All aspects include the aim of a raising awareness of a safe, responsible and eco-friendly driving/riding, which composes risk awareness as well as self-evaluation skills. The more competent a person is, the less he or she can be negatively influenced by environmental or situative conditions.

In the following descriptions we distinguish between ***Knowledge****: Rules, theory and understanding (conditional knowledge base)* and ***Skills****: Driving and riding aspects (practical* driving/riding competences) (see Figure 5). Therefore, the first competence components are that drivers/riders have to know and to understand. Competence components in connection with driving/riding skills of course drivers/riders also have to know and to understand but here we assume that they **know and understand** the facts and so they **are able to** perceive, assess, decide and act by handling and manoeuvring their vehicle safely, eco-friendly and responsibly. 'Preparation of vehicle, load & journey' as well as 'Traffic observation' combines aspects of theoretical knowledge and practical skills.

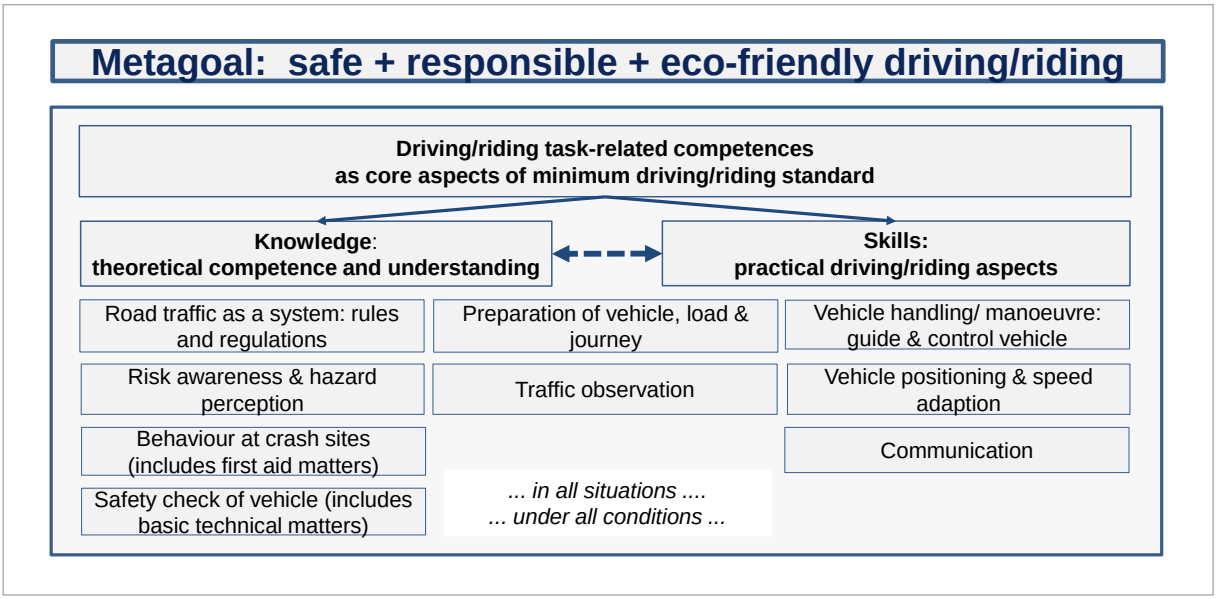

Figure 5: Minimum driving and riding competences

C.1 Knowledge: Rules, theory and understanding (conditional knowledge base)

C.1.1 Road traffic as a system: Rules and regulations

Main goal: Drivers/riders know about the legal framework of the national road traffic system. They know and are able to internalise the rules and regulations of the road traffic system which help protect every road user and enable safe and responsible driving with due regard for other road users, the law and the environment.

Knowledge and understanding:

1. **Drivers/riders know about and understand the system and logic of traffic and so about the legal framework of the national traffic system.**

- They know and understand the content of the national road traffic regulations.
- They know about and understand what the purpose of rules of the road is to have an orderly traffic system that allows all road users to share the road safely.
- They know and understand that the national road traffic regulations, rules of the road and regulatory framework may vary between countries.

- They know and understand what documentation they are required to carry in their country and that these requirements may differ abroad.
- They know and understand that every road user has the same rights and obligations.
- They know about and understand the purpose of traffic signs, traffic signals and road markings.
- They know and understand how to interpret traffic signs, the various shapes and colours of signs and their meanings, the meaning of individual road signs and they can differentiate between mandatory and advisory signs.
- They know and understand the operation and sequences of the various types of traffic signals.
- They know and understand how to interpret various traffic signals, including traffic lights, pedestrian crossings, level crossings, school crossings controlled and automatic train and tram crossings and all other signals.
- They know and understand priorities at different types of junctions including marked and unmarked.
- They know and understand how to interpret the various road markings and can differentiate between mandatory, advisory, and those, which denote restrictions.
- They know and understand key terms or concepts (e. g. one-way-streets, roundabouts, tunnels, bends, motorways etc…).
- They know and understand the theory of driving/riding as safety margins, braking/stopping distances, alertness, attitude and vulnerable road users.
- They know and understand the key terms and/or concepts associated with the vehicles of this driving licence category (e. g. motorcycle lanes, advanced stop lines, bus lanes, bus stops, contraflow systems, …).
- They know and understand how to find out the location of height, width, length and weight restricted routes and any access restrictions (especially bus, van and lorry drivers).
- They know and understand the meaning of the particular signs that apply to the vehicle that they are driving/riding (especially bus, van and lorry drivers e.g. because of their height, width and weight restrictions).
- They know and understand the speed limits on different classes of road for the vehicle (and trailer combination, where applicable) that they are driving/riding (especially drivers).
- They know and understand what documentation is required if they are transporting dangerous goods (especially van and lorry drivers).
- They know and understand when a passenger carrying (PCV) vehicle needs to have a valid operator's licence (especially bus drivers).

2. Drivers/riders know and understand their Driver License entitlements and any restrictions attached to their license.

- They know and understand any restrictions on their licence (e. g. engine size, age, required compulsory basic training) and that they have to have a driving licence valid for the machine they drive/ride (especially moped and motorcycle riders with a graded motorcycle driving licence).
- Especially bus, van and lorry drivers know and understand requirements for professional driving, especially regarding
    - the legislation on drivers' hours and rest periods, and the responsibilities they place on drivers and operators,

  - the initial qualification and periodic training for the Certificate of Professional Competence (CPC),
  - driver cards and tachograph equipment and their handling,
  - the sources for further advice,
  - good customer care.
- Especially car, van, bus and lorry drivers know and understand insurance and licensing requirements when towing a trailer/caravan.
- They know and understand that their skills, knowledge and understanding may deteriorate, become out of date or may be affected by their changing physical condition and always have to meet the minimum requirements to be safe and responsible.
- They know and understand that their skill, knowledge and understanding can always be improved.
- They know and understand where to go to get support and guidance to allow them to maintain and improve their competence.

3. Drivers/riders know and understand the legal framework of their vehicle.

- They know and understand about vehicle registering, licensing, testing and insurance matters.
- They know and understand their vehicle complies with all legal requirements according to the jurisdiction they are driving/riding.
- They know and understand the full-life costs of owning and running different types of vehicle.
- They know and understand the rules and regulations relating to the carriage and use of safety equipment in the country in which they are driving/riding (e. g. warning triangles, high-visibility jackets, spare light bulbs, tow ropes, spare tyres, run-flat tyres, cold weather tyres and snow tyres).
- They know and understand the rules that apply to the use of warning devices in the country in which they are driving/riding.
- They know and understand the height, width, length and weight of the vehicle they are driving (especially bus, van and lorry drivers).
- They know and understand how to find out whether the vehicle is subject to any road user charging when entering restricted areas, such as low emission zones (especially bus, van and lorry drivers).
- They know about different types of vehicle and know and understand the vehicle manufacturer’s specifications, which apply to towing trailers/caravans with their vehicle.
- Drivers/riders know and understand they take responsibility for life and health, environment and property of themselves and others.
- They know and understand the medical requirements attached to holding a licence of the category they are driving/riding as well as the medical conditions, which lead to the prohibition of holding a licence of this specific category.
- Especially bus and lorry drivers know and understand whether they need to have regular medical checks or make medical declarations to keep their licence valid, and how often these need to take place, the need to arrange the medical check in advance of the expiration date so they can continue to drive legally.

- They know and understand which personal changes (e.g. address, medical condition, substantial changes to a vehicle, ownership change) require a notification to their national Driver and Vehicle Licensing Agency.
- They know and understand the range of possible solutions that exist to help those with long-term physical conditions to drive/ride safely and responsibly.
- They know and understand the necessary link between the level of skill/experience and particular route choices (especially moped and motorcycle riders because of specific dangers/vulnerability of e. g. weather conditions, road service).
- Especially drivers know and understand by using a trailer/caravan what “snaking” is and how to correct it.
- Especially drivers know and understand the rules can alter when towing trailers/caravans.
- Especially drivers know and understand how to find the trailer’s ‘nose weight’ and how to check that this does not exceed the limits of the machine’s tow bar when using a trailer.
- Especially moped and motorcycle riders know and understand how to dress properly with proper personal protective equipment to
    - increase visibility and safety,
    - reduce the negative effects of cold and noise whilst riding,
    - meet legal requirements for the use of helmets and eye protection.
- Especially motorcyclists know and understand the use of sidecars requires knowledge and understanding on
    - regulations relevant to sidecars,
    - how to check the sidecar is fixed and aligned correctly,
    - how the use of a sidecar will affect braking and steering and overall machine dynamics.
- They know about and understand the legal requirements regarding the disposal or recycling of oil, batteries and tyres.
- They know and understand the potential impact of noise on the environment.

4. Drivers/riders know and understand they take responsibility carrying loads and animals (especially lorry drivers).

- They know and understand how to use the vehicle handbook to identify how best to safely load the vehicle.
- They know and understand that the details of prescriptions related to load (e. g. loading capacity, mode and duration of loading, maximum height, width, length and weight of load) need to be strictly adhered in accordance with the manufacturer’s guidelines.
- They know and understand how to adjust the vehicle and their driving/riding behaviour to allow for extra weight and changed weight distribution.
- They know and understand how to find the unladed weight of their vehicle and how to calculate their vehicle’s likely actual weight, taking into account the number of passengers, luggage and fuel (especially lorry and bus drivers).
- They know and understand how to find out whether their load falls within the category of dangerous, hazardous or obnoxious goods, and
    - what training, vocational training certificate, hazard warning plates are required before transporting these goods,

    - how to inform the relevant authorities if involved in an incident while transporting these goods.
- They know and understand how to reduce the risk of injury when lifting loads.
- They know and understand what to consider when loading the vehicle, the best way to secure different loads, and
    - what the vehicle's payload is, or how to calculate it based on its maximum authorised mass and its tare weight,
    - how to find their vehicle's maximum permitted gross axle weight,
    - the devices that may be used to secure a load and how to use them,
    - how to use straps, chains, wedges and chocks to make sure the load cannot move,
    - that the higher a vehicle's centre of gravity the less stable the vehicle and its load will be.
- They know and understand the risks associated with loss of load and movement of load.
- They know and understand that the combined strength of the load restraint system must be enough to withstand a force of at least the total weight of the load forward, to prevent the load moving under severe braking and half of the weight of the load backwards and sideways (especially lorry drivers).
- They know and understand how to spot damage or deterioration in the condition of the load (especially lorry drivers).
- They know and understand methods for protecting different types of load when, and how often, to make checks on the condition of their load (especially lorry drivers).
- They know and understand which routine maintenance checks are their responsibility and, for those that are not their responsibility, how to check that they have been done (especially lorry drivers).

C.1.2 Risk awareness and hazard perception

Main goal: Drivers/riders know and are able to reflect the principles of how risks and road hazards can arise and how they can respond to them with an appropriate behaviour based on risk awareness and hazard perception.

Knowledge and understanding:

1. **Drivers/riders know and understand that there is a relationship between perceiving, assessing, deciding and acting in connection with risk awareness and hazard perception.**

- They know and understand every choice has a consequence.
- They know and understand that risk factors may change with different weather and road conditions and at different times of day e. g.
    - braking distances will increase in icy or wet conditions,
    - some road users will be less visible under artificial lighting,
    - driver's concentration and reaction times may deteriorate at night,
    - perception of speed can vary at night.
- They know and understand that the performance of the vehicle they are driving/riding will have an impact on their ability to overtake safely.

- They know and understand where it is particularly dangerous to overtake and where rules and regulations forbid overtaking.
- They know and understand that most incidents occur on bends. Therefore, when deciding on the line to take and the speed at which it is possible to negotiate a bend safely they should take into account factors such as adverse camber, uneven or slippery surfaces, other road users or weather conditions (especially moped and motorcycle riders).
- They know and understand how different brake systems affect and differ from vehicle to vehicle.
- They know and understand that larger vehicles may need a greater distance to stop and that harsh braking can destabilise a load.
- Especially bus, van and lorry drivers know and understand the principles of the various endurance braking systems (retarders) that may be fitted to large vehicles (e.g. electric, engine-driven, exhaust brakes).

5. Drivers/riders know and understand the importance of recognizing and predicting the behaviour of other road users and of recognizing and anticipating road-based hazards and risks.

- They know and understand defensive driving/riding techniques.
- They know about the importance of reflected and forward-thinking decision-making and decision-taking (e. g. own individual reaction time).
    - They know about and understand the ability and the necessity of self-monitoring and self-reflection.
    - They know and understand how aspects of emotional states (anger, joy…), stress or fatigue may affect their ability to drive/ride safely and responsibly.
    - They know and understand how to assess their own ability to drive/ride safely and responsibly against best practice.
    - They know and understand how to read the road ahead and prepare for the unexpected as factors that might cause them to skid, such as oil or gravel on the road.
    - They know, understand and are aware of the driving/riding risk factors related to various weather and road conditions in day and night time.
        - Especially moped and motorcycle riders know and understand how to identify and respond to changes in road surfaces and weather conditions.
        - Especially moped and motorcycle riders know and understand they are at greater risk in adverse weather condition due to greater exposure.
        - Especially moped and motorcycle riders know and understand the effect that unsuitable gear selection can have on the performance of the vehicle, the rider’s ability to ride safely and responsibly and the environment.
        - Especially bus, van and lorry drivers know and understand the risks associated to high sided vehicles in different weather conditions.
        - They know and understand why a skid may occur, how to avoid skids and how to correct them.
    - Especially moped and motorcycle riders know and understand the importance of riding assertively to maximize awareness of their presence and position their machine to maximize visibility to other road users.

    - They know about and understand the importance of safety margins and braking distances by various changes in road surface, traffic, weather conditions, lighting or other factors such as their own fatigue or road conditions.
    - They know and understand how to coordinate front and rear wheel braking safely if it is possible.
- They know about and understand the 'human risk factors' and specificities of other motorized and non-motorized road users by reflecting that particular groups of road users e. g. pedestrians – especially children – animals, elderly people, those with diminished hearing or eyesight or cyclists may require special consideration.
- They know and understand that different loads and types of (larger) vehicles require different driving/riding behaviour.
- They know and understand the importance of using a safe, systematic routine to make sure that they are always in control of their vehicle and travelling at the right speed, in the right gear and in the correct position on the road for the conditions.
- Especially heavy vehicle drivers know and understand that other road users may not appreciate that their vehicle needs more space to manoeuvre, particularly when cornering, at junctions and on roundabouts.
- Especially heavy vehicle drivers know and understand that large vehicles travelling at speed can create a vacuum effect and draw cyclists or pedestrians under the wheels of the vehicle.
- Especially drivers of larger vehicles know and understand that the stopping distance for their vehicles is often farther than that for e. g. cars and therefore a larger separation distance is required to keep a safe driving space.
- Especially bus, van and lorry drivers know and understand the risks of stowaway and smuggling when driving cross border.
- Especially bus drivers know and understand the risk of driving fast on bus lane when speed differs a lot between parallel lanes.

6. Drivers/riders know and understand that alcohol and drugs are important risk factors.

- They know and understand the risks and legal implications around the use of alcohol and legal or illegal drugs and substances when driving/riding.
- They know and understand how alcohol, legal and illegal drugs increase risk and will affect their ability to drive/ride safely and responsibly in traffic.
- They know and understand that the use of alcohol and drugs in combination, including some that do not usually have any negative effect when taken alone, can have a serious impact on their ability to drive/ride safely and responsibly.
- They know and understand that passengers who are drunk or under the influence of drugs may create distractions or get in the way of their ability to drive/ride or to scan their environment effectively.

7. Drivers/riders know and understand that their risk awareness in unknown areas has even to be even higher than in familiar areas.

- They know and understand that the layout of roads, junctions etc. in other countries may be slightly different and that hazard familiarized and planning will have to be adjusted to take account of these variations.
- They know and understand the familiar of other road-users is not always predictable particularly (e. g. they may use different informal signals to other road users) if they are driving/riding in a country with which they are not familiar.
- They know and understand how and why to adjust their driving familiar to take into account any variations in driving practice in different countries.
- They know and understand the risks of leaving their vehicle unlocked and unsecured when unattended.

8. Especially bus drivers know and understand that they take responsibility for the physical integrity of passengers and their load.

- They know and understand the effect that passengers may have on their ability to drive safely.
- They know and understand that communicating with passengers while driving may distract attention away from the road.
- They know and understand the risks for passengers associated with sudden use of the accelerator, brakes and steering.
- They know and understand where and how to pick up and set down passengers safely.
- They know and understand current legal requirements for the fitting and use of seatbelts and advise passengers that where seatbelts fitted they must be worn.
- They know and understand how to deal with the effects of social pressure and distractions caused by passengers.
- They know and understand that they have not use hand-held equipment such as a microphone while driving.

C.1.3 Behaviour at and near crash sites (includes first aid matters)

Main goal: Drivers/riders know about behavioural and *theoretical* first aid matters at a crash site. They are able to internalise rules and regulations of first aid aspects to enable and protect themselves and any other road user safely and responsibly.

Knowledge and understanding:

1. **In the case of an emergency, drivers/riders know that personal safety always comes first and anyone can become the victim of a crash.**

- They know and understand the principles of first aid and the limits of their own first aid skills.
- They know and understand where the first aid kit is, if carried, how to access it as well as how and when to use it.
- They know and understand that in many crash situations there is a high likelihood of other road users also becoming casualties.
- They know and understand the importance of making sure that no further injury or damaged is caused.
- They know about and understand hazard awareness at or near the crash site:
    - Approaching the crash site they know to slow down and pull off the road, they form a rescue alley with other drivers and contribute to emergency relief.
    - They know about and understand emergency measures:
        - When appropriate they know and are able to stop their vehicle turning off the engine at a safe place and distance from the scene of the crash.
        - If needed they rescue everyone from the danger zone. They are able to secure themselves and others in wearing and tightening a safety vest.
        - They secure the crash site and are able to ensure adequate warning to other road users by immediately turning on the hazard warning lights and positioning a warning triangle at an appropriate distance before the crash site.

2. **In the case of an emergency, drivers/riders know about theoretical principles of first aid. Their basic knowledge allows them to effectively respond in the event of a crash situation.**

- They know how to contact the emergency services in the country in which they are driving/riding.
- They know and understand the danger of moving casualties e. g. where there is a possibility of spinal injuries, unless there is an absolute need e. g. danger of fire.
- They know and understand that they should not try to remove a crash helmet from a motorcyclist unless there is a compelling reason to do so, and know the safest method of removing a crash helmet when it is necessary.

First aid matters at the crash site:

- Every minute counts: Drivers know and understand that there is an inverse relationship between the time it takes for a casualty to receive appropriate medical care and their chances of survival. They know and understand the principles of first aid e. g. how to:
    - check for a response
    - check and clear the airway
    - apply CPR to maintain circulation and breathing
    - how to apply the same procedures to infants
    - deal with unconscious casualties
    - reduce bleeding
    - deal with shock

- They know and understand why to talk to crash victims and never leave them alone until the rescuers arrive.
- They know and understand the vital importance of providing ambulance and medical services with accurate information about the status of casualties – calling the emergency services and knowing about:
    - what has happened
    - where it happened
    - the number of casualties
    - what the injuries are
    - waiting time.

- Trained first aiders first check the vital functions of the crash victim.

3. Drivers/riders who are involved themselves in a crash and are not badly injured know about measures to prevent that it does not come to secondary crashes.

- If the vehicle is roadworthy, they remove it from the hazard zone.
- If the vehicle is not roadworthy, they turn on the warning lights and set up a warning triangle.

4. Drivers/riders take suitable action if their vehicle breaks down or has a tyre blow-out

- By a tyre blow-out drivers they know and understand:
    - it will make steering difficult, especially if it is the front wheel,
    - that if they carry on driving their risk further damage to the vehicle,
    - rear wheel tyre blow-outs will be more difficult to detect, especially on twin-wheeled or multi-axle vehicles.
- They know and understand the benefits of wearing protective clothing such as a high-visibility jacket or protective footwear.
- They know and understand if, when and where it is necessary or a legal requirement to carry a fire extinguisher as well as know and understand the various types of fire extinguisher and which fires they are intended to tackle.
- They know and understand that they should never put themselves in danger when tackling a fire.

5. **Drivers/riders enhance their skills lifelong.**

- They independently and adequately refresh simple first aid rules.

C.1.4 Safety check of vehicle (includes basic technical matters)

Main goal: Drivers/riders are able to ensure their vehicle is roadworthy and technically works in a way that they themselves, their passengers and their loads are safe. They know and understand how and when to use, if required, technical assistance systems. They know and can identify when it is necessary to have their vehicle checked by an expert.

Knowledge and understanding:

1. **Drivers/riders know and understand how to access guidance on the best way to carry out routine vehicle checks either through the vehicle's handbook or through on-board or online electronic systems.**

- They know and understand how to use the manufacturer's handbook/webpage/app etc.
- They know and understand the impact that failure to carry out appropriate checks will have on the ability to drive/ride safely and responsibly and take remedial action.
- They know and understand how to interpret the information provided by on-board electronic systems and analogue displays e. g. oil pressure or water temperature gauges.
- They know and understand the meaning of on-board warning lights and audible alarms and how to respond to them.
- Especially moped and motorcycle riders know and understand how to check the brakes are working, suspension or shock absorbers, the drive chain for correct tension and wear, that the rear wheel is correctly aligned, what electrical equipment to check.
- They know and understand how to check what sort of fuel and engine oil their machine uses and the effect of filling a machine with the wrong sort of fuel (as increasing the amount of environmental pollution).

2. **Drivers/riders know and understand their responsibility for vehicle safety and maintenance (especially bus and lorry drivers).**

- They know and understand that the vehicle handbook identifies which checks can be carried out by the owner or user and explains how and when to carry them out, either directly or using the vehicle's instrumentation.
- They know and understand what to check for during a vehicle security check and where to find any applicable check lists.
- They know and understand that different vehicles may permit different levels of access to check and maintain fluid levels, check electric systems etc. (when, what, where and how) and some checks or maintenance on some vehicles should only be carried out by qualified mechanics.
- They know and understand how to check that tyres are correctly fitted and inflated, meet legal requirements for tread depth, such as by checking tread-depth indicators and are free from defects that would make them unsafe or illegal to use.

- They know and understand the rules that apply to the fitting of different types of tyres.
- Bus drivers know and understand
    - that all passenger carrying vehicles (PCVs) are required by law to carry a fire extinguisher and for which fires their fire extinguisher is suitable and how to use it.
    - how to that check seatbelts, fire extinguishers and emergency exits are in good working order and how to report them when they are not.

3. Drivers/riders know about and understand mechanical aspects with a bearing on road safety. They familiarize themselves with their vehicle and know how to use or respond to any (in-)vehicle assistance systems.

- They are able to familiarise themselves with the systems on their vehicle which allow them to respond to specific situations safely and quickly.
- They are able to monitor the performance of in-vehicle systems.
- They are able to operate the systems installed on their vehicle and understand that different vehicles may have different systems.
- They know how and understand why to check the fluid levels, engine oil, engine coolant, brake fluid, windscreen washer fluid, and fuel.
- They know about and understand the correct use and care of tyres, the tyre pressure recommendations and their impact on secure vehicle handling and environmental aspects and know how to replenish them when needed.
- In case of technical system failure, they know how to react appropriately.
- If embedded in the national legislation they know about the legal order to carry a first aid kit, warning triangle and safety vest and know the benefits of carrying a spare wheel and any other equipment such as basic tools, set of light bulbs and other legally required equipment.

4. Drivers/riders know about effects of physical forces during driving/riding.

- They know and understand the technical basics of fundamental working principles in the context of the vehicle system.
- They know about and understand mechanical aspects with a bearing on road safety such as friction, rolling resistance, effects of different charges, in ascending and descending slopes aerodynamic resistance, cornering force, centrifugal force and breakdown torque.
- They know about and understand that correct use of the throttle will have positive effects on machine performance, safety and the environment.
- Especially motorcyclists know and understand how to coordinate throttle, lean and steering input to change the direction of the machine and understand the importance of using a riding position that allows them to use all control elements smoothly.
- Especially motorcyclists know and understand the principles of adverse camber and its relationship to speed and steering input.

5. **Drivers/riders know about the meaning of technical assistance systems and dashboard warning lights and alarms.**

- They know and understand how to effectively use (intelligent) technical assistance systems (e. g. cruise control systems, reversing camera systems, proximity sensors, etc.) for their own and others safety.
- They know and understand how aids such as ABS can help in safe and effective braking and know and understand when to use them.
- They are prepared to have a competent person check out any alarms or warnings when necessary.
- They know and understand the operation of low-fuel, mpg or range indicators and how much fuel is left in the tank when low-fuel indicators operate.

6. **Drivers/riders recognize facts about technical standards, their understanding and correct use/application as a basic module of a lifelong-learning-process.**

- They know and understand where to find specific information that enables them to stay updated with new and required content.
- They know and understand that vehicle technologies are evolving all the time and they may change between models.

C.2 Skills: Driving and riding aspects (practical driving/riding competences)

C.2.1 Preparation of vehicle, load and journey

Main goal: Before they start driving/riding drivers/riders are able to ensure that they and their passenger(s) and/or load and their vehicle itself are fit to drive/ride. Drivers are able to consider all facts to make their journey safe.

Skills and behaviour:

1. **Drivers/riders are able to meet all volitionally legal aspects of load and journey.**

- They are able to ensure their vehicle meets all legal requirements, is roadworthy and in a good working order to be safe on the road.
- They are able to make sure their driving licence is valid for the category of vehicle being driven/ridden.
- They are able to make sure they have valid insurance for the use they intend to make of the vehicle.
- They are able to make sure that the correct documentation is in place even if they do not own the vehicle.
- They are able to make sure that they have the required documentation if they are transporting dangerous goods (especially lorry drivers).
- They are able to make sure loads are secure and distributed according to the manufacturer’s guidelines.
- They are able to check the condition of the load at regular intervals.
- They are able to pack loads safely and when loading the vehicle, they do it in a most secure way

- They are able to find out the exact content of their load and, where dangerous, hazardous or obnoxious goods are involved, they make sure that they, their vehicle and the processes they use to handle those goods comply with the law (especially lorry drivers).
- They are able to ensure that any animals are carried securely and with appropriate restraints.

2. Drivers/riders are able to ensure to use their vehicle legally by knowing vehicle manufacturers specifications about carrying loads.

- They are able to anticipate that different vehicles may have very different monitoring and information systems and that they must familiarize themselves with each new type of vehicle that they drive/ride.
- They are able to check there is enough fuel of the right type.
- If especially drivers use a trailer/caravan they are able to reflect all legal requirements and insurance aspects as well as driving licence regulations on towing trailers/caravans. They are able to ensure it is suitable and legal for use on the road.
- If especially drivers use a trailer/caravan they are able to safely and correctly couple and uncouple a trailer/caravan to the vehicle.
- If motorcycle drivers using a sidecar they are able to make sure the sidecar is safely and correctly coupled, safely and correctly aligned to the machine and road legal.

3. Drivers/riders are able to make routine checks of their vehicle roadworthiness and take responsibility for the safety of their passengers and their load

- They are able to check registration plates are fitted, visible and legally compliant.
- They are able to check there is no damage that would affect their ability to drive/ride the vehicle safely, make the vehicle illegal and have an adverse effect on its environmental impact.
- They are able to conduct first use *walk-round* and pre-journey checks and configure the vehicle correctly.
- They are able to check all electrical equipment, technical systems (e. g., heating, air-conditioning, tachograph), needed liquids, controls, horn, lights and reflectors, tyres and spare tyres are in good working order and all viewing devices are clear and adjusted to give the best view.
- They are able to check
    - all fluid levels,
    - that the horn is working correctly,
    - that all lights, reflectors and mirrors as well as all tyres, including any spare, are in a legal, good working order,
    - that all lights, reflectors and mirrors are correctly adjusted and clean,
    - that tyres are correctly inflated legally compliant,
    - that there is no damage or fluid leak,
    - that any equipment is in good working order.
- They are able to make routine checks of their vehicle and are able to detect problems with the vehicles suspension and braking systems, tyres, lights and direction indicators, reflectors, the exhaust system and the audible and visible warning device.

- They are able to make all recommended basic vehicle safety checks prior to their journey to ensure that all mirrors (and windows) are clean, all lights (e. g. front and rear fog lights) and reflectors (e. g. dipped and full reflectors) are working.
- Especially bus drivers are able to check that fire extinguishers, emergency exits and seatbelts are in good working order.
- Car, bus and lorry drivers are able to detect problems with their interior and exterior mirrors, windscreen, wipers and seatbelts.
- Especially car, bus and lorry drivers are able to reflect the necessity of adjusting the head restraint and seating position correctly for both comfort and maximum protection and know how to adjust them to enable safe driving.
- Especially motorcyclists are able to check
    - that they can move the handlebars easily,
    - that there is no obstacle while moving.
- They are able to ensure that any loads are carried securely and incompliance with the vehicle manufacturers specifications and that the insurance for the vehicle covers any proposed carriage of passengers or loads.
- They are able to **seat** themselves to enable them to use controls correctly and reach an optimum of traffic observation and safety.
- They are able to reflect the importance of legal requirements for appropriate seating for all passengers, but especially for babies (e. g. baby booster in vehicle) and young passengers.
- Especially drivers are able to reflect the importance of wearing seat belts.
- Especially motorcyclists are able to make sure
    - that they have a helmet and eye protection that meets legal requirements,
    - that they have clothing, footwear, gloves, etc. that will maximise their ability to ride safely and responsibly,
    - that passengers have a helmet that meets legal requirements, wear their helmet correctly, and are properly dressed for the journey,
    - passengers are seated legally, correctly and securely,
    - passengers understand how they should behave when being carried.
- They are able to manage the effect passengers may have on the handling of the vehicle/machine and their ability to drive/ride safely.
- They are able to anticipate effect that extra loads may have on the vehicle’s handling characteristics.
- They are able to where required, operate any bespoke loading or restraining systems, such as roll cages or wheeled racks, following the manufacturer’s guidance (especially lorry drivers).
- They are able to make sure that - if their load falls in the category of dangerous, hazardous or obnoxious goods – the corresponding hazard warning plates are fitted.
- They are able to make sure that - if their load is indivisible and extends beyond the dimensions of their vehicle - suitable marker boards are fitted, suitable lamps and reflectors are fitted, an attendant is carried and the police are given notice as appropriate.
- They are able to ensure the completeness of the security equipment in their vehicle, are able to ensure that the expiry date of the security equipment has not been exceeded.
- They are able to use mandatory safety and emergency equipment correctly.

- They are able to take care that they and their passengers enter and exit the vehicle safely by taking precautions as consciously dismounting from a machine or opening and closing the doors of a vehicle.
- If especially drivers using a trailer/caravan they are able to anticipate height or width restrictions on their route before starting.

4. Bus drivers are able to guarantee a secure and convenient journey for all passengers, their loads and their animals.

- They are able to enforce the regulations that apply to passengers and their behaviour, and make sure that they do not carry more passengers than the vehicle is designed for, or the law allows.
- They are able to make sure of the safety and comfort of passengers at all times, and they are able to
    - make sure the doors are not opened when the vehicle is moving and make sure that emergency doors are unlocked when the vehicle is in use,
    - minimise gaps from the kerb when stopping and provide reasonable help to disabled people, including wheelchair users, to board and alight, and correctly use any system or equipment that is fitted to the vehicle for this purpose,
    - make sure that interior lights are turned on at night, or if it's gloomy during the day,
    - stop in a safe, suitable and appropriate place to allow passengers to enter and exit safely, and to make sure that the doors are only opened when the vehicle is stationary,
    - drive smoothly and in a controlled and progressive way to maximise the safety and comfort of passengers because sudden acceleration/deceleration can cause danger or discomfort for passengers, particularly if they are standing or moving on the vehicle.
- They are able to distribute luggage loads safely and to minimise instability of the vehicle.
- They are able to make sure that when loaded their vehicle will not exceed its maximum authorised mass and that the load can be carried within the vehicle's maximum permitted gross axle weights.
- They are able to respond correctly to the use of the bell by passengers.
- They are able to take payment, issue and/or check tickets safely and in line with their organisation's procedures.
- They are able to manage the security of luggage to make sure that the risk of theft or loss is minimised.
- They are able to watch out for and be aware of possible threats to their personal safety, passengers' safety and load.

5. Drivers/riders are able to assess and self-organized respond to their own and other passengers physical, mental and emotional state at the start of the journey (fitness to travel).

- They are able to estimate to only use their vehicle if they feel fit enough or feel capable for a safe and responsible driving.
- They are able to assess whether their ability to drive/ride safely and legally is affected or likely to be affected by the use of over-the-counter medicines, prescription medicines, illegal or controlled substances or alcohol.
- They are able to accept the legal limits on alcohol and know that some medical treatment including herbal remedies can cause drowsiness, impair judgement and can change the self-assessment of driving skills.
- They are able to reflect about changes in driving/driving behaviour due to the influence of alcohol, drugs and medicinal products, state of mind and fatigue and assess whether their own ability to drive safely and responsibly will be affected.
- They are able to assess whether their ability to drive safely and legally is affected by their emotional state, a short or long-term physical condition or tiredness.
- They are able to manage their diet and fluid intake, taking shift patterns into account, to make sure they are fit to drive and to minimise tiredness.
- They are able to recognise if they normal sleep patterns have been disrupted, for example when driving at night or on night or rotating shifts, and they are aware of where this may affect their driving ability.
- They are able to continuously monitor whether they are tired while driving and take appropriate action.
- They are able to make alternative arrangements where their ability to drive/ride safely and responsibly is impaired by any factor.
- They are able to seek support to make any changes necessary for them to drive/ride safely and responsibly if they have a long-term physical condition
- Especially bus and lorry drivers are able to operate the tachograph correctly.
- They are able to ensure that all occupants are fit to travel prior to their journey and know about the effects passengers may have on their ability to drive/ride.

6. Drivers/riders are able to effectively plan their route at the start of their journey. They always choose an appropriate, safe and convenient route.

- They are able to plan an appropriate route taking into account their level of experience and their knowledge of road and weather conditions (especially motorcyclists).
- They are able to plan their route taking into account the location of any height, width, length or weight or access restrictions that apply to the vehicle they are driving.
- They are able to plan their route to take account of any road user charging schemes that apply to the vehicle they are driving.
- They are able to plan their route to include rest break and overnight parking locations, where appropriate.
- They are able to estimate environmental impacts (e. g. carbon dioxide, carbon monoxide) when deciding on the need to use their vehicle for the journey.
- They are able to remove any unnecessary items from the vehicle to reduce weight.

- They inform themselves before taking off and during journey for early warning of incidents, road closures or any other information, which could influence the planned journey.
- They are able to calculate enough time for traveling to avoid pressure of time, stress, precipitance or hazards.
- They are able to avoid speeding through forward planning.
- They are able to calculate time required for the journey in ideal conditions but also are able to anticipate needed breaks for refuelling gas or taking refreshments as well as additional time for adverse travel conditions.

7. Drivers are able to couple and uncouple a trailer and vehicle safely (especially in combination with Category E (BE,C1E,CE,D1E,DE).

- They are able to position the vehicle in relation to the trailer ready for coupling and uncoupling and make sure that the trailer's brakes are applied prior to coupling and uncoupling.
- They are able to make all the necessary connections when coupling the trailer and test that coupling has been correctly achieved so vehicle and trailer systems work properly and the vehicle is safe to drive.
- They are able to select a safe location for uncoupling the trailer and disconnecting all connections.
- They are able to drive away from the trailer carefully and make sure the uncoupling has been achieved.

C.2.2 Vehicle handling/ manoeuvring: Guide and control car

Main goal: Drivers/riders have profound knowledge and technical driving/riding skills of maneuvering the vehicle. They reliably and exactly know which operation and observing instruments they have to use to guide and to control their vehicle correctly. Controlling and behaviouring the vehicle has to be graduated as an automatism: Practical handlings are behaviour and reflected. They pay attention to environmental aspects as well as to the safety of other road users and themselves. They are able to critically monitor and estimate their own driving/riding performance and driving/riding skills. They are willing to increase driving/riding skills if needed.

Skills and behaviour:

1. Drivers/riders are able to enter and leave the vehicle safely and appropriately.

- They are able to check for oncoming other road user before entering/leaving the vehicle and are able to remind their passengers to do so, too.
- They are able to use best practice techniques to ensure their personal security when parked and to secure their vehicle against thefts.
    - Especially drivers secure their vehicle by locking doors, trunk compartment, locking the steering wheel and keeping baggage out of sight
    - Especially moped and motorcycle drivers secure their machine by locking steering wheel and storage compartment.

- They are able to consider the rules in the road traffic regulations that apply when leaving their vehicle on different roads and in different lighting and weather conditions.
- They are able to set the position of the steering wheel/handlebar and brakes and to select a gear to increase vehicles security.

2. Drivers/riders are able to *start* and *stop* the vehicle safely and appropriately.

- They are able to capably and successfully master basic driving/riding skills (starting, accelerating, steering, breaking, stopping).
- They are able to handle a correct starting procedure by
    - starting the engine correctly by knowing the correct starting procedure,
    - make progress smoothly and progressively,
    - stopping the vehicle safely,
    - steering and coordinating the use of controls attentively.
- In the event of a stall they are able to recover quickly and effectively.
- They are able to steer the vehicle safely and responsibly in all road and traffic conditions, paying attention to any weight, height, width, length and ground clearance restrictions.
- They are able to continue to steer the vehicle safely and responsibly while operating other controls.
- They are aware of the importance of using a safe and systematic routine to move off safely and smoothly in any situation; they are able to coordinate the use of controls, know why to observe and signal appropriately and only move off when it is safe and hazard margins to other road users are moderate.
- They are able to apply to a safe, systematic approach when stopping and are able to estimate their stopping distance at different speeds and respects speed limits.
- They are able to coordinate the use of gears with braking or acceleration and to assist safe parking.
- They are always able to stop within the distance they can see clearly.
- If moving on a road, which is so narrow that oncoming vehicles can be endangered, they slowdown to be able to stop at minimum of half of the over sighted distance.
- They are able to start and stop safely on any incline – uphill or downhill – position in all weather conditions and in forward and reverse gear.
- They are able to select a safe, legal and convenient place to park and, once stationary, secure the machine on gradients as well as on the level.
- They are able to use the parking brake, where fitted, and appropriate stand, to hold the machine safely as well as if needed, select a gear to hold the machine safely when parked.
- If especially drivers using a trailer/caravan they are able to anticipate that the way they need to handle a vehicle will change and they are able to deal with those changes.

3. Drivers/riders are able to show and use the different and graduated *functions, locations* and are able to operate consciously, safely and correctly to all the *onboard hand and foot controls* and switches.

- They are able to show where all the switches and lights are and to handle their various settings as well as to switch these on and off if appropriate or needed.
- They are able to read, understand, check and respond correctly to on-board and measurement gauges to ensure to monitor operations and performances of their vehicle safely and appropriately.
- They are able to position their feet to operate the foot controls correctly.
- They are able to locate the gear selector and are able to select gears and block change; in an automatic vehicle, they are able to select park, drive, reverse and neutral.
- They are able to select the correct direction indicator in the safest way.
- In case of technical system failure, they are able to react appropriately.

4. Drivers/riders are able to position the vehicle correctly to carry out manoeuvres safely.

- They are able to interact appropriately with any driving/riding, stability or braking aids, e. g. lane control, intelligent speed adaptation, automatic braking systems, ESP or traction control.
- They are able to reflect on their own overall ability to drive/ride safely and responsibly. They are able to identify and implement appropriate strategies to master any problem or deficiencies, which they identify.
- They are able to **manoeuvre** their vehicle safely, responsibly and in an eco-friendly driving/riding style by coordinated use of gear, accelerator, and brakes and steering/handle bar.
- They are able to change gear smoothly and in good time and are able to reflect the benefit of timely gear selection when ascending and descending gradients, particularly when loaded.
- They are able to select the most suitable gear for the speed of the vehicle and can coordinate it with using the clutch and accelerator smoothly as well as brakes correctly to achieve and maintain a suitable speed in any given road and traffic condition/situation.
- They are able to drive/ride smoothly and in a controlled and progressive way to avoid destabilising any load.
- They are able to coordinate the use of gears – forward and reverse gears – with braking and acceleration in a convenient and eco-friendly procedure.
- They are able to position the vehicle correctly to carry out manoeuvres safely.
- They are able to reflect the effects of sudden use of the accelerator, brakes or steering whilst manoeuvring.
- They are able to choose the safest method of steering a steady course and to show where and how to hold the steering wheel without drifting while operating other controls in all road and traffic conditions.
- They are able to reflect the effect that the vehicle’s turning circle has on steering the vehicle accurately and safely.
- They are able to use the accelerator smoothly and progressively to achieve and maintain a suitable speed.

- They are able to brake efficiently with a good deceleration sense using appropriate braking techniques to behaviour fuel consumption.
- If especially drivers using a trailer/caravan they are able to reverse and steer the vehicle with the trailer/caravan attached.
- They are able to anticipate what clearances are necessary for the vehicle during different manoeuvres or activities.
    - Especially drivers of heavy vehicles are able to anticipate the additional time to accelerate and decelerate when their vehicle is laden and allow for this when moving off and stooping,
    - Especially drivers of heavy vehicles are able to anticipate the amount of space they need to turn and to estimate the way that their vehicle overhangs kerbs and verges.
    - Especially bus drivers are able to anticipate the potential impact of street furniture especially at bus stops.
- If using a sidecar Especially motorcyclists are able to take account of the effect of the sidecar on machine dynamics while riding.

5. **Drivers/riders are able to reflect the importance and different usage situations of interior and exterior mirrors for safe and responsible driving/ringing and always are aware of blind spot aspects.**

- They are able to adjust and correctly set as well as to always use the different mirrors of the vehicle appropriately for a safety check at any specific situation.
- They are able to anticipate where the blind spots are and are able to check them proactively.

C.2.3 Traffic observation

Main goal: Drivers/riders are able to scan their surrounding area for other road users and possible hazards in any circumstances to ensure their own life and vehicle are safe. A responsible traffic observation enables them to act and react proactively in anticipating and responding to other road users' behaviours and driving/riding skills.

Skills and behaviour:

1. **Drivers/riders are able to alleviate hazardous situations by being aware of them as soon as possible. They can act sooner by scanning and planning their surroundings by 360 degrees.**

- They are able to use a safe and systematic routine e. g. mirror-signal-manoeuvre, including blind spot checks, at all times when carrying out any manoeuvre in traffic.
- They are able to decide which information and observation aspects are important and what are not or less important to identify precursors or clues to hazards and prioritise hazards correctly.
- They are able to respond to hazards by using effective scanning techniques in all driving conditions and at all times of the day and night.
- They are able to maintain attention when faced with distractions.
- They are able to judge distances by assessing speed and distance of traffic.

2. **Drivers/riders are always aware of (vulnerable) road users and drive/ride defensively.**

- They are able to identify other road users (pedestrians especially children and elderly people, trams, animals/pets, bicyclists etc.) to consider their perspectives and to anticipate their behaviour.
- They are able to reflect the importance of scanning the road ahead for reasons to change their position, such as roadwork's and taking timely action to reposition themselves.
- They are able to anticipate that their own driving/riding will affect traffic behind them. So they are always aware what is going on behind and which mirrors to use for their intended actions.
- They are able to reflect that use of reversing aids does not replace the need to manoeuvre well and take all-round and effective observations.
- They are able to check for oncoming cyclists, pedestrians and other traffic before opening their door.
- Especially drivers of heavy vehicle are able to manage the risk that other road users may not give them enough space to manoeuvre.
- When using a bus lane especially bus drivers are able to exercise extra caution when undertaking slow-moving or stationary traffic and be prepared for the end of the lane where other traffic may be changing position
- If especially drivers using a trailer/caravan they are able to anticipate that a trailer/caravan may increase the number of blind spots so they may need to use aids to better observe, such as extra mirrors.

C.2.4 Vehicle positioning and speed adaption

a) Speed adaption
b) Safety margins
c) Hazard avoidance
d) Eco-driving

Main goal: Drivers/riders are able to drive/ride safely, responsibly and eco-friendly. They apply and master adequately demanded skills-based manoeuvring as well as rule-based and strategic-based requirements in any specific traffic situation in all road conditions. Drivers/riders are always aware of hazards and act accordingly in responsively manoeuvring their vehicle by changing speed or direction. They master driving/riding with the help of routines sufficiently in advance and have enough reaction time for needed or planned manoeuvres.

Skills and behaviour:

1. **Drivers/riders are able to manoeuvre their vehicle in a safe, responsible and eco-friendly manner which requires a safe and systematic routine when making any possible movement.**

- They are able to plan their driving/riding to ensure that they are in the appropriate gear, travelling at the appropriate speed and are in the best position on the road to be able to respond to hazards when they occur, in any road, traffic, lighting or weather conditions and at any time of the day or night.
- They are able to comply with traffic rules and regulations.

- They are able to make sure that they follow relevant rules and regulations, even if their journey will take them into an area where they change.
- They are able to estimate their own vehicle dimensions.
- They are able to maintain control when negotiating all types of junctions and crossings, taking into account the dimensions of the vehicle.
- They are able to negotiate all types of junctions, roundabouts, pedestrian crossings, train or tram crossings safely.
- They are able to join and leave motorways, dual carriage ways or other high-speed, multi-lane roads safely if it is legal to do so.
- They are able to apply to a safe systematic routine when negotiating all types of **junctions**. At junctions they are able to adapt to the rules as they go left, right and ahead, emerge into traffic flow as well as cross the path of oncoming traffic safely and responsibly.
    - They are able to acknowledge the right of way rule when approaching a junction and are able to apply it. They do not switch lanes when in the middle of a junction.
    - They are able to apply to learned aspects of priorities at all junctions and how to position their vehicle correctly on the approach.
    - They are able to apply to decide when and how to signal their intention of manoeuvring to other road users in signal turnings.
    - They are able to react and are aware of other road users who may not be positioned or signalling correctly and are prepared to make allowances for them
    - They are able to perceive, to assess and to decide how to turn left or right safely from a major road to a minor road.
    - They are able to perceive, to assess and to decide how to emerge left or right safely from a minor road to a major road.
    - They are able to perceive, to assess and to decide how to approach and emerge safely at crossroads, staggered crossroads and roundabouts when going, ahead, left and right and they use the safest method when turning with oncoming traffic.
    - They are able to perceive, to look for and to read road markings and lane destination markings and adhere to them.
- If especially drivers using a trailer/caravan they are able to anticipate that it may be necessary to take up a different position on the road when dealing with junctions or roundabouts.

2. Drivers/riders are able to join and to leave a *motorway*, a *dual carriageway*, a *highway* or an *Autobahn* safely.

- They are able to join or to leave a dual carriageway or a motorway safely from the left or the right and can change lanes safely.
- They are able to anticipate and respond safely to other road users joining a motorway or dual carriageway.

3. Drivers/riders are able to reflect and to perceive about the *importance of speed*.

- They are able to drive defensively and internalized the interrelationship between speed, distance and stopping distance.
    - They are able to reflect that a vehicle's overall stopping distance consists of two parts: first their thinking distance when they decide to stop, and second their braking distance during which they start to brake and finally stop the vehicle.
    - They are able to estimate the stopping distance at different speeds and accepts speed limits.
    - They are able to get their vehicle stopped in the distance they can see to be clear and in doing so, they are able to judge a safe separation distance.
    - They are able to avoid getting into skids or losing control of the vehicle, but are able to respond appropriately if their vehicle does skid.
    - They are able to use the vehicle's endurance braking system (retarder) when needed/or available (especially drivers of bus and lorry).
- They are able to permanently control their speed adapting to traffic, road and weather conditions as well as visibility.
    - They are able to position their vehicle to avoid hazards on the road and always creates and maintains a safe driving space.
    - They are able to identify and respond to changes in road surfaces and all road, traffic and weather conditions to ensure a secure stop.
    - They are able to keep a safe distance from the vehicle ahead, which is corresponding to their speed in specific weather conditions.
    - They are able to select the most suitable gear for the speed of the machine given road and traffic conditions.
- They are able to accelerate normally , to brake gently and to always drive defensively
- When necessary they are able to adjust their speed smoothly and in good time with the use of brake and shift operations.
- They are able to perceive how and when to switch operations and engage gears to adjust speed in specific traffic situations. They are able to carry out the process with smooth steering movements.
- They are able to carry out operations smoothly without any haste to avoid negative environmental impacts and unforeseen situations for other road users.
- They are able to perceive the relationship between speed and emissions and choose environmentally friendly speeds.
- They are able to realistically self-assess their own speed behaviour and know about thrill of speed.
- To avoid any hazard they are able to always judge speed and distance correctly and effectively.
- Especially motorcyclists are able to coordinate use of the handlebars and leaning to steer the machine accurately and safely as well as coordinate steering and leaning with the use of the throttle (and the brake if necessary).
- If especially drivers using a trailer/caravan they are able to anticipate that driving a trailer/caravan needs more time and earlier braking when slowing down or stopping.

4. **Drivers/riders are able to perceive that they always have to maintain *safety margins* (to the front and to the side) to other road users, to obstacles and possibly to animals that are located on or adjacent to the roadway or to the kerbside.**

- They are able to maintain an increased safety distance (use of a 3 second buffer distance) before coming to a foreseeable stop (e. g. at a junction or at a red traffic light) without using the gas and without changing to a lower gear and make early use of the vehicle's momentum and allow the vehicle to coast (disengaged, without gear, with gear).
- They are able to always identify a suitable place for manoeuvring and positioning their vehicle correctly and safely.
- If especially drivers using a trailer/caravan they are able to anticipate that driving a trailer/caravan needs more distance and time to overtake safely.
- They are able to decide to use a permitted lane for their movement.
    - On the road, they are able to drive/ride stably within their lane (lane discipline) by taking into account the national rules of driving (driving on the left or right) and maintaining a safe position within their lane.
    - They are able to choose the correct lane in good time for the direction they intend to go.

- They are able to perceive that a change of lanes and an overtake have to be done safely, quickly and smoothly. When changing position to a target lane they are able to anticipate and respond safely to other road users.
- They are able to perceive how a performance and handling of their vehicle will affect their ability to overtake safely and responsibly. If they pass, they allow overtaking vehicles to return to their lane.
- They are able to keep always safety margins and are able to perceive where they may and may not overtake. When overtaking of single-track vehicles (e. g. cyclists) they are able to choose an even larger safety distance.
- Their vehicle positioning and speed adaption go along with a ‘look around’ and the awareness of ‘blind spots’.
- They are able to negotiate safely in bends. They are able to stay in their lane and reflect that an overtake has to be completed ahead of the curve in good time. They are able to select a safe position, speed and appropriate gear to enter and exit curves.
    - They are able to assess bend and road characteristics correctly, adjust speed and positioning prior to entering the bend and maintain control throughout.
    - They are able to and know how to assess bends correctly on approach in selecting a safe position and speed to enter and exit a bend.
    - They are able to perceive to position the vehicle that there is sufficient distance from the edge of the road and oncoming traffic.
    - They are always able to keep a safety margin to the vehicle ahead and to maintain a safe speed and position throughout the bend.
    - They are always aware of unforeseen circumstances occurring such as uneven or slippery surfaces, adverse camber, other road users etc.

- In situations when there is oncoming traffic and insufficient space for passing they are able to anticipate not to speed up but to stop patiently in front of the constriction until the oncoming traffic has driven through.

5. Drivers/riders are able to reflect facts of hazard avoidance.

- They are able to always plan ahead and are aware of their surroundings and perceive how to prioritise hazards.
- They are able to adjust their driving/riding behaviour to take into account changes to the road surface, traffic, weather conditions, lighting or other factors.
- They are able to look always out for more vulnerable road users at any time in all traffic situation.
- They are able to position themselves in the optimum defensive position on the road.
- They know how to identify a suitable place for their own manoeuvring and how to allow for vulnerable road users when carrying out a manoeuvre.
- They are able to perceive all relevant elements of a (traffic) situation.
- They are able to interpret all observed elements.
- They are able to predict possible dynamic developments of situations.

6. Drivers/riders are able to perceive, assess, decide and act to follow the principles of *eco-friendly* and *responsible driving*.

- They are able to reflect the environmental and economic implications of their travelling.
- They are able to drive/ride in a style that contributes to road safety while also reducing fuel consumption and emissions:
  - in increasing their hazard perception
  - through driving with high care and anticipation
  - through planning skills to maximise their vehicles momentum and to be able to avoid unnecessary braking and accelerating
  - when accelerating they avoid unnecessarily high engine speeds
  - through engine braking and engine torque as well as through avoiding unnecessary weight
  - in perceiving to use the highest gear possible and in turning the engine off, when appropriate
  - in maintaining an appropriate speed.

- In case of delays/speed variations in the flow of traffic (e. g. traffic ahead slowing down or traffic restrictions), they are able to make early use of the vehicle's momentum and allow the vehicle to coast without accelerating and without changing to a lower gear.
- They are able to generally keep their vehicle in the highest practical gear to reduce fuel consumption and the production of pollutants.
- They are able to make early use of the vehicle's momentum and allow the vehicle to coast (disengaged, without gear, with gear)
- They are able to use the throttle smoothly to achieve and maintain a suitable speed.
- They are able to use vehicle's momentum in stop-start situations.

C.2.5 Communication

Main goal: Drivers/riders always signals their intentions of manoeuvring in advance to other relevant road users to prevent misunderstandings or conflicts. With the same purpose, drivers read signals of other road users.

Skills and behaviour:

1. **Drivers/riders are able to pay attention and to effectively communicate with other road users. They are able to give correct and well timed signals by using the appropriate means (e. g. using indicators, arm signals, the horn if necessary, lights if necessary).**

- They are able to anticipate actions of other road users by using all available information.
- They are able to use a safe and systematic routine e. g. mirror-signal-manoeuvre, including blind-spot checks, at all times when carrying out any manoeuvre in traffic
- They are able to give signals clearly, appropriately in time and correctly according to the road traffic regulations so other road users can anticipate their intentions of driving and manoeuvring in good time.
    - If needed they always are able and ready to show by clear eye contact or other appropriate signals that they have perceived other road users.
    - They are able to monitor and manage their own reaction to other road users in giving unmistakeable signals to show their intention as well as being able to show awareness and anticipation for other road users.
    - Not only in difficult and ambiguous traffic situations they are able to communicate with other road users.
    - They use headlights and daytime running lights during daytime according to the regulation of the country they are in.

- They are able to consider and interpret any signals from other road users, such as optical or acoustic warning signals (e. g. brake light of a vehicle travelling in front, headlight flasher, hazard warning light at the end of a traffic jam, horn), their driving/riding behaviour and other environmental stimuli in an appropriate manner.
    - They are able to behave in accordance with other road users.
    - They are able to allow for others' mistakes.
    - They are able to give other road users time to perform manoeuvres. E. g. they are able to examine whether and how quickly other road users and vehicles approaching, passing, turning, wanting to step onto the road etc.
    - They are able to interpret hand signals and body language of others especially vulnerable road users cyclists, children or elderly people and make eye contact with them when required.

2. **Drivers/riders are able and aware of observing the area in front, to the back and beside them.**

- They are able to use their mirrors appropriately if necessary and well before manoeuvring, signalling, changing speed or directions and hazards.

D. EXAMPLE OF INTERPLAY OF ALL COMPONENTS – CHANGING LANES

All competences with their specific principles and aspects were put in chapters C.1 Knowledge: Rules, theory and understanding (conditional knowledge base) and C.2 Skills: Driving and riding aspects (practical driving/riding competences) in an artificial order to make clear there is a concrete standard, which can be defined in simple words. Of course, real traffic situations are much more complex but culminate in one point: controlling and handling a vehicle has to be on an automatism level combined with a willingful safe and responsible behaviour. By reaching this level, drivers have enough time and attention to interact and communicate with other road users – a main aspect for a safe and responsible behaviour. Therefore, a driver has to bring all aspects in an appropriate order and manner together. Only if he or she is able to manoeuvre his or her vehicle safely he or she can master traffic situations responsibly, is able to interact and communicate with other road users. The combination of knowledge, skills, self-reflection, risk awareness and the understanding of 'perceiving, deciding and acting' makes a driver to a responsible one. Responsibility is related to safety, ecological driving and a willingness to assess one's own actions and the impacts of those actions to others.

Based on the example of 'changing lanes' you easily can see how all aspects of knowledge, understanding as well as basic skills and will of a responsible driver are related to each other.

Before describing the example of 'changing lanes' please image yourself in following driving situation:

It is Monday morning. You left your home much later than you usually do and of course too late for a convenient ride. You took your partners car, because yours is for maintainance at the garage. You brought your son to day-care and he did not want to stay there. You are still tired, you have not slept enough, you are in a bad mood and on to every dodge because your meeting starts at 9.00 o clock. You normally need a 60 minute-ride at work and still have 40 minutes left… Your radio plays annoying songs, you forgot your CDs at home.

In front of you, a long line of trucks is driving with maybe swifting vehicles behind it. You cannot correctly identify whether any truck will start to overtake the line or not. Then a speeder in high speed comes from behind (you are on a high-speed road). You cannot really estimate if he recognizes you in time or maybe even ascends with intention. You drive the vehicle of your girlfriend; you know it actually must be sent for repair. Do you really care if brakes still work well? Do you know how the vehicle accelerates? The road is dry and you are in a hurry because of your next appointment. Therefore, flasher out and accelerate....

Before describing the example of 'changing lanes' some preliminary considerations should be made:

Selected competences are defined by cross-situational qualities, some competences not. Selected aspects that cross over situations and that demand universal applicability are referred to as principles or minimum standards here. Thus aspects such as '*Road traffic as a system: Rules and regulations',* or *'Risk awareness and hazard* perception*'* are important competences that can be understood as a prerequisite for the entire ride and thus also the individual situation (lane change). They are important basic knowledge aspects for all driving situations and all conditions. They are not necessarily in direct relation to a specific road or driving situation.

Describing the example of 'changing lanes' you have to keep in mind that an ideal situation gets discribed. It going to show how all driving competences and individual competencies are connected with each other.

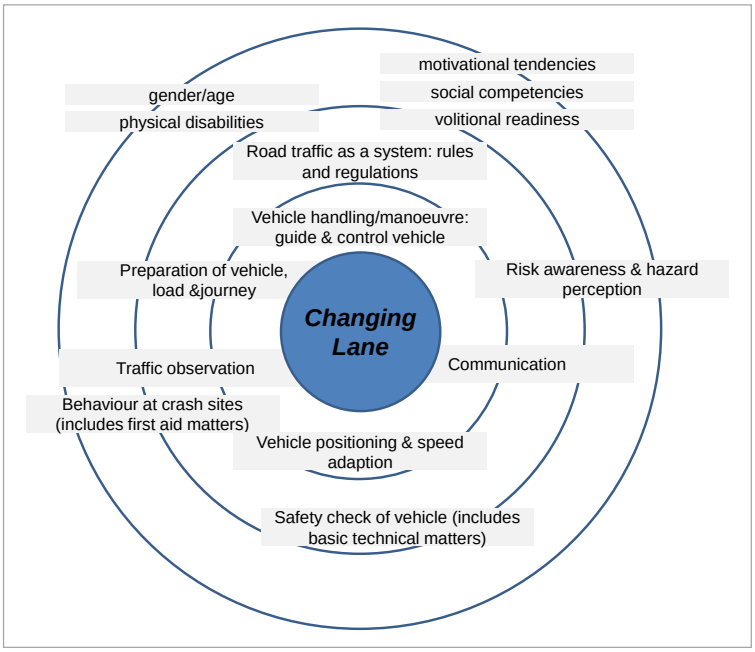

Figure 6: Complex manoeuvre 'changing lanes' and driving competences in points of contact

Making a lane change is frequently necessary, is very complex (see Figure 6) and can be quite dangerous…because you never driver alone.

Only if a driver knows about **rules and regulations** regarding to traffic he is permitted to drive a vehicle himself. Therefore, he has to ensure he is able to appropriate master traffic situations and interact with other road users. Before starting his journey, he reflects the need of his ride. He self-reflects his environmental impact through driving and ensures himself that he and his passengers are fit to drive.

He is able to make all recommended **basic vehicle safety checks** in ensuring that windows and mirrors are clean, all lights and reflectors are working and carried out prior to his journey. In doing so, he ensures that his vehicle is safe, technical, and legal roadworthy. In case of technical problems or technical failure, he knows where and is able to activate help and assistance to get his vehicle fixed. His knowledge about principles of first aid matters and **behaviour at or near a crash site** make himself to a safe driver as well as a careful and self-critical first aider. The driver knows about the legal limits on alcohol and consequence of taking medical treatment or other drugs. He and his passengers buckle up and the driver chooses an appropriate route without hurry before taking off.

Vehicle handling: If speed adjustments are necessary, braking and shifting operations are executed on time and smoothly. The driver performs the lane changing through skilled manoeuvring and steering movements. He chooses basically the gear which allows him an adequate and eco-friendly acceleration.

Traffic observation: First, the driver checks whether a lane changing is allowed and appropriate. He makes sure it is safe to change lanes and there are no pedestrians, vehicles, bicycles or other obstacles in his planned path of travel. Therefore, before changing lanes the driver observes and monitors the specific traffic situation by using his mirrors multiple times to see his adjacent and rear surroundings and always is aware of two typical blind spots. He also observes distances.

He anticipates that

- when changing lanes into a target lane, which can be switched to by both sides, it is particularly important to be aware of road users, who also could move off and switch into the target lane (in the targeted ‘gap’) at the same time,
- he has to give response triggered by the recognition of any surprising and/or dangerous driving maneuvers of other road users,
- he has to notice and react of road signs, markings or devices

Communication: The driver turns on his signal in time according to the intended direction of travel. He wants other vehicles around him to be aware that he plans on changing lanes. He re-checks his surroundings by using his side and rearview mirrors. He determines the gap he will move into and ensures nothing is in the way or disrupt the flow of traffic. He always is aware that other vehicles should not have to slow down, speed up, or change lanes because he entered their lane. Therefore, he communicates with other and does not simply flick his turn signal so that it flashes once or twice, but leaves his turn signal on throughout the entire lane change process. He performs the lane changing smoothly and quickly through, and he takes a position centered at a target lane. The entire manoeuvre time he takes into consideration signals (optical or acoustic warning signs, driving behaviour) of other road users in an appropriate manner. After he is in his new lane, he turns off his turn signal. He readjusts his speed to keep with the flow of traffic in his new lane and checks his mirrors to reacquaint himself with the new conditions behind and beside him.

Vehicle positioning/speed adaption: The driver sufficiently holds distance from other road users, the built environment and obstacles. The driver executes the lane change fluently and speedy and takes a position in the middle of the objective lane. He knows that a shortening of safety distance may be allowed, for example, in dense or slow-moving traffic, a visibility through the vehicle ahead as well as an unlock for the purpose of overtaking. On the other side an increase in safety margin is necessary, for example, in poor visibility, weather or road conditions. Therefore, he adapts his driving style to concrete and situative aspects in compliance to speed limits. He also ensures not to hinder other road users by excessively slow driving.

Risk awareness/hazard perception: The driver is able to perceive how and when to use technical assistance systems to support his manoeuvring. The driver knows about three basic hazard perception skills in connection with changing lanes.

- Keep a safe distance from other vehicles, road users and your surroundings. This allows him to have more time to detect and respond to hazards.
- Select safe gaps when changing lanes. He knows that this will enable him to change lanes or overtake without being involved in a crash.
- Identify hazards ahead, behind and to the side. He knows that this scanning is one important skill that helps him to avoid crashes.

His risk awareness allows him to drive safely and responsibly in all situations and in all road or weather conditions. He learned about specific performance standards and is willing to use them. He knows that for this manoeuvre ‘changing lanes’ there are many appropriate reasons:

- plan to turn at an upcoming intersection that requires to be in another lane,
- approaching hazards or obstacles in his lane,
- a vehicle in front is driving slower than the speed limit and he wants to pass safely,
- end of lane or
- etc.

Nevertheless, the driver not only has to know about risk factors and reasonable grounds for changing lanes. In a concrete situation he also has to decide whether his motivation to change lanes (e. g. slowing down) will be worth the risk (e. g. collision by speeding following vehicles on the left lane of the highway) and whether he is willingly and reflected able to minimizes the risk through

- adequate traffic monitoring with adequate assessment of physical and temporal distances,
- adequate communication with other road users (timely, compliant flashing) and see those intentions (e. g. stop changing lane when suddenly speeder coming from behind),
- safe acceleration and steering (thereby rely on the ideally tested safety of the vehicle before driving).

Conclusion

It has become clear very quickly that each individual competence itself does not lead to a safe and responsible driving style. Exclusively through interaction of the individual driving task-related competences (knowledge and skills), the driver's personality-related competencies (motivation and willingness) every single competence leads to a safe and responsible ride or lane change.

E. LIFELONG LEARNING

Lifelong learning (see Figure 7) includes all forms of formal, non-formal and informal learning during a person's entire life.

Learning in this way is understood as a constructive process of improving knowledge, skills, qualifications, competences and competencies through self-awareness, self-monitoring and self-management as well as using individual and special techniques of learning. It is based on different learning conditions, environments, needs and occasions. Therefore, aspects of a self-controlled learning include not only a self-organised learning but also the use of externally-organised learning courses.

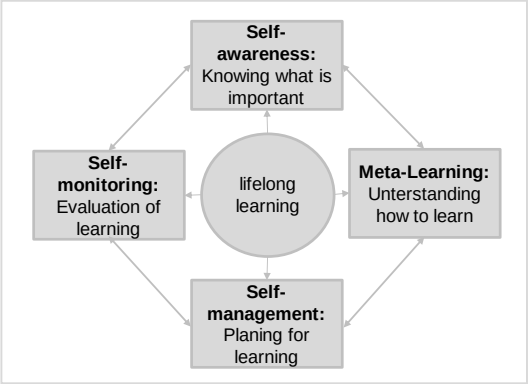

Figure 7: Aspects of lifelong-learning

Source: virtualinstitute.fti.unige.ch, adapted

Especially those courses have to be open and easy accessible for everyone e. g. through suitable and transparent offers of coaching and mentoring for learning.

Aspects of lifelong-learning in connection with the claims of the five levels of GDE-Matrix and an individual maintaining and developing of driving competences plays a very important role for a safe and responsible driving over lifetime (see Figure 8).

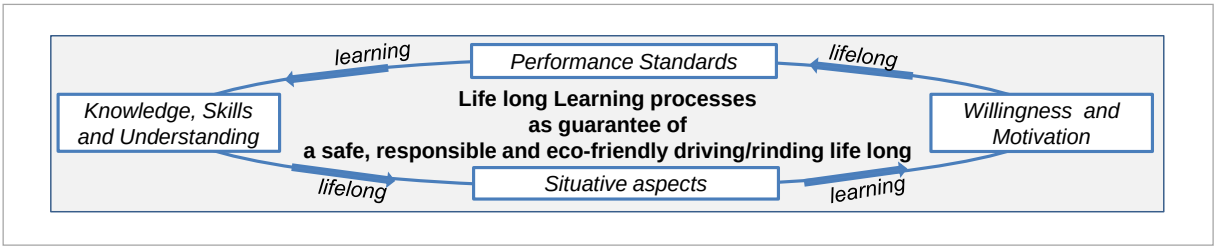

Figure 8: Lifelong learning and improving of competencies and driving/riding competences

Therefore, driving/riding schools and driving teachers/instructors should not only offer driving/riding training and education for new drivers/riders. Even more, they should have additional emphasis on offers:

- containing renewed educational contents and methods for a modular and lifelong learning process (e. g. refresher training to maintain a high level of performance)
- encourage individual lifelong learning to enable every driver/riders to motivationally acquire new skills and knowledge which are of benefit both to the drivers/riders themselves and to the safety aspects of traffic

Aspects of lifelong-learning are an ambitious standard for which drivers/riders have to be sensitized from the beginning of driving/riding. Minimum driver/rider competences have also be understood as a goal to have the choice of keeping up to date with knowledge and understanding concerning driving/riding as well as motivation of learning. An independent opening up of currently needed knowledge through targeted work on and use of relevant knowledge is increasingly important for every driver/rider. From the angle of minimum driving/riding competences, an effective and urgent needed lifelong learning means to strengthen the will of every driver/rider to keep connected with every single matter of a safe and responsible driving/riding. This includes core standards and competences as well as dynamic knowledge-based information of technical assistance systems or common first aid matters or self-reflection of individual physical and mental fitness.

Idealistically lifelong learning in connection with minimum driving and riding standard means that every single driver/rider always

- keeps his or her knowledge and understanding up to date,
- is able to respond quickly to changing needs, latest traffic related trends,
- is motivated and willing to behave properly, safely and responsible in all situations and to all conditions no matter which performance standards or situative aspects of driving/riding is needed,
- is able to self-reflect his or her knowledge, abilities and driving/riding skills and
- is always equipped to tackle new situations with his or her knowledge and understanding

F. IMPLICATIONS FOR LEARNING AND TESTING

F.1 Recognition of the GDE-Matrix

The '**G**oals for **D**river **E**ducation-**Matrix**' (GDE-Matrix) and its five hierarchical levels of individual behaviour (see Figure 9 below) contains all aspects of what a competent driver and riders should be able to and to self-reflect. These levels do not only include driving/riding tasks and driving/riding behaviour – which our standard is about. Levels are also concerned with more lasting individual characteristics of a driver/rider such as personality or social and cultural competencies. Those characteristics can have an influence on the practical drivers'/riders' driving/riding behaviour and at least have to be taken into account by defining a catalogue of driving/riding standards.

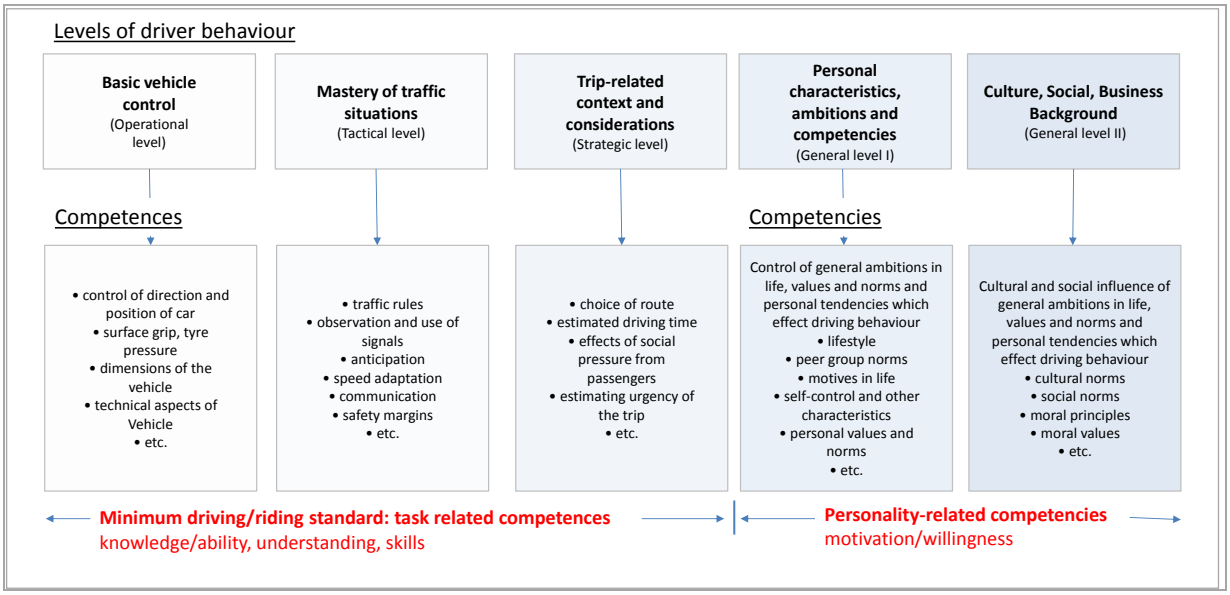

Figure 9: Adapted GDE-Matrix

F.2 Learning and testing: client-centered approach to transfer knowledge and skills of driving/riding and to sensibilize

Regarding to Grattenthaler et al. (2009) driving/riding competence are describable as procedural knowledge. This competences are dividable into three forms of knowledge: explicit knowledge, implicit knowledge and process knowledge.

Explicit knowledge describes expertise ('declarative knowledge') as a long-term knowledge. It includes semantic or abstract knowledge to concepts, objects, facts, facts or rules or situation dependent knowledge (bends).

Implicit ('tacit knowledge') describes procedural components of long-term knowledge. Knowledge is acquired in the form of motor schemas and further refined by feedback loops of action effect, environmental perception (mainly visual, but also social) and proprioception. Tacit knowledge cannot be solely acquired through instruction and teaching. It requires a more or less intense exercise, a distribution of knowledge and skills in connection with an individual input toward understanding and raising awareness of own individual competencies but also individual deficiencies (client-centered approach) under changing conditions of action.

The 'process knowledge' eventually integrated explicit and implicit knowledge information: In order to cope successfully with different traffic situations, driving and riding related knowledge

(expertise) has to be adapted to these different situations. It has to be associated with psychomotor skills and requires an appropriate resource management and self-evaluation (see Sturzbecher et al. 2012).

Anticipating these facts it is not useful to only define minimum competences as driving/riding competences but also add an individual perspective of a ‘skilled social and responsible acting’ driver, too. We think a learning process is not only never completed (see chapter E), but also has form the beginning on always to include an individual sensibilisation process of individual and specific shortcomings, deficiencies related to driving and competencies of a driver/rider.

We recommend a teaching standard in a client-centered, modular and spirally constructive learning process to raise sustainable awareness and building up individual responsibility (see Figure 10).

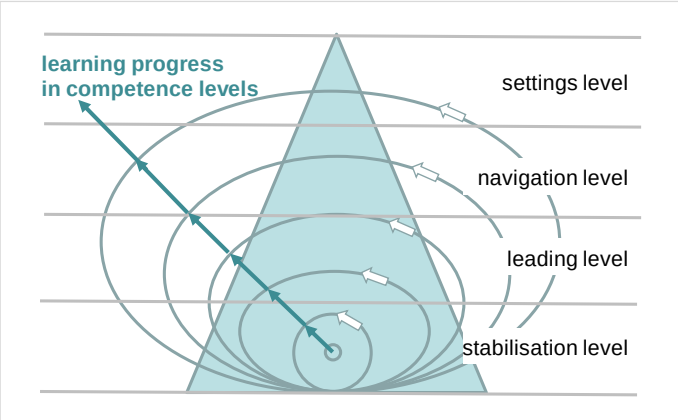

Figure 10: Spiral course of learning process

Source: Grattenthaler et al. 2009, 89

7.2.2 Working Group 2

Proposal for discussion

Current state of work (26th November 2014)

- Draft version 5.0 (5.2) for Brussels 28th October 2014 -

Road User Education Project

WG 2

“Face 15”

Framework for a curriculum (or blueprint) for driver education (published in 2015)

Imprint

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The acronym "**Face 15**" for the "**F**ramework for **a c**urriculum (blueprint) for the driver **e**ducation" from WG 2 is a decision to make professional driver education visible to everyone in 20**15**. It must be clear, that professional driver education can not be done by anyone who has a driving licence.

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Summary

Driving competences and individual competencies need to be taught. Driving competences can be tested during the driving test, in contrast to individual competencies (main causes of accidents). To increase safety on roads a **system of formal and structured education is needed to address all important aspects of driving to avoid accidents.** A formal and structured education **needs a professional teacher**.

With the **R**oad **U**ser **E**ducation (RUE) Project, CIECA underlines that a safe, responsible and environmentally friendly driver must comply with the minimum standards of driving competences ("hard") and individual competencies ("soft") in order to act in a competent way in traffic. Individual competencies, like attitudes, motives or willingness to act safely are corresponding with the "hard" competences and they are responsible for the behaviour in traffic. Evaluations of the causes of accidents shows that **a lack of individual competencies** is, in most cases, **the main reason of accidents e.g. speeding, distraction, peer pressure etc.**

For example one **clear** and **meaningful recommendation** from WG 2 for minimum requirements for driver education is **the approach of effective "client-centred-learning**". "Client-centred-learning" is important to build up driving competences and individual competencies in order to be a safe, responsible and environmentally friendly driver. **"Client-centred-learning" needs "client-centred-teaching".** "Client-centred-teaching" and "client-centred-learning" implies that the professional driving teacher has to **follow and respect special pedagogical principles**. This has to be trained and learned.

"Face 15 - **F**ramework for **a c**urriculum (blueprint) for the driver **e**ducation" is a decision to make professional driver education visible to everyone in 20**15**" and describes a "client-centred-teaching" linked with a "step-wise-education" promoting driver education to educate a safe, responsible and environmentally friendly driver who complies with the minimum standards of driving competences and individual competencies.

"Face 15" has been written for different target groups:

a) **Training supervisors** in the field of driving teachers education (schooling) **– to educate professionally working driving teachers**

b) Interested **driving teachers** who want to **work** with minimum standards in a **professional** way

c) **Stakeholders** in the field of driver education (also regulating of education) **–** to **understand**, that education of a safe, responsible and environmentally friendly driver requires a **professional education** and can not be done by anybody who holds a driving license

d) **Society –** to understand, that safe, responsible and environmentally friendly **driving is a comprehensive task** and requires a **sustainable education** by professionals.

“Face 15” should not regarded as a finished document, but a living document. It should be possible to add and integrate new challenges in traffic (e.g. **role of "Advanced Driver`s Assistance Systems"**) based on conclusions of empirical science in the future.

It can also be complimented by systems of **accompanied driving after passing the driving test**, system of **life long learning** or **concepts of goal-oriented use of simulators.** This can be an additional task.

Structure of the document

Chapter I: ***Approach***

Chapter I introduces the “client-centred-learning” and the “**client-centred-teaching**” approach, the idea of “**goal-oriented-learning**” and explains or defines a model of “**step-wise-education**”. Chapter Ialso shows the important connection to in Europe known and used “GDE-Matrix (**Goals of Driver Education**)” as one background of driver education.

Chapter II: ***Education plan***

Chapter II gives anexample of how to **build up an education plan** for driver education and also shows how it is possible to **design one learning session** after another in a professional and structured way.

Chapter III: ***Pedagogical toolbox***

Chapter III offers a **toolbox** of **pedagogical principles** and **methods** or **techniques** of driver education, which can be very helpful and useful during practice of professional driver´s education with **professional driving teachers**.

Chapter IV: ***Best practice***

Chapter IV shows how the minimum driving competences and individual competencies can be educated using “client-centred teaching” and “goal oriented learning” with a planned “step-wise-education”. There are also examples of how the GDE-Matrix can be used, filled in with concrete contents and gives the general ideas of how to build up the competence of “self-evaluation” and "self-reflection", which are a necessity for a world of safe driving.

Recommendations

Individual competencies, like attitudes, motives or willingness to act safely are corresponding with the “hard” competences and they are responsible for the behaviour in traffic. A lack of individual competencies is in most cases the main reason for accidents.

- **For an effective driver education a "client-centred-learning" approach is recommended**, because it is the key approach to build up driving competences and individual competencies in order to be a safe, responsible and environmentally friendly driver

- **Training of “self evaluation” and “self reflection” should be a mandatory part of driver education and supported by the examination,** because individual competencies must be build up during driver education. Reasons of accidents must be discussed in driver education. Mostly these reasons are related with a lack of individual competencies. Safe and responsible driving also implies an acceptance of road traffic regulations (Highway Code). Acceptance is not possible by learning by rote.

- **A compulsory professional driver education with high quality is needed including a compulsory professional classroom training to discuss relevant aspects of safe and responsible driving and to build up acceptance.** "Client centred-teaching" implies that the driving teacher has to follow and respect special pedagogical principles, which need to be trained and learned.

- Building up the right attitudes, thinking about the motives and increasing of the willingness to act safe requires special competencies. **It is necessary that professional driving teachers are trained to have the right attitudes, motives and willingness to be an example for the students.**

Chapter I

Background and principles for “Face 15”

I.1 Task of Working Group 2

CIECA runs the “Road User Education Project (RUE-Project)” with three different working groups:

- WG 1 – Minimum Driving Competence Standards
- WG 2 – Framework for a curriculum (blueprint) for the driver education
- WG 3 – Minimum Competences for Driving Teachers (Driving Instructors)

Based on the draft of WG 1 “minimum driving competence standards” WG 2 should design a framework for a curriculum for the driver education. For this WG 2 held a workshop on the 11th and 12th February 2014 in Berlin to discuss all relevant aspects for a framework, which can be used in Europe and in countries outside of Europe. The first draft report from WG 1 was published on the 18th February 2014 and describes the following nine competence areas of “hard competences” for safe, responsible and environmentally friendly driving with main goals, skills and behaviour:

Knowledge: theoretical competence and understanding

- Road traffic as a system: rules and regulations
- Risk awareness & hazard perception
- Behaviour at crash sites
- Safety check of car

Between knowledge and skills

- Preparation of car, load & journey
- Traffic observation

Skills: Driving aspects

- Car handling/manoeuvre: guide and control car
- Vehicle positioning & speed adaption
- Communication

WG 1 also mention **“soft competencies”** like physical and **personality traits**, which are not further discussed in detail in the draft document of WG 1, but which will be a part of this “Framework for a curriculum (blueprint) for the driver education” from WG 2. At least the aspect of lifelong learning is also discussed in the draft paper from WG 1.

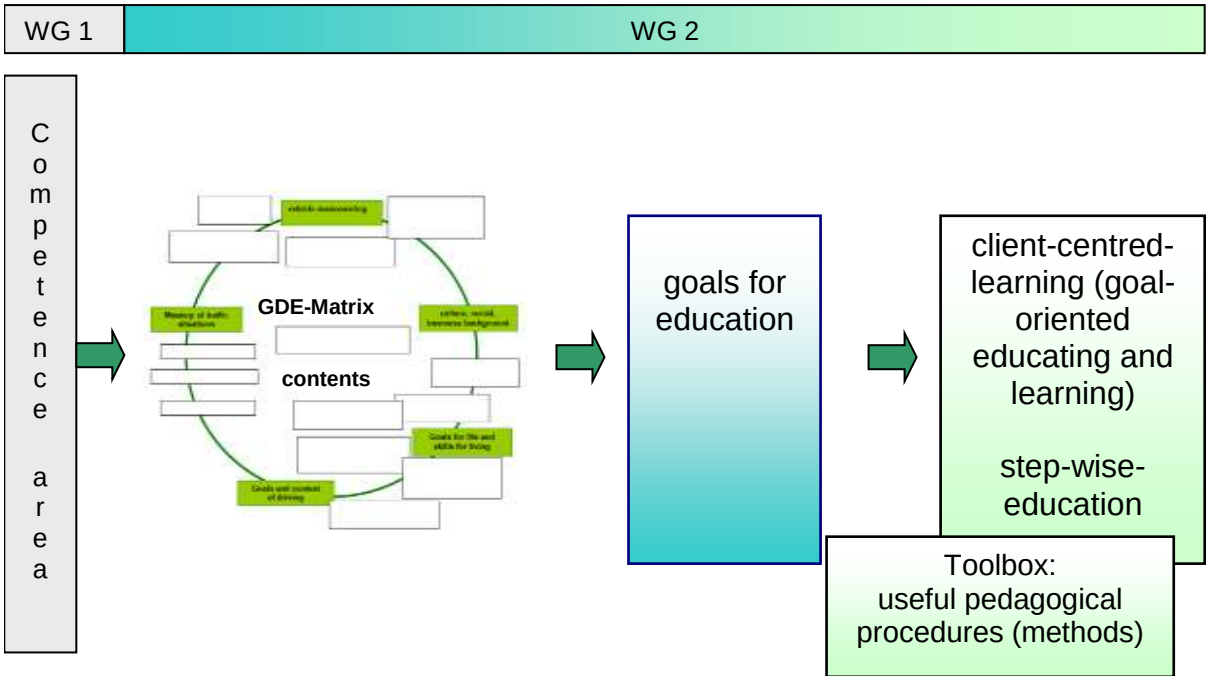
The updated WG 1 document “Minimum driving competence standards” from 30th April 2014 was the basis for the proposal for a WG 2 “Framework for a curriculum (blueprint) for the driver education” which was discussed in the workshop of WG 2 in Lisbon on the 21st May 2014. With the last workshop on the 10th October 2014 in Vienna WG 2 discussed the structure and formulated recommendations.

At the workshop in Lisbon the members of WG 2 agreed on the following topics and tasks:

- Hard competences are the basis (see draft WG 1) for "**Face 15**"
- Soft competencies are the basis for "**Face 15**"
- WG 2 is working on "driver education" not on "driver training" (see additional description - page 12)
- Combination between soft competencies and hard competences is needed
- Combination (indentation) between theoretical and practical education is needed
- The pedagogical approach (procedure) used in "**Face 15**" is "client centred learning" (e.g. Finish model- see additional description – page 11)
- The didactical structure used in "**Face 15**" is "step-wise-education" (e.g. complemented German model, model from the Netherlands – see description page 13)
- A toolbox with useful pedagogical procedures (methods) for education of the competences and the competencies is to be integrated
- The description how to educate the competencies will be based on the example from the proposal including contents sorted to the areas of the GDE-Matrix and formulated goals for driver education
- Possible support of driver education through examiners should be integrated

As a result of the work of WG 2 CIECA will offer a proposal for "Face 15" with the following structure:

Figure 1. Structure of the "Face 15"



I.2 Learning "How to drive a car" in an international context

The learning process “how to drive a car**"** cannot be focused only on one competence. There is always a connection between different competence areas (see also the document from WG 1).

The first challenge of the proposal for “**Face 15**” is to define the contents and objectives (based on the different competence areas) for the driver education according to the GDE-Matrix **(see Chapter I.1 figure 1)** and to describe the necessary connections between them. For example, Eco-Driving always is connected with handling, manoeuvre, acting and adaptation to the situations in the car beginning from the first lesson of driver education.

The second challenge of the proposal for “**Face 15**” is the circumstance that there are different existing driving education systems in Europe and countries outside of Europe:

- professional education (paid education)
- unpaid education (layman instruction)
- accompanied driving as a part of education before examination (test)
- accompanied driving after examination (test)
- mixture of paid and unpaid education with professional support
- mixture of paid and unpaid education without support
- mandatory theoretical lessons (classroom training)
- no theoretical lessons
- regulations about minimum number of driving lessons
- no regulations about minimum number of driving lessons
- mandatory track based basic professional education
- parts of simulator education
- professional (paid) multiphase education
- monitoring with professional feedback after examination
- mandatory use of a syllabus
- prohibitions of driving tasks in the learner stage
- restrictions in the set period of time after examination (GDL-System)
- probationary period
- independent driving integrated in the examination (test)

Regarding this context a document like “**Face 15**” to be prepared by CIECA must give every country the opportunity to implement these ideas in their national system to increase safety on the roads in the future.

To get an idea of how to create a structure of an education process (independent from a national system) in this proposal it is offered a “step-wise-education process” combined with pedagogical principles **(see Chapter II)**. To find concrete ideas to design driving sessons (lessons) Chapter IV will be interesting. Also the results of the EU-HERMES-Project give a lot of detailed examples (60 situations) for sessions for driver education.

I.3 Principles for learning / structure of education

Driver Education – WG 2 decided only to use the term "**driver education**" and "**driving teacher**" in relation with "**Face 15**". In this context driver education means to prepare (students/pupils) to be analytical thinkers and problem solvers by facilitating the learning of principles, concepts, rules, facts and associated skills and values/attitudes.

a) Client-Centred-Learning - WG 2 decided to propose client-centred-learning, which is a part of the professional driver education in some countries.

DVSA (Driver and Vehicle Standards Agency) describes "client-centred-learning" as: "People learn in different ways and at different speeds. If someone who likes time to reflect on their learning is forced to move on to the next thing too quickly it could slow down their progress. Or if someone who likes to learn by trying things out is made to watch too many demonstrations without having a go they will get frustrated. "Client-centred learning" is an approach to learning that takes into account how the learner prefers to learn. When people learn in this way they are more likely to retain information and skills. People are also more likely to keep learning if they are encouraged to take responsibility for their learning at an early stage – this is the second aim of client-centred learning. At its simplest, this means listening to the learner (the client) to find out how they like to learn, the things that are getting in the way of their progress and how the driving teacher can help"[8] and support the student (pupil).

In some driver education systems "client-centred-learning" is well known and used by driving teachers. One example, especially at the beginning of the driver education is the use of **coaching techniques** to get all relevant information about the student and his or her "learning style". The outcome (e.g. handbooks) of the EU-HERMES-Project[9] gives a lot of examples of how to use coaching techniques in the driver education in a professional way.

Client-centred-learning in "**Face 15**" includes the following pedagogical principles:

- goal-centred (oriented) learning and teaching (the student always knows what to learn and which goals should be reached)
- client-centred (oriented) teaching (the driving teacher knows and uses the learning method (style), which is the best for the student)
- motivated learning (the student will be motivated with direct benefits)
- self-reflected learning (evaluation and feedback are necessary for a good learning process to reach the goals - first the opinion of the student is important)
- self-evaluated learning (self-evaluation is the key-factor)

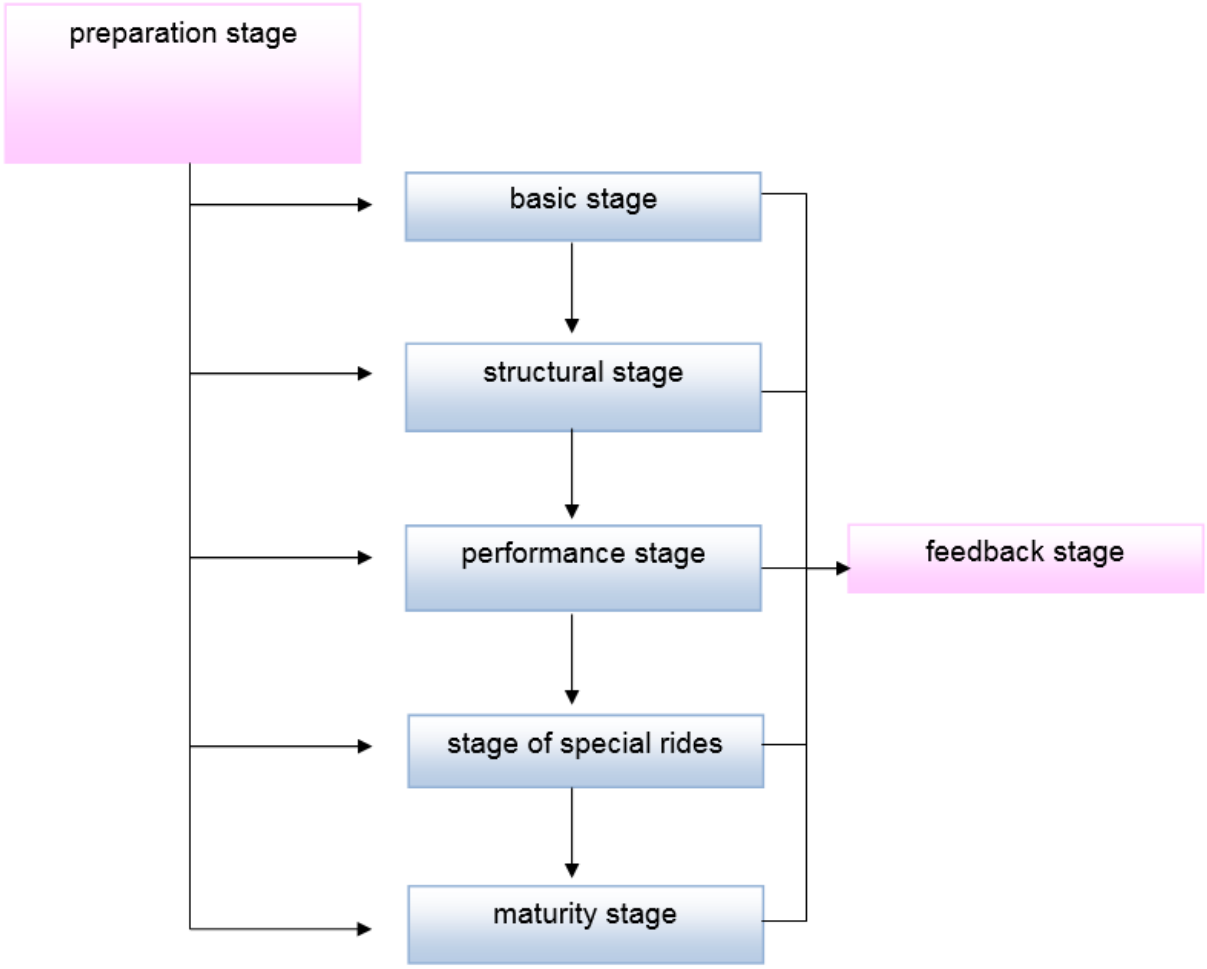
[8] *www.safedrivingforlife.info/instructors-and-trainers/im-instructor-or-trainer/im-driving-instructor/adi-knowledge-centre/what, 24th June 2014*

[9] *www.alles-fuehrerschein.at/HERMES/*

b) "Step-wise-education" - WG 2 follows the approach that driver education must be structured in a client-centred-way. It is not possible that students (pupils) learn everything at the same time. The intake capacity of a student (pupil) is limited. To have too much information e.g. in a driving session (lesson) will destroy the whole learning process. The student (pupil) will be overloaded with different tasks and learns less. Good learning requires time, the student (pupil) must have the chance to understand aspects and to have the possibility to think about the task and his/her understanding and behaviour (self-reflection and self-evaluation). To start driving a car with an inexperienced student (pupil) in a heavy traffic at the beginning of driver education (first lessons) e.g. is one situation which overloads the learning process. To have lessons with more than 90 minutes at the beginning of driver education e.g. is another situation which overloads the learning process.

"Step-wise-education (SWE)" means a systematic education in proper situations according to the capacity of the student (pupil).[10]

Figure 2. SWE structure in "Face 15"



[10] *cf. "Driver Training Stepwise" (Netherlands) and "training by stages" (e.g. Germany)*

Preparation Stage:

For an effective learning process it is necessary for the student (pupil) to know the important and relevant theoretical background about the contents and to understand the goals of the lesson. Some countries have mandatory theoretical education where it is possible to interlink the theoretical background with the practical education. In countries without mandatory theoretical education the theoretical preparation must be integrated into the driving lesson for some minutes or done as homework (handbook, CBT, WBT) before.

Independent of the education system always it is necessary to have some minutes before driving to update the knowledge about the goals of the following driving lesson.

Basic Stage:

The basic stage should be used only to educate the basic vehicle control. If a student (pupil) has enough routine with the basic vehicle control, the learning in traffic situations will be more effective and comfortable. If students (pupils) are unsure in controlling the car, learning in traffic situations can be really difficult and can destroy the whole learning process. In the basic stage it should be possible to learn without traffic and other road users. The student (pupil) should concentrate only on gaining experience of basic vehicle control.

Structural Stage:

The structural stage should be used to transmit the routine of basic vehicle control into easy traffic situations with low traffic. The student (pupil) must have the chance to gather experience of how to control the car in a situation with low traffic and should combine manouvring of the car in relation with acting in traffic in not so difficult situations. At the end of the structural stage the student (pupil) must have enough routine with the basic vehicle control to manoeuvre a car safely in easy situations without thinking about handling.

Performance Stage:

The performance stage should be used to concentrate only on acting in more difficult traffic situations and to transmit the routine of basic vehicle control into more complex situations in traffic. Thinking about the right gear for different speed, the right use of the steering wheel, the use of mirrors or the indicators must be over. Observation and acting in traffic without thinking about handling of the car is important for the performance stage. Most of the traffic situations are part of the performance stage.

Support by words can be useful and necessary gaining experience with new traffic situations.

By now at this stage the driving teacher must reflect his/her intervention with clutch, breakpedal or accelerator and decides if the student (pupil) was really prepared enough and has enough routine to manage this kind of situations.

Stage of special rides:

In the “stage of special rides” the student (pupil) should gain experience with really difficult and more dangerous driving tasks like “driving by night”; “driving with high speed (e.g. highway, motorway)”, “driving on country roads”, “overtaking in different situations”, “driving in mountains”, “driving on slippery roads”.

Maturity Stage:

The “maturity stage” marks the end of the education process before the examination. In this stage independent driving should be the main task, including the handling of very difficult traffic situations. By this stage the driving teacher must be sure that he or she can sign a document which says, that the student (pupil) has enough competence to learn further as a responsible and safe driver by his/her own.

Feedback Stage:

Similar to the preparation stage the “feedback stage” always must be a part of every driving lesson. At the end of every driving (session) lesson the student (pupil) needs time and support for evaluation (reflecting) of the learning process and also time to receive a feedback from the driving teacher. One important role of the feedback stage is to build up and to extend the competence of “self-reflection” and “self-evaluation”.

c) Client-centred-teaching

To use “client-centred-learning” also means, that the driving teacher must use “client-centred-teaching”. He/she knows and uses the learning method (style), which is the best one for the student. “Client-centred-teaching” “can unfold itself best in a climate that is characterized by three attitudinal conditions: **Congruence**, also called realness, genuineness, transparency, authenticity, openness; **Acceptance**, also called respect, unconditional positive regard; and **Empathic** understanding, a deep understanding for the feelings and meanings of the other. These must be held and lived by facilitators and communicated to the learners such that they actually can perceive them and experience them as part of the teaching and learning relationship.[11]”

[11] Renate MOTSCHNIG-PITRIK1 (Vienna) & Antonio M. SANTOS (San Diego), The Person Centered Approach to Teaching and Learning as Exemplified in a Course in Organizational Development; Zeitschrift für Hochschulentwicklung ZFHE Jg.1 / Nr.4 (Dez. 2006)

d) Goal-oriented learning and teaching

Goal-oriented-learning and teaching includes that always the student (pupil) knows what and how to learn. One effective way is to formulate clear goals for a session (lesson). It is necessary that these goals can be evaluated. Two models are helpful to formulate clear goals:

S pecific
M easurable
A ttractive
R ealistic
T erminated

G oal setting
R eality
O ptions
W hat, when, who, willingness

e) Motivated learning

Intrinsically motivated activity is more rewarding in and of itself, students learn more from this sort of activity, and they retain that learning better. Intrinsically motivated students are more involved in their own learning and development. In other words, a student is more likely to learn and retain information when he is intrinsically motivated - when he believes he is pleasing himself[12]. Driving teachers can build up this sense of confidence e.g. with illustrating the whole education process, including the competencies and competences (handout see page 27) which must be reached, and the possibilities, what the student can to do by himself/herself to support his/her learning process.

f) Self-reflected learning

Reflective practice can be an important tool in practice-based professional learning settings where individuals learning from their own professional experiences, rather than from formal teaching or knowledge transfer, may be the most important source of personal professional development and improvement. Further, it is also an important way to be able to bring together theory and practice; through reflection the student is able to see and label schools of thought and theory within the context of his/her action. What is important about reflection throughout the practice is that the student is not just looking back on past actions and events, but rather he/she is taking a conscious look at the emotions, experiences, actions, and responses, and using that to add to his/her existing knowledge base to draw out new knowledge, meaning and have a higher level of understanding[13].

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[12] *see also http://www.nasponline.org/resources/home_school/earlychildmotiv_ho.aspx (12th October 2014)*
[13] *see http://en.wikipedia.org/wiki/Reflective_practice (12th October 2014)*

g) Self-evaluated learning

“In order to become lifelong learners, students need to learn the importance of self-evaluation. They can do this by filling out self-evaluation forms, journalizing, taking tests, writing revisions of work, asking questions, and through discussions. When students evaluate themselves, they are assessing what they know, do not know, and what they would like to know. They begin to recognize their own strengths and weaknesses. They become more familiar with their own beliefs, and possibly their misconceptions. After they self-evaluate they will be able to set goals that they feel they can attain with the new knowledge they have about themselves.”[14]

In the annex there is a self-evaluation form from CBR Netherlands used in the examination as one example. Self-evaluation can be trained during driver education after every session. The driving teacher has to use useful questions to the activate self-evaluation-process of the student, like the following examples:

- Why do you have done this?
- What was the reason about this?
- How do you feel and why?
- What`s happened in this situation?
- What was (is) on your mind?
- What have you seen?
- Why did you decide in this way?
- What have you interpreted and why?
- Why can it be dangerous?
- What can you do to make it safer?

Self-evaluated learning is one important key to support the "inner teacher"[15] for life-long-learning!

[14] *see https://www.nde-ed.org/TeachingResources/ClassroomTips/Self-evaluation.htm (12th October 2014)*
[15] *according to Dr. Bartl*

I.4 The GDE-Matrix as a requirement

"The "GDE-framework" (Goals for Driver Education) has its origin in Finnish research within the field of traffic psychology. The framework was introduced in its present extended form within the EU-funded research project GADGET (Hatakka, Keskinen, Gregersen & Glad in Gadget, 1999) and published internationally for the first time by Hatakka, Keskinen, Gregersen, Glad & Hernetkoski (2002). Stemming from the project, the framework is sometimes referred to as the "Gadget-matrix".

The GDE-framework has been widely acknowledged within the European traffic research community as a fruitful theoretical starting point when developing traffic education. However, being a model of quite complicated phenomena, the framework has been criticised for lack of detail.

Driving is a complex task, but describing driving and the skills that are needed when driving is even more complex. Although knowledge of how to use the controls of a car and how to manoeuvre it forms the basis of driving, an analysis of the driver's task and accidents has shown that adequate psychomotor skills and physiological functions are not sufficient for good and safe driving. This conclusion concurs with the notion that driving is by and large a self-paced task (Näätänen & Summala, 1974). It is ultimately up to the driver's own actions and decisions how successful and safe his or her driving is." [16]

In most documents the GDE-Matrix is shown as a hierarchical system with four levels.

Figure 3. GDE-Matrix 1996

Fig.1. Hierarchical levels of driver behaviour (adapted from Keskinen, 1996).

[16] DRIVER COMPETENCE IN A HIERARCHICAL PERSPECTIVE; IMPLICATIONS FOR DRIVER EDUCATION, M. Peräaho, E. Keskinen, M. Hatakka, June, 2003

To describe the idea more detailed the GDE-Matrix was shown later as a real matrix[17] with important aspects.

Figure 4. GDE-Matrix 2003

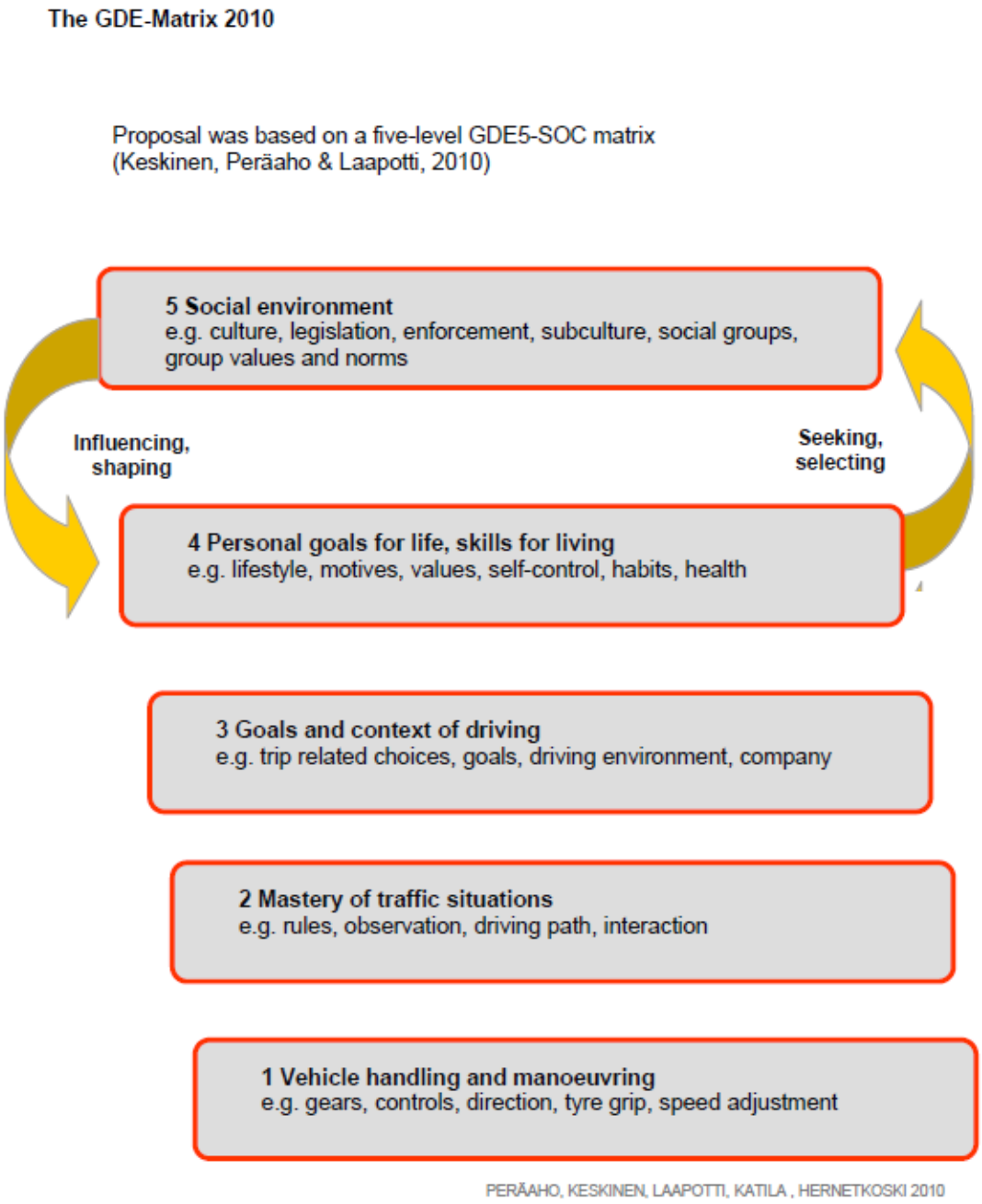
Table 1. Goals for Driver Education -framework

Hierarchical level of behaviour (extent of generalisation):	**Central content of driver education:** Knowledge and skills the driver has to master	Risk increasing factors the driver must be aware of	Self-evaluation
Goals for life and skills for living (global)	**Knowledge about / control over** how general life goals and values, behavioural style, group norms etc. affect driving.	**Knowledge about / control over** risks connected with life goals and values, behavioural style, social pressure, substance abuse etc.	**Awareness of personal tendencies** re. impulse control, motives, lifestyle, values, etc. Developing self-evaluation skills.
Goals and context of driving (specific trip)	**Knowledge and skills** re. trip-related considerations (effect of goals, environment choice, effects of social pressure, evaluation of necessity, etc.).	**Knowledge and skills** re. risks connected with trip goals, driving state, social pressure, purpose of driving, etc.).	**Awareness of personal** planning skills, typical driving goals, driving motives, etc. Developing self-evaluation skills.
Mastery of traffic situations (specific situation)	**General knowledge and skills** re. rules, speed adjustment, safety margins, signalling, etc.	**Knowledge and skills** re. inappropriate speed, narrow safety margins, neglect of rules, difficult driving conditions, vulnerable road-users, etc.	**Awareness of personal** skills, driving style, hazard perception, etc. from the viewpoint of strengths and weaknesses. Developing self-evaluation skills.
Vehicle manoeuvring (specific task)	**Basic knowledge and skills** re. car control, vehicle properties, friction, etc.	**Knowledge and skills** re. risks connected with car control, vehicle properties, friction, etc.	**Awareness of personal** strengths and weaknesses re. basic driving skills and car control (especially in hazardous situations), etc. Developing self-evaluation skills.

[17] DRIVER COMPETENCE IN A HIERARCHICAL PERSPECTIVE; IMPLICATIONS FOR DRIVER EDUCATION, M. Peräaho, E. Keskinen, M. Hatakka, June, 2003

In 2010, an additional 5th level comprising cultural and work-related influences was introduced. This 5th level is considered as an additional influencing variable to the already existing 4 levels.

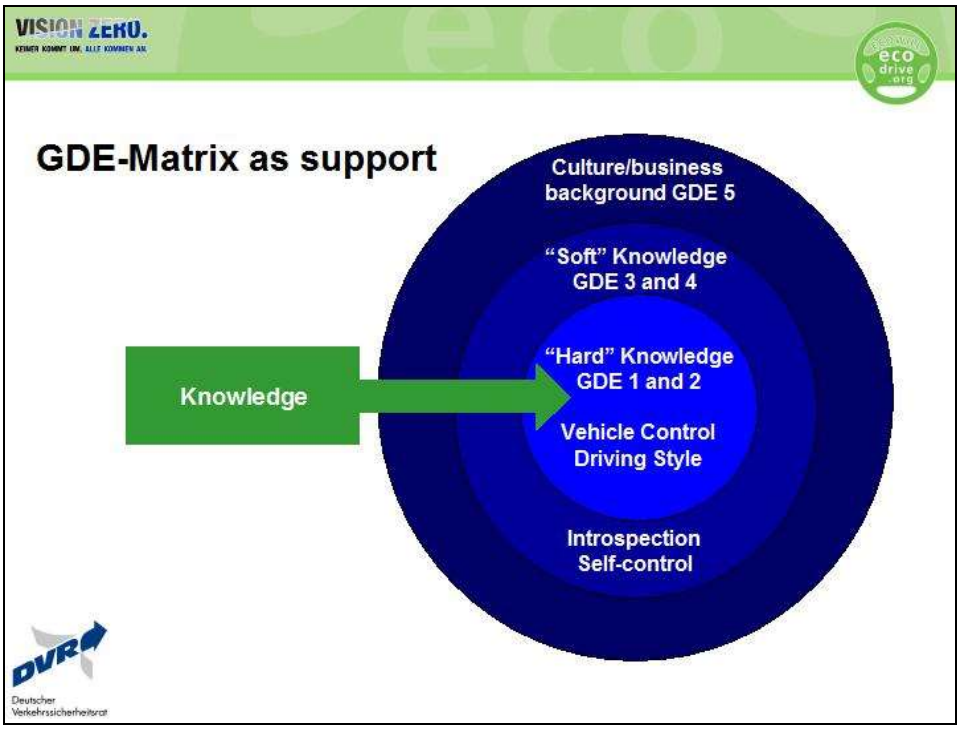
Figure 5. GDE-Matrix 2010



In the EU "ECOWILL" Project the GDE-Matrix was used and "translated" as an example of a model for education[18]. Moreover, the GDE-matrix shows the limitations and difficulties for learning processes aiming to train and change behavioural patterns. Ignoring these aspects, attempts may fail establishing application of contents or change in behaviour.

Conveying driving techniques like e.g. early shifting, letting the car roll and enlarging the safety distance are mainly "hard knowledge" of how to handle the car and specific driving situations on levels 1 and 2 of the GDE-Matrix (“hard knowledge”). If those driving techniques are to be accepted by the learner drivers, the corresponding willingness of levels 3 and 4 of the GDE-Matrix (“soft knowledge”) has to be given. For example, it is hard to teach students (pupils) modern driving style, if e.g. their parents constantly drive with medium or even high engine speed / high revolutions (rpm), contradicting and conflicting with the taught driving techniques.

Figure 6. GDE-Matrix adapted in EU ECOWILL Project 2011

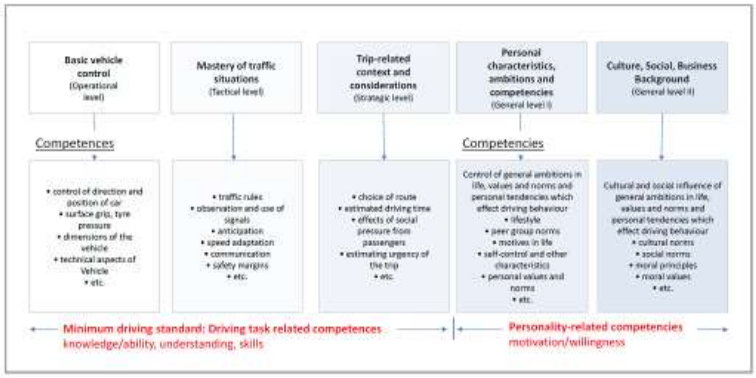


Taking into account the cultural and work-related influences of level 5, to ignore this dimension may result in complete confusion when communicating with learner drivers. It is crucial to understand why somebody wants to obtain the driving licence or to drive a car. Knowing the individual wishes, expectations and hopes the learning process can be influenced and supported in a client-centred-way.

[18] *Schulte, K. (2011/2012), "Ecodriving in Learner Driver Edcucation - ECOWILL Level1", Handbook for Trainers, Deliverable D3.1*

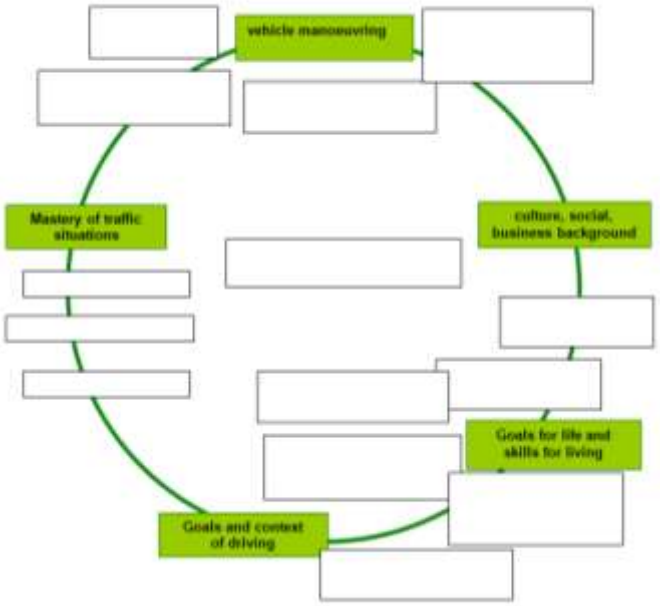
WG 1[19] from the CIECA-RUE-Project adapted the GDE-Matrix to show levels of driver behaviour and connected competencies. WG 1 describes in difference to WG 2 the levels of the GDE-Matrix as hierarchical levels as in 1996.

Figure 7. GDE-Matrix in CIECA Working Group 1 – 2014



The task of WG 2 is to offer a proposal for the work of e.g. driving teachers with necessary contents, goals and objectives and to give them an idea how to structure the learning process in a goal oriented way. For this **WG 2 uses the GDE-Matrix as a circle model** (based on the idea of ECOWILL) to show the connection and interaction between contents related to the different areas of the GDE-Matrix. The circle model shows also the relationship between theoretical and practical education.

Figure 8[20]. GDE-Matrix in CIECA Working Group 2 - 2014



[19] Discussion paper of Cieca Working Group 1 **MINIMUM DRIVING AND RIDING COMPETENCE STANDARDS** current state of work: 28-10-2014

[20] *Circle-model of the GDE-Matrix, Schulte, February 2014*

Chapter II

Model of structured driving education

II.1 Structured Driving Education

Learning how to drive is an educational process and, as so, it benefits from the existence of a structured plan, with clear goals (objectives), useful methods and a self-evaluation system. Driving teachers work today with the before mentioned goals (objectives), methods and even self-evaluation tools, but they do it in absence of a visible and readable structured driving education plan by their own emotions.

To use “Client-centred-learning” and “client-centred-teaching” a clear structured procedure is necessary. To structure driving education in such a way, that everything is measurable, needs clear processes.

Driving teacher will have benefits of clear processes:

a) A clear structure of driver education will be measurable

b) A clear structure of driver education give`s the chance to compare students and their learning processes

c) A clear structure of driver education including the comparison of students helps driving teachers to evaluate themselves

d) Experience in personal self-evaluation helps driving teacher to promote self-evaluation authenticly

e) Promotion of self-evaluation is one main goal to build up a safe, responsible and environmentally friendly driver

The following chapter describes a model for a structured driving education to reach all these benefits.

II.2 Building up an education plan

One task for every driving teacher is to structure the driver education in a “client-centered-learning”- and “client-centered-teaching”-way in combination with a “step-wise-education”.

As written before the intake capacity of a student (pupil) is limited. To have too much information (also from the surroundings in traffic) e.g. in a driving session (lesson) can destroy the whole learning process. The student (pupil) will be overloaded with different tasks and learns less. Related to this aspect the driving teacher is responsible for a good (personal, individual) design of every driving session (lesson). And in every case the driving teacher has to decide, which contents from which competence area can be combinated in an effective, goal-oriented and useful way.

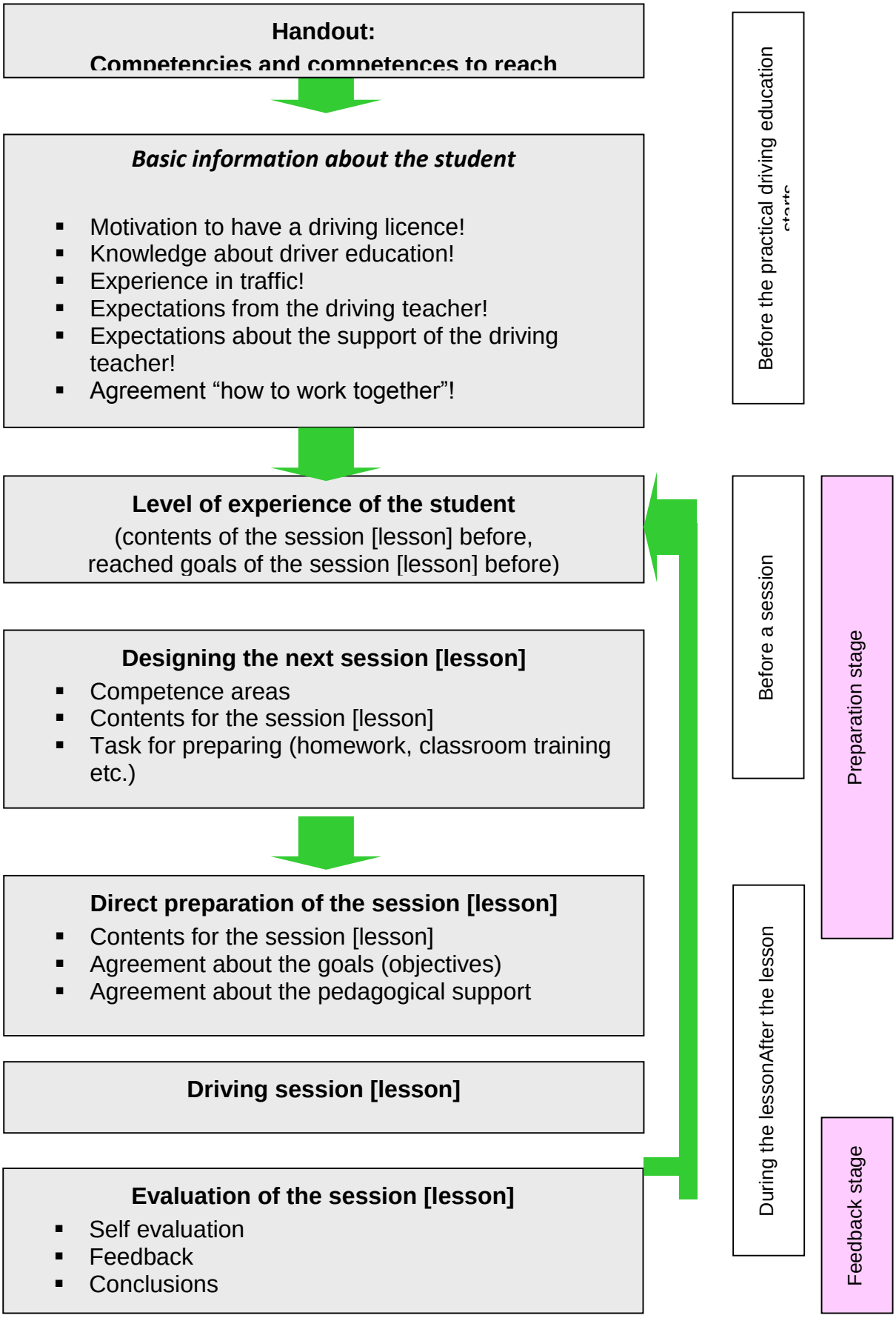
“Client-centered-teaching” means that the driving teacher needs some background information about his student (pupil) like experience in traffic, motivation to have a driving licence, preferred way of learning etc. to build up a personal education plan. To get this kind of information it is necessary that the driving teacher has a conversation with the student (pupil) about the education process at the beginning of and during the driving education. For this it can be helpful, that the student (pupil) knows which minimum standards (e.g. WG 1) should be reached by him or her before the driving test (e.g. in a written way like a “manual”).

Reader of these criteria can assume that the driving education process will be very academic and not practical. At the beginning it seems “very” difficult. But ***driving teachers are professionals in their business and they have the knowledge, the toolboxes and the experience*** to use this background information in a professional way ***to build up a personal education plan for every student*** (pupil).

This includes, that driving teachers must be open to every new situation or every new student (pupil). Every student (pupil) is unique and this means also that every education situation will be unique.

The figure 9 shows a proposal of necessary steps to prepare a session (lesson) in a client-oriented-way. In this description the term “session” is used instead of “lesson”. It can be very useful to split e.g. one driving lesson into two different sessions with a small break to avoid overloading.

Figure 9[21]. "Building up an education plan" for practical education



[21] *"building up an education plan", Schulte 2014*

Explanation of figure 9

Handout:
Competencies and competences to reach

To give a student (pupil) an idea about driver education and the necessary learning process it can be useful to have a handout with a description of the minimum competencies and competences (based on minimum driving competence standards from WG 1) which ensure a safe, responsible and environmentally friendly driving. This proposed handout can help a student (pupil) to prepare himself/herself step by step and to find good questions, solutions and conclusions after self-evaluation. With this proposed handout the driving teacher will also have the possibility to mark reached goals during the driving education. With both information the handout can be used in a way of a "logbook" (example Ireland RSA – Road Safety Authority).

Basic information about the student

- Motivation to have a driving licence
- Knowledge about driver education
- Experience in traffic
- Expectations from the driving teacher
- Expectations about the support of the driving teacher
- Agreement "how to work together"

To get some basic information about the student (pupil) a driving teacher needs only some short open questions.

- Why do you want to have a driving licence?
- What do you know about driver education?
- Which experience do you have in traffic?
- Which expectations do you have of me?
- How can I support you? What do you want to do to support your learning?

Example of student "Charles"

Example "Charles":

At the first conversation in the driving school Charles said, that he needs a driving licence mostly for the daily trips to and back from the university at different times. Charles has no experience in driving a car. He only knows about traffic as a passenger in a car and being a pedestrian. There is no mandatory classroom training of driver education in his country. At the moment Charles expects support of how he can prepare himself for the different contents of the driving lessons. He would like to have tasks for homework, but he needs information about effective learning material.

Example „Charles“

Level of experience of the student

“Charles” has no experience in driving a car. He wants to prepare himself at home.

Preparation stage

Designing the next session [lesson]

- Competence areas
- Contents for the session [lesson]
- Task for preparing (homework, classroom training etc.)

During designing the session (lesson) it is necessary to combine different contents from different competence areas in a useful way. During this a driving teacher must avoid overloading the student (pupil) especially at the beginning of the learning process. Based on the different contents, the driving teacher can formulate some questions, so that the student (pupil) can prepare himself at home using handbooks, manuals, WBT, CBT, parents, app`s etc.

Basic stage

Direct preparation of the session [lesson]

- Contents for the session [lesson]
- Agreement about the goals (objectives)
- Agreement about the pedagogical support

1st practical driving session [lesson] (e.g. 45 minutes)

To prepare the practical session (lesson) the driving teacher has to think about clear goals for the session (lesson), which are able to be reached by the student (pupil) at the end of the session. These goals must be discussed between student (pupil) and driving teacher and both must have an agreement about them. And these goals must be measurable for the feedback.

On the other hand the driving teacher must also think about the goals for the driving education process. The driving teacher and Charles should have an agreement about the pedagogical support from the driving teacher.

Driving session [lesson]

If everything is prepared and the driving teacher and Charles has agreed on the goals, the session can start in a client-centered-way.

Evaluation of the session [lesson]

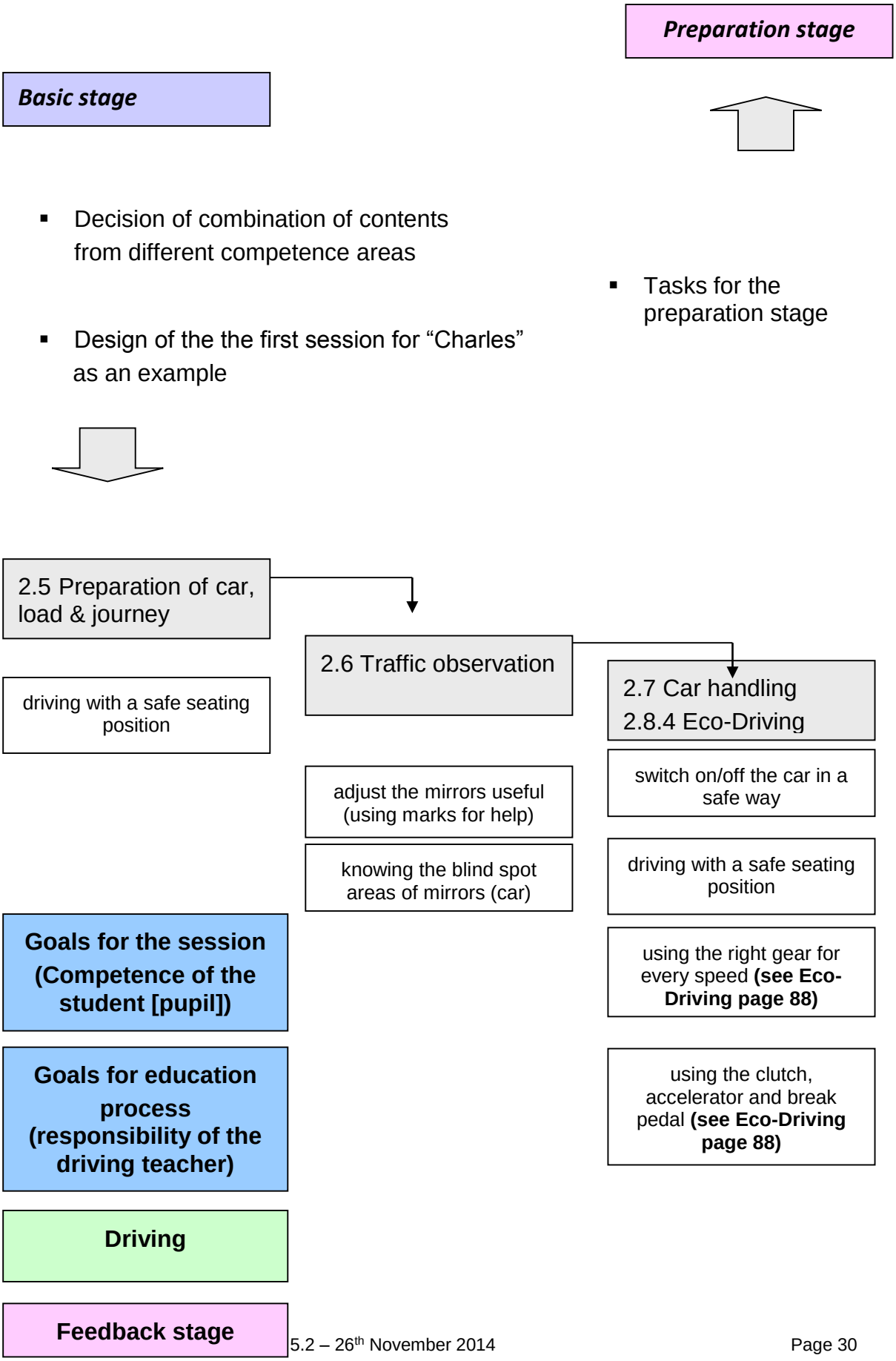
- Self-evaluation
- Feedback
- Conclusions

After the planned session with clear defined goals there must be a feedback session with a self-evaluation part from the student (pupil) and a feedback part from the driving teacher. At the end both have to find conclusions for the next steps.

To support a student (pupil) in getting an idea about self-evaluation the driving teacher can use a lot of open questions (what, why, where, how…) like the following examples:

- How was it for you to work on these goals and why?
- What do you think about the attainability of the goals and why?
- What was easy, what was not so easy?
- What helps you to reach the goal(s)?
- What is missing to reach the goal(s) in a way, that you feel really good?
- What was the key-message of this session (lesson)?
- What do you understand about ……?
- How could you explain what you have done?
- What do you think about the situation?
- What are the strengths and what are the weeknesses of your behaviour?
- What are the important safety aspects of the behaviour?
- What can you do to have room for improvement?
- What do you have to do to encourage safe behaviour?
- How can I support you to encourage safe behaviour?
- What do you think you have to learn additional to be the safest driver?
- What was important for you and why?
- What is your conclusion for the next step or session?

Figure 10: “Designing a learning session”



Example "Charles"

Explanation of figure 10

Preparation stage

Possible questions/aspects as a task for homework:

driving with a safe seating position

- What do you have to know about a safe driving position?
- What is written in the manual of the car?
- What is written in wikipedia?
- What is important for you?
- What do you have to do?

adjust the mirrors useful (using marks for help)

knowing the blind spot areas of mirrors (car)

- What do you know about traffic observation?
- What do you think is important to observe?
- How can you observe?
- How do you have to use the mirrors and why?
- How would you adjust the mirrors?
- What is written in the manual of the car?
- What is a blind spot?
- Where do you have blind spots?
- What is written in the manual of the car?

using the right gear for every speed **(see Eco-Driving page 88)**

using the clutch, accelerator and break pedal (**see Eco-Driving page 88**)

- What do you know about the pedals in the car?
- What is written in the manual of the car about the pedals?
- What do you know about a manual gear box?
- What is written in the manual of the car?
- When do you use which gear?
- What is the connection between speed and gear?

Example „Charles“

During the design of a learning session, the driving teacher must think about goals. There are two different possibilities to formulate goals for driver education.

a) Goals which describe the expected ***competence of the student (pupil)*** after the session (comparable to the work of WG 1)

b) Goals which describe the task, the **responsibility of the driving teacher** for learning (work of WG 2)

a) Goals for the session, (competence of the student)

These goals, which should be reached by the student (pupil) in the session, must be measureable.

- The student (pupil) can demonstrate how to adjust a safe seating position and can explain why.
- The student (pupil) can demonstrate how to adjust the mirrors correctly and can explain why.
- The student (pupil) can identify the blind spots of the car and can explain how.
- The student (pupil) can demonstrate how to switch on/off the car in a safe way.
- The student (pupil) can demonstrate how to accelerate from 0 to 50 km/h using the 1st up to the 4th/5th gear.
- The student (pupil) can demonstrate how to shift up from the 1st to the 2nd gear after one length of a car.
- The student (pupil) can demonstrate how to shift up not later than 2.000 rpm from the 2nd to the 3rd and from the 3rd to the 4th gear.
- The student (pupil) can demonstrate to slow down nice and gently from 50 km/h to 0 km/h without shifting down.
- The student (pupil) can demonstrate to slow down nice and gently from 50 km/h to 0 km/h with shifting down gear by gear earliest at 1.500 rpm.
- The student (pupil) can explain, why sometimes (seldom) it is necessary to shift down.

Remark: At this stage the word “demonstrate” is used instead of “to be able to do”, because the student (pupil) has the first experiences to do something. To differentiate between “demonstrate” and “to be able to do” means that at the end of the education, the student (pupil) must do it without thinking, only with routine. But at this stage the student (pupil) must concentrate on what he is doing most of the time.

Example „Charles“

b) Goals for education Process (responsibility of the driving teacher)

Remark: These goals describe what a driving teacher must do for the learning surroundings and the possibilities of learning situations. Therefore the main focus of Chapter IV is to discuss these kind of goals and describe the responsibility of the driving teacher.

- The student (pupil) comes to know how to adjust a safe seating position and gains experience in adjusting a safe seating position.
- The student (pupil) comes to know how to adjust the mirrors in the right way and demonstrate it and that he can explain why.
- The student (pupil) gains experience in adjusting the mirrors in the right way.
- The student (pupil) comes to know the blind spot areas of the mirrors and other blind spot areas of the car (e.g. A-pillar) and can explain the risks of the blind spots.
- The student (pupil) explains the visible area of the mirrors and the necessity of knowing this.
- The student (pupil) gains experience in explaining the visible area of the mirrors.

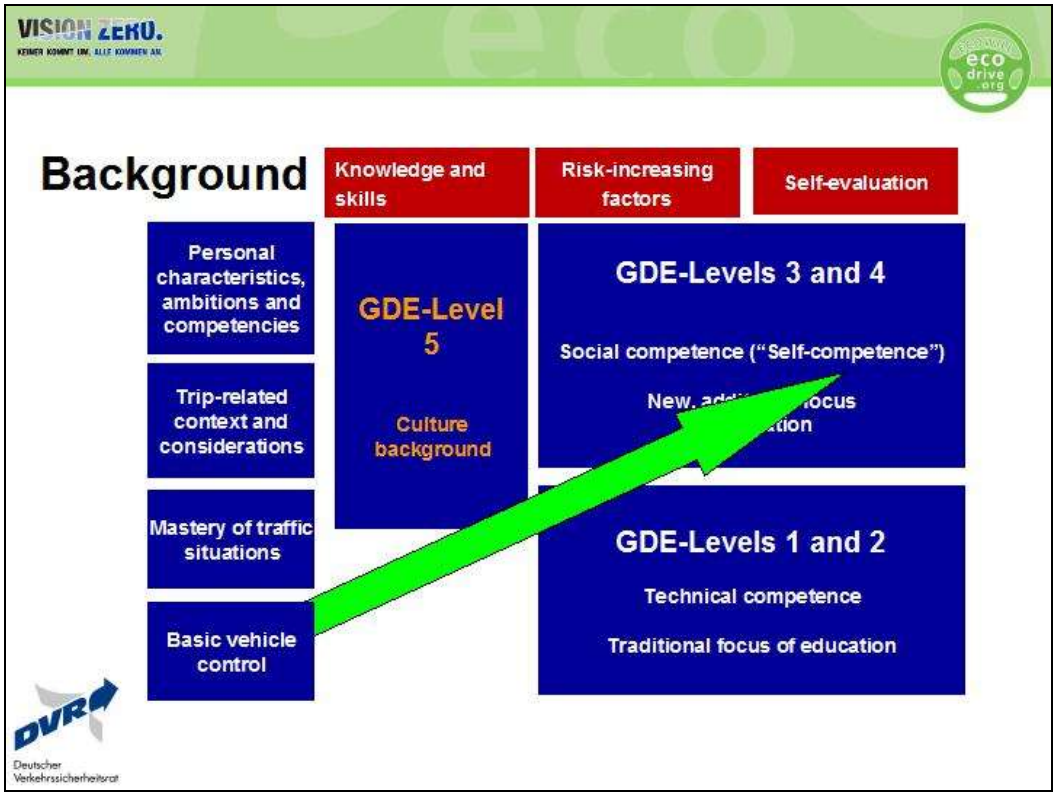
- The student (pupil) gains first experience to use the accelerator (foot throttle), the break pedal and the clutch.
- The student gains (pupil) first experience to accelerate with changing gears up to 50 km/h.
- The student (pupil) gains first experience in finding the 1^{st}, 2^{nd}, 3^{rd}, 4^{th}, 5^{th} and the neutral gear in relation to rpm and driving situation.
- The student (pupil) gains first experience in shifting not later than 2.000 rpm.
- The student (pupil) gains first experience in slowing down nice and gently without shifting down every gear until the car stops.
- The student (pupil) gains first experience in slowing down nice and gently with shifting down every gear earliest at 1.500 rpm.

- The student (pupil) gains experience in switching on/off the car in a safe way.

Feedback stage

Remark: Very important for every learning process is the right feedback at the right moment. As it is described in the EU ECOWILL-Project[22] with the GDE-Matrix, the learning process must include self-evaluation/self-reflection to build up a safe, responsible and environmentally friendly driver. Therefore driver education has to build up the social competence of driving and not only the technical competence of driving. This is one of the future tasks for every driver education system.

Figure 11. Self-evaluation/self-reflection in driving education



[22] *Schulte, K.; Lau, J. (2011-2014), "Ecodriving in Learner Driver Edcucation - ECOWILL Level1 and Level 2", Seminars for Mastertrainers*

Self-evaluation in driving education

To build up a competence of self-evaluation is sometimes a difficult task and needs good communication skills of the driving teacher. The use of closed questions is not very helpful, because the student (pupil) can answer only with yes or no. This implies that a driving teacher should use open questions during the feedback. Then the student (pupil) must think about it and must reflect his/her own experience.

`Formulating open questions can be trained in an easy way in three steps[23]:

Step 1: Which contents are important?

Step 2: Formulate questions which can help you to discuss these contents.

Step 3: Change the question into open questions. Use the words why, what, how, who…

Example of a closed question: Do you feel nervous?
Example of an open question: How (nervous) do you feel?

To have some ideas about open questions in a feedback situation, the following examples can be helpful for a conversation with Charles:

- What was important for you to know about adjusting a safe seating position?
- How was it for you to adjust a safe seating position?
- What have you done and why?

- How was it for you to adjust the mirrors correctly?
- What was important for you?
- What was easy? What was not so easy?
- Why have you done this?

- What do you know about blind spots?
- Where are the blind spots?
- What does this mean for driving this car?
- What have you done to adjust the mirrors correctly?
- What does it mean to adjust mirrors correctly?
- How was it for you to do this? What was easy? What was not so easy?

- How was your experience with accelerating?
- What do you know about shifting up the gears?
- When do you have to shift up, how and why?
- What was easy? What was not so easy?

[23] *HERMES Coaching Seminar manual I, Schulte&Bartl, 2010*

- How was it for you to slow down nice and gently?
- What was easy? What was not so easy?

- When do you have to shift down a gear? When is shifting down a gear unnecessary?
- How have you done this?
- What was easy? What was not so easy?

- What does it mean to switch on the engine in a safe way?
- How was it for you?
- What does it mean to switch off the engine in a safe way and why?
- How was it for you?

- Why do you think you must know this?
- Which reasons are responsible for this?
- What do you think about the reasons?

Chapter III

Pedagogical toolbox

III.1 Toolbox of useful methods

In the field of learning there are some aspects very important for a good learning process and at least for the outcome. In chapter I we described, that “client-centered-learning”, “client-centred-teaching” and a “step-wise-education” will be a professional way of driver education. "Client-centred-learning"/"client-centred-teaching" in this context follows the following principles:

- goal-oriented learning and teaching (the student [pupil] always knows what to learn and which goals should be reached)
- client-oriented teaching (the driving teacher knows and uses the learning method [style], which is the best one for the student [pupil])
- motivated learning (the student [pupil] will be motivated with direct benefits)
- self-reflected learning (evaluation and feedback are necessary for a good learning process to reach the goals - first the opinion of the student [pupil] is important)
- self-evaluated learning (self-evaluation is the key-factor)

To identify the right individual learning style and based on this, the decision about the right teaching procedure (method) needs a special relationship between student (pupil) and driving teacher. In a client-centered-way of thinking this includes an equal based relationship between student (pupil) and driving teacher. It must be clear, that a driving teacher is a paid person who provides always the best service of driving education for unique students (pupils). Every student (pupil) must be accepted as an individual.

For this it is necessary that a driving teacher must have a general survey about useful pedagogical procedures (methods) according to the contents and related to the student (pupil). In the field of driver education Prof. Heilig[24] started in 1997 to describe more than 20 different methods in four clusters which can be used in the field of driver education:

"To show": (to demonstrate sth., to show sth., to do itself); (to illustrate sth.; to present sth.); (to model oneself on so)

"To inform": (to explain sth.); (to tell sth.)

"Task": (briefing, instruction); (to give stimuli); (to choose a task); (questions; giving information, asking questions, commenting answers)

"Feedback": (to confirm; to criticize; to correct; to admonish; to test sth.; to practice; group work; role play; learning individual; case analysis)

These methods describe more the direct activity in working with a student (pupil) using a special pedagogical learning/teaching method, but not the pedagogical procedure as procedure which can be used in driver education. For example “to explain sth.” can be a part of “personal feedback”, “group discussion”, “presentation”, “speech”, “instruction”, “demonstration by teacher” etc.

[24] *“Bruno Heilig “Der Fahrlehrer als Verkehrspädagoge” („Driving teacher as a traffic pedagogue”), 1997; Studienstelle BVF*

With this proposal of "**Face 15**" we offer one toolbox of pedagogical procedures (methods) as one example to decide, which procedure (method) can be very useful for

a) the different areas of competencies
b) for classroom training
c) for theoretical aspects of driver education
d) for practical driver education
e) and for practical and theoretical education

Figure 12 clarifies what a driving teacher always (respecting "client-centred-teaching") has to do to decide which pedagogical procedure (method) will be the best for the student (pupil). One criterion is the area of competences / competencies and the related contents. The second but most important criterion is the student (pupil) and his/her preferences how to learn.[25]

The next decision will be the use of the right method for the student (pupil). For this it is important to clarify again and again, if the driving teacher can/will use classroom training or not or/and what can be done with "homework with tasks" before the session. But at least he has to think about what will be the content of the practical sessions related to the contents.

It is important to understand, that every learning/teaching-situation is unique. The contents can be the same, but the **student** (pupil) always **is unique**.

Figure 12. Decision of pedagogical procedure respecting "client-centred-teaching"

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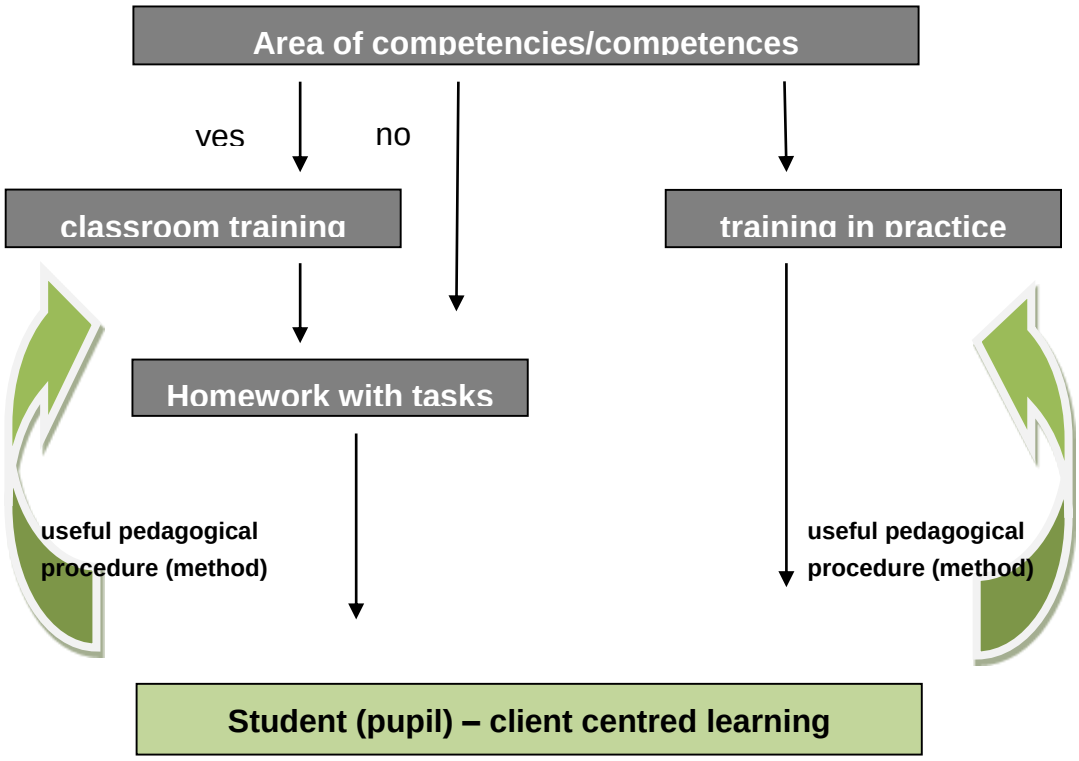
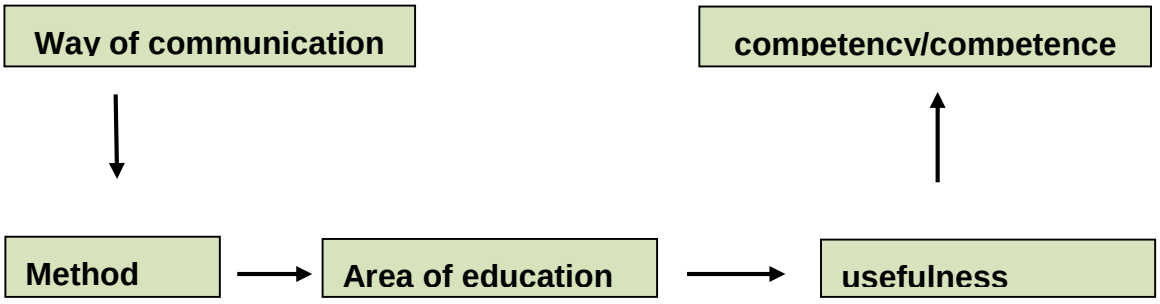


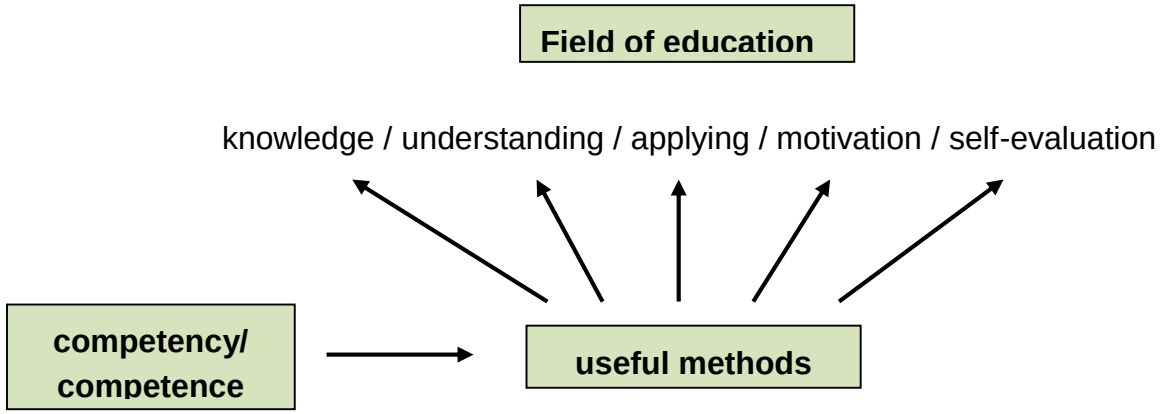
[25] *see als "client-centred-learning"/"client-centred-teaching" page*

On the following pages WG 2 offers two kinds of pedagogical toolboxes like an overview for driver education:

III.1.a) **Pedagogical methods** connected to the competencies/competences, the **way of communication** and **the area of education** (theory, classroom training, practice)



III.1.b**) Pedagogical methods** connected to the competencies/competences and the **education field**



After the proposals of the two possible toolboxes there is a definition / description for the methods and the used terms to understand the background for the classification.

Remark:

The **benefit of** the **toolbox** of pedagogical methods is that **every driving teacher can decide** which **method he prefers** in relation to the students (pupils) expectations of how to learn to reach the goals. “Face 15” offers different methods. “Face 15” advises to use a useful (right) method, not only one method.

Some pedagogical methods need to be trained to be able to use them in a good way. This means that **training supervisors** in the field of driving teacher education and other players must offer further education on pedagogical methods and approaches. Driving teachers should choose good further education offers.

III.1 a) Toolbox of pedagogical procedures (methods/way of communication)

Method	**Competencies / competences**													
	Attitudes, motives	**Education form (theory / practice)**	rules and regulations	risk awareness, hazard perception	behaviour at crash sites	safety check of car	preparation of car, load and journey	traffic observation	guide and control car	speed adaption	safety margin	hazard avoidance	eco-driving	communication
Two-way-communication														
Coaching														
Commented driving/acting														
Personal feedback														
Peer education (e.g. reports)														
Many-to-many-communication														
Guided group discussion														
Moderation (techniques)														
Group work														
Role play														
One-to-many-communication														
Presentation														
CBT/WBT Application														
Handbook, Manual														
Speech														
One-to-one-communication														
Instruction														
Trial and error														
Demonstration by teacher														
Preparation														
Homework with tasks														
Brainstorming														
Evaluation														
Independent driving														
Simulation (simulator)														
Assessment (supervision)														

classroom/theory and practice **more practice** **more classroom/theory**

very useful **possible** **not useful (“no go”)**

III.1 b) Toolbox: pedagogical methods / education field

	knowledge	understanding	applying	motivation	self-evaluation
attitudes/motives	Homework with tasks Guided group discussion Group work Peer education Moderation (techniques) Brainstorming	Coaching Guided group discussion Group work Personal feedback Peer education Moderation (techniques) Role play	Coaching Simulation Commented driving Guided group discussion Group work Moderation (techniques) Role play	Simulation Commented driving Guided group discussion Group work Personal feedback Moderation (techniques) Role play	Coaching Personal feedback Role play
risk awareness/ hazard perception	Homework with tasks Guided group discussion Group work CBT/WBT, App Handbook, manual Presentation Peer education Moderation (techniques) Brainstorming	Coaching Guided group discussion Group work Personal feedback Peer education Brainstorming Moderation (techniques)	Coaching Guided group discussion Group work Personal feedback Simulation Assessment Moderation (techniques)	Simulation Commented driving Guided group discussion Group work Personal feedback	Coaching Commented driving Independent driving Personal feedback Assessment Simulation
hazard avoidance	Homework with tasks Guided group discussion Group work CBT/WBT, App Handbook, manual Presentation Brainstorming Moderation (techniques)	Coaching Guided group discussion Group work Personal feedback Peer education Brainstorming Moderation (techniques)	Coaching Guided group discussion Group work Personal feedback Simulation Assessment Moderation (techniques)	Simulation Commented driving Guided group discussion Group work Personal feedback	Coaching Commented driving Independent driving Personal feedback Assessment Simulation

	knowledge	understanding	applying	motivation	self-evaluation
communication	Homework with tasks Guided group discussion Group work Brainstorming Moderation (techniques)	Coaching Guided group discussion Group work Personal feedback Brainstorming Moderation (techniques)	Coaching Simulation Commented driving Guided group discussion Group work Moderation (techniques)	Simulation Commented driving Guided group discussion Group work Personal feedback Moderation (techniques)	Coaching Commented driving Independent driving Personal feedback Assessment Simulation
rules/regulations	CBT/WBT, App Handbook, manual Speech Presentation Homework with tasks Brainstorming	Commented driving Independent driving Personal feedback Guided group discussion Group work Moderation (techniques)	Commented driving Independent driving Personal feedback Guided group discussion Group work Assessment Instruction Moderation (techniques)	Guided group discussion Group work Personal feedback Moderation (techniques) Coaching	Commented driving Independent driving Personal feedback Assessment
behaviour at crash sites	Presentation Homework with tasks CBT/WBT, App Handbook, manual Demonstration by teacher Instruction Speech Brainstorming	Group work Guided group discussion Personal feedback Moderation (techniques)	Instruction Demonstration by teacher Personal feedback Commented acting	Guided group discussion Group work Personal feedback Moderation (techniques)	Commented acting Personal feedback Assessment Simulation
safety check of car	Presentation Homework with tasks CBT/WBT, App Handbook, manual Demonstration by teacher Guided group discussion Instruction Speech Brainstorming	Group work Guided group discussion Personal feedback Moderation (techniques)	Instruction Demonstration by teacher Personal feedback Commented acting Coaching	Guided group discussion Group work Personal feedback Coaching Moderation (techniques)	Commented acting Personal feedback Assessment Simulation Coaching

	knowledge	understanding	applying	motivation	self-evaluation
preparation of car, load and journey	Presentation CBT/WBT, App Handbook, manual Homework with tasks Demonstration by teacher Guided group discussion Instruction Speech Brainstorming	Group work Guided group discussion Personal feedback Moderation (techniques)	Instruction Demonstration by teacher Personal feedback Commented acting Coaching	Guided group discussion Group work Personal feedback Coaching Moderation (techniques)	Commented acting Personal feedback Assessment Simulation Coaching
traffic observation	Homework with tasks Presentation Guided group discussion Group work Moderation (techniques) Brainstorming	Commented driving Coaching Assessment Guided group discussion Group work Simulation Personal feedback Moderation (techniques)	Coaching Commented driving Independent driving Assessment Simulation Personal feedback Instruction	Guided group discussion Group work Personal feedback Coaching Moderation (techniques)	Commented driving Personal feedback Assessment Simulation Coaching
guide and control car	Homework with tasks Demonstration by teacher Instruction Brainstorming	Commented driving Personal feedback Assessment Coaching Demonstration by teacher	Coaching Commented driving Instruction Independent driving Personal feedback Demonstration by teacher	Coaching Commented driving Personal feedback Independent driving Simulation	Commented driving Personal feedback Assessment Simulation Coaching

	knowledge	understanding	applying	motivation	self-evaluation
speed adaption	Homework with tasks Presentation Guided group discussion Group work CBT/WBT, App Instruction Moderation (techniques) Brainstorming	Commented driving Personal feedback Assessment Coaching Demonstration by teacher	Coaching Commented driving Independent driving Assessment Simulation Personal feedback Instruction	Coaching Guided group discussion Group work Commented driving Personal feedback Independent driving Simulation Moderation (techniques)	Commented driving Personal feedback Assessment Simulation Coaching
safety margin	Homework with tasks Presentation Guided group discussion Group work CBT/WBT, App Instruction Brainstorming Moderation (techniques)	Commented driving Personal feedback Assessment Coaching Demonstration by teacher	Coaching Commented driving Independent driving Assessment Simulation Personal feedback Instruction	Coaching Guided group discussion Group work Commented driving Personal feedback Independent driving Simulation Moderation (techniques)	Commented driving Personal feedback Assessment Simulation Coaching
eco-driving	Homework with tasks Presentation Guided group discussion Group work Instruction Brainstorming Moderation (techniques)	Commented driving Personal feedback Assessment Coaching Demonstration by teacher	Coaching Commented driving Independent driving Assessment Personal feedback Instruction	Coaching Guided group discussion Group work Commented driving Personal feedback Independent driving Moderation (techniques)	Commented driving Personal feedback Assessment Coaching

III.2 Glossary of used terms of methods/procedures

See also explanations of "Principles for learning / structure of education" on pages 12 to 17.

Assessment:

An assessment in this context should be understood as a standardised observation of behaviour in traffic to give the student (pupil) a feedback about his skills and his behaviour driving a car in a safe, responsible and environmentally friendly way. In combination with independent driving the student (pupil) will have a helpful feedback for his/her common progress. In some education systems/measurements standardised assessment (observation) forms are well known[26].

Brainstorming:

Brainstorming before starting the session (lesson) can activate pupils and help to structure the subsequent learning process. Students (pupils) can be motivated to find solutions, collect ideas, opinions, pros and cons, etc.[27]

Coaching:

Coaching[28] is designed to improve existing skills, competence and performance, and to enhance their personal effectiveness or personal development or personal growth.

Coaching is a learner-centred method that engages body, mind and emotions to develop inner and outer awareness and responsibility with an equal relationship between the learner and coach[29].

Coaching[30] is the professional counseling and attendance of a person by a coach, while the person (coachee) is exercising complex actions. Aim is to enable the person (coachee) to achieve his/her personal optimum result. Regarding learning, coaching requires the consideration of the full context of learning from the coachee`s real-life point of view. The task of the coach is to support the student (pupil) in achieving an excellent performance of safe, responsible and environmentally friendly driving. The key principle of coaching is partnership. The role of the coach is not to represent a “knowledge pool” but to incorporate an interested companion, allowing the coachee to find his own way by the help of sophisticated questioning. Coaching is one of the most useful “two-way-communication”-methods.

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[26] *see “Eco/Safety-Training” under Defensiv-Driving-Kurztrainings www.fahrenwieeinprofi.de (14th October 2014)*

[27] *see EU-Merit Project “Final Report” June 30, 2005, page 42 (B. Heilig 2003)*

[28] *see also http://de.wikipedia.org/wiki/Coaching (visit 15th October 2014)*

[29] *see HERMES Project final report, February 2010 (www.alles-fuehrerschein.at/HERMES)*

[30] *Schulte, K. (2011/2012), „Ecodriving in Learner Driver Education – ECOWILL Level 1“, Handbook for Trainers, Deliverable D3.1*

Learning to become a coach usually takes months or even years

1. Coaching cannot be learned from a book
2. Coaching cannot be learned from a lecture
3. Coaching must be learned through self-experience and reflection on what has been experienced

Commented driving:

Commented driving is one pedagogical method where e.g. the student (pupil) is driving without directly support from the driving teacher. In this moment the student (pupil) is telling everything what he/she observes, thinks, transfers and is doing in different traffic situations. The use of commented driving (also commented acting) is very helpful to get all relevant information to understand decisions of acting. The driving teacher not only sees the behaviour in different situations, he gets the important information why the student (pupil) is doing this. Commented driving is also a useful “two-way-communication”-method.

CBT (Computer based training), WBT (web-based-training), Application:

CBT, WBT and apps can be used to prepare oneself about contents of driving e.g. at home or in public transport. It can be used to understand some technical aspects or to train with answers and questions or to train with checklists. One benefit can be that it is possible to learn in an interactive way. A lot of students use CBT, WBT and apps to prepare themselves for the theoretical examination. The potential of this kind of learning is developable.

Demonstration by teacher:

One good way to learn is for some students (pupils) to observe behaviour from experienced persons and try to copy this behaviour. In this case the driving teacher shows how to act in situations and the student (pupil) tries to copy this kind of acting.

Guided group discussion:

Guided group discussion is a method where the driving teacher uses questions to discuss aspects of driving from different perspectives. The main task for the driving teacher is the guidance of the discussion. The driving teacher is responsible that the discussion follows the content. He is also responsible to notice the inputs and to make a summery or a conclusion (visible). If there are no new aspects the driving teacher is responsible to finish the group discussion at the right time. This kind of method is useful e.g. in classroom training.

Group work:

Group work means that small groups of students (pupils) will have the task to prepare some aspects of driving. There is also the chance that some aspects can be discussed from different perspectives (e.g. pro and contra). The group will get e.g. a worksheet with some questions about aspects and they should prepare everything that is relevant. The results from every group should be presented in the plenum. This kind of method is useful e.g. in classroom training.

Handbook, manual:

Handbooks and manuals can be used to prepare oneself for contents of driving e.g. at home or in public transport. The main task is to read and to understand what is written.

Homework with tasks:

To prepare situations or learning sessions (lessons) a “homework with tasks” can be very useful. Important for using this method are clear tasks with clear goals. The best way for this kind of homework is a written task with clear defined goals (see also SMART- and GROW-method on page 12). A task like “think about speed limits until next lesson” e.g. is not a homework with tasks.

To change the task into the following description can be useful:

“Please observe your father driving the car during the next three days. Note every violation against the speed limit and ask him why he has done this. Describe the situation and add his reasons for the violation. Think about the personal benefits for your father and the risks in traffic. Add also both aspects to the particular situation. In the evening of the third day read everything and write down your conclusion of this monitoring. Please explain why you have this conclusion. On the fourth day we will discuss your conclusion.”

Independent driving:

In some countries independent driving is used as one part of the examination. Independent driving means that the student (pupil) will have e.g. the task to drive from the “City center” to the “football stadium”. To find the right way, he should use the “direction signs”. This method is useful to evaluate the skills and the competence of driving of the student (pupil) at the end of the driver education. Independent driving in combination with an assessment can be very helpful for the common progress of learning.

Instruction:

Instruction is a method where a student (pupil) gets direct information how to act in situations. The driving teacher tells what the student (pupil) has to do and the student (pupil) is only doing what the driving teacher says. For some students (pupils) instruction is a method which they are familiar with.

Moderation:

Moderation is a complex mix of methods partly described here. The main difference to group discussion is that the ***moderator does not give the learning- or discussion goal***. The subject or goal is provided by the group or individual student (pupil). It is an excellent method for developing group processes or for addressing problems in groups. This complex teaching method must also be trained and learned by instructors in practical seminars.[31]

Moderation uses a lot of different techniques to structure a discussion, to visualize results, conclusions and solutions. With the techniques of moderation it is also possible to structure a discussion with a given goal. These techniques can be used especially in classroom training in useful ways.

Peer education:

The peer mentor (e.g. project "CLOSE TO"[32]) presents his own experience in road traffic in front of young learners. He explains his motives, the circumstances and consequences and he presents his own conclusions of the presented experiences.

After the confrontation with the peer mentor's story, the learners have the opportunity to ask for details and to discuss the story whereas the driving teacher occupies the role of a moderator.

Personal feedback:

The personal feedback is one method to build up a competence of self evaluation. The key is the use of open questions to support thinking about behaviour and attitudes. Personal feedback means the driving teacher listens to all information and to ask further more if it is necessary. Personal feedback is another useful "two-way-communication"-method.

[31] *see EU-Merit Project "Final Report" June 30, 2005, page 43 (B. Heilig 2003)*

[32] *see www.close-to.net, 16th October 2014 (see also description Slowenia)*

Presentation:

A presentation gives an overview about contents of driving. Mostly the driving teacher uses electronic equipment like a computer and prepared slides to inform the students (pupils) about contents. This kind of method is like a “one-to-many-communication” to give information. In a presentation it is possible to ask questions if something is not understandable. This kind of method can be used in classroom training.

Role play

In a role play it is possible to play different road users and their acting in different traffic stituations. It is also possible to play a situation at the court related to offences or accidents in traffic. The student (pupil) take the role and try to play it (if possible authentic). It is possible to play it with defined tasks, it is also possible to play it “open”. Important in using a role play is to analyse after the role play what`s happened and why.

“Role plays only make sense if students (pupils) are not too shy. Then typical traffic conflicts can be experienced and analysed. Simple interactive plays can be used to get to know one another in a group.”[33]

Simulation (simulator):

To use a simulator during driver education can be helpful for difficult tasks in traffic which cannot be reenacted during driving sessions in traffic. Especially for hazard perception and risk awareness simulators can be helpful. But very important using a simulator as a tool for evaluation is the personal feedback afterwards.

Speech:

The method of a speech is a method which is not really communicative. In comparison with a presentation a speech uses words to explain aspects e.g. of driving. The student (pupil) has to listen and must make notes of interesting aspects. A speech is the traditional way of a one-to-many-communication without repeat.

Trial and error:

This method means that the student (pupil) can do what he thinks and the driving teacher will react only before it will be dangerous. Some students (pupils) are familiar with this kind of method, especially as a child to get experience with a cooking stove. This kind of method should not be discussed in detail, but it can be very dangerous in traffic.

[33] *see EU-Merit Project “Final Report” June 30, 2005, page 43 (B. Heilig 2003)*

Some more useful pedagogical methods are described in e.g. "HERMES Coaching Manual I for course leader"[34]

page 14) **3 or 4 corner method**

page 37) **Aquarium**

[34] *www.alles-fuehrerschein.at/HERMES - "Hermes Seminar Manual I English for Coaches"*

Chapter IV:

Examples

“Contents and objectives of the competence areas for the driver education according to the GDE-Matrix”

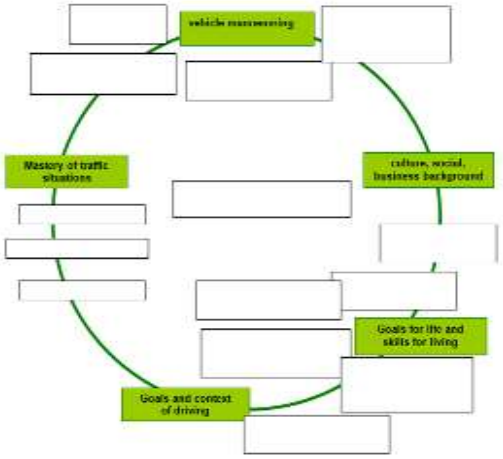
How to read Chapter IV?

Competence area

For every area of competencies (see WG 1) you will find at first a description of all relevant contents for driver education sorted into the different areas (former called “levels”) of the GDE-Matrix. It is marked like IV.x.y.

Contents

This kind of figure shows if the focus of education is more theoretical based or practical based and it shows also the interaction between contents and areas of the GDE-Matrix. The driving teacher has the possibility to build up an education plan in a goal oriented way. In relation to the national education system a driving teacher must also decide how to interlock theory and practice.



Goals → ***Education plan***

Based on these contents you will find for some examples a list of the goals which should be reached in the driver education on the following pages. These are the goals for the driving teacher. Looking at the goals it is not defined how to do this. It can be a mixture between homework and practical education or a mixture between classroom-training and practical education.

Example

- ***stages (preparation/feedback)***
- ***stages (basic etc.)***
- ***pedagogical structure***

The following pages give examples, but only examples, how to use/plan “step-wise-training” in combination with a pedagogical structure.

In this way it will be possible for every country to integrate a “step-wise-training” into their national driver education system.

In reference to "Swedish Transport Agency provisions on curriculum for driving licence (B)[35]" the used verbs have the following meanings:

accept	students are committed to a particular approach
adapt	students adjust their behaviour to a certain level
use, drive, apply, demonstrate, show	students do things on the basis of their knowledge
assess	students assess their ability
identify, anticipate	students recognize something and can justify why
explain	students describe and reflect on an area of knowledge
perform	students perform a task
evaluate	students take a standpoint and can explain why
reproduce	students can reproduce facts with some understanding of what the facts represent

Chapter IV includes some complete examples for a structured driving education for the competence/competency areas e.g. at the moment

- **attitudes, motives, backgrounds as social competencies**
- **traffic observation**
- **safety margin**

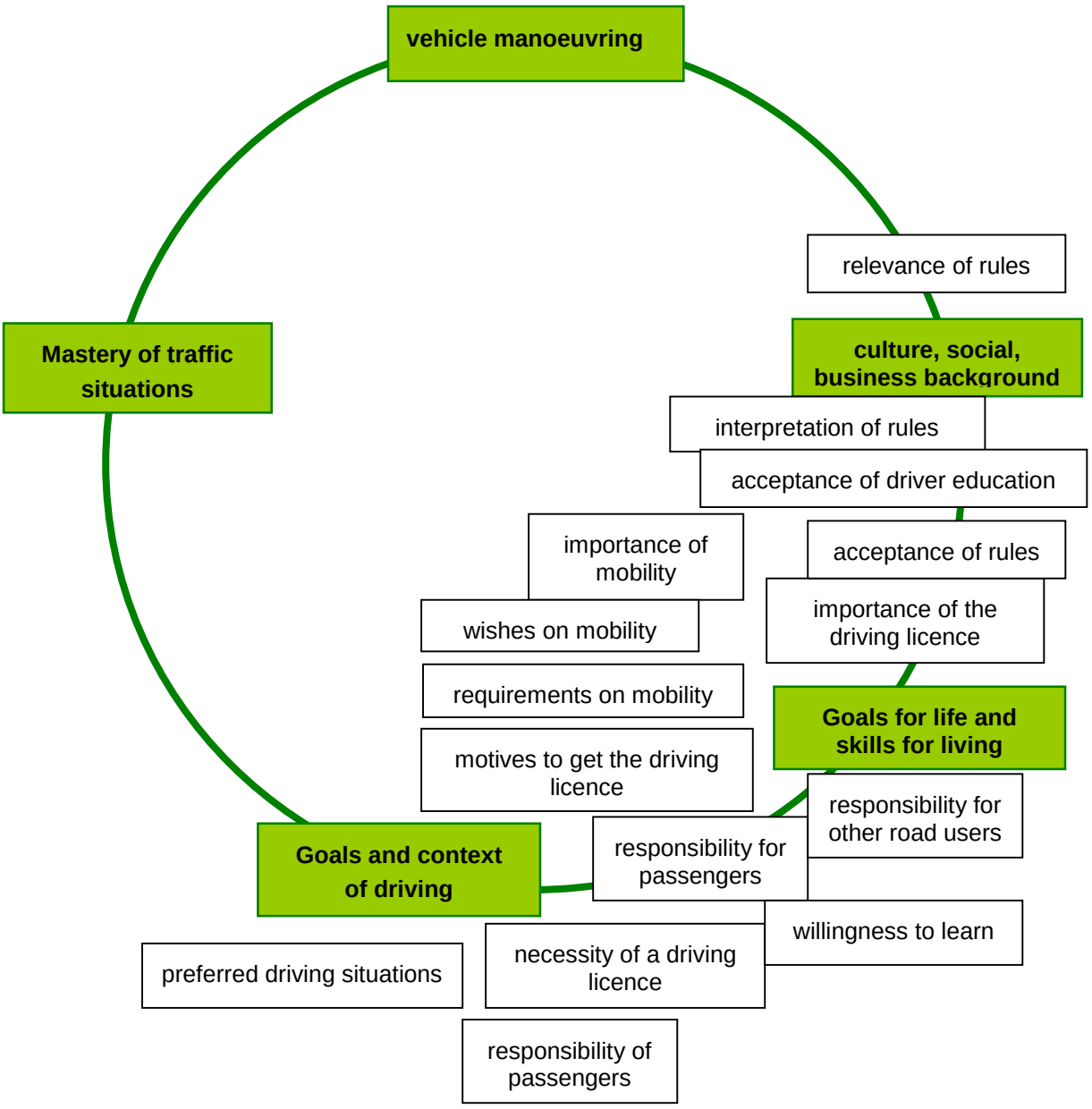
and the contents of all other areas of competences/competencies.

If CIECA decides and has the wish, this document will be completed for all competences/competencies until the end of 2014.

[35] *Swedish Transport Agency provisions on curriculum for driving licence B; 28th February 2011 (Olof Stenlund)*

IV.1 Personal aspects (attitudes, motives, culture background, social background, willingness)

Chapter IV.1.1) attitudes, motives, backgrounds as social competencies



Preparation / theoretical part (theoretical education in classroom or in the car, CBT, WBT or handbooks)

- The student must identify and explain the importance of mobility for himself.
- The student must identify and explain his/her requirements on mobility.
- The student must identify and explain his/her wishes on mobility.
- The student must identify and explain his/her motives to get the driving licence.
- The student must identify and explain his/her preferred driving situations.
- The student must identify and explain the importance which the driving licence will have for him/her.
- The student must evaluate the necessity which the driving licence will have for him/her.
- The student must identify that motives, requirements and wishes can increase the risk of driving.
- The student must evaluate and reproduce his/her personal risks based on the motives, wishes and requirements.
- The student must identify and explain the relevance of rules.
- The student must assess the interpretation of rules.
- The student must evaluate and reproduce his/her own acceptance of rules.
- The student must accept the necessity of rules.
- The student must identify and explain the responsibility for other road users.
- The student must identify and explain the responsibility for passengers in the car.
- The student must evaluate and reproduce the necessity of responsibility.
- The student must identify and explain his attitudes about driver education.
- The student must accept the necessity of driver education.
- The student must perform willingness to learn.

attitudes, motives, backgrounds as social competencies		
stage	**comments**	**pedagogical principle**
preparation stage	In some countries this content can be a part of the theoretical education (classroom training). It is necessary, that this part is done before the first lesson of the practical education in a car. In countries, which have no theoretical education (classroom training), it must be a part of the first lesson in the car, but nevertheless it should be designed as a part done at home (e.g. WBT, CBT, handbook etc.). This is a special task for publishers.	
	The student must evaluate the importance of his attitudes and motives for safe driving. The driving teacher must explain, that it is important to come to know about the influence of attitudes about mobility, responsibility, rules and motives for safe driving and for the learning process and has to ask the student, what he is expecting from the driver education. e.g. questions: "What are you expecting from the driver education?" "What do you know about driver education?" "How do you want to learn?" "How can I support your learning?" "What do you expect from me?"	**goal-oriented teaching and learning** **client-oriented teaching**
	The student must know, that he as a person is important to define the right teaching/learning method/process. The driving teacher has to ask, how he can support the learning process of the student in a goal oriented way. e.g. questions: "What can you do to learn effective?" "What is your preferred learning style?" "What do you need for learning with fun?" "Which goal(s) do you want to reach?" "How can I support you to reach this goal(s)"?	**motivated learning**

Example 1.1.

stage	goals	pedagogical principle
	▪ The student must identify and explain the importance of mobility for himself. ▪ The student must identify and explain his/her requirements on mobility. ▪ The student must identify and explain his/her desires on mobility. ▪ The student must identify and explain his/her motives to get the driving licence. ▪ The student must identify and explain his/her preferred driving situations. ▪ The student must identify and explain the importance which the driving licence will have for him/her. ▪ The student must evaluate the necessity which the driving licence will have for him/her. ▪ The student must identify that motives, requirements and desires can increase the risk of driving. ▪ The student must evaluate and reproduce his/her personal risks based on the motives, desires and requirements. ▪ The student must identify and explain the relevance of rules. ▪ The student must assess the interpretation of rules. ▪ The student must evaluate and reproduce his/her own acceptance of rules. ▪ The student must accept the necessity of rules. ▪ The student must identify and explain the responsibility for other road users. ▪ The student must identify and explain the responsibility for passengers in the car. ▪ The student must evaluate and reproduce the necessity of responsibility. ▪ The student must identify and explain his attitudes about driver education. ▪ The student must accept the necessity of driver education. ▪ The student must perform willingness to learn.	**concrete contents** **theoretical classroom training** **or** **short theoretical parts in a car before practical exercises** **in combination with** **homework with worksheets** **or** **homework with a handbook** **or** **homework with CBT/WBT**

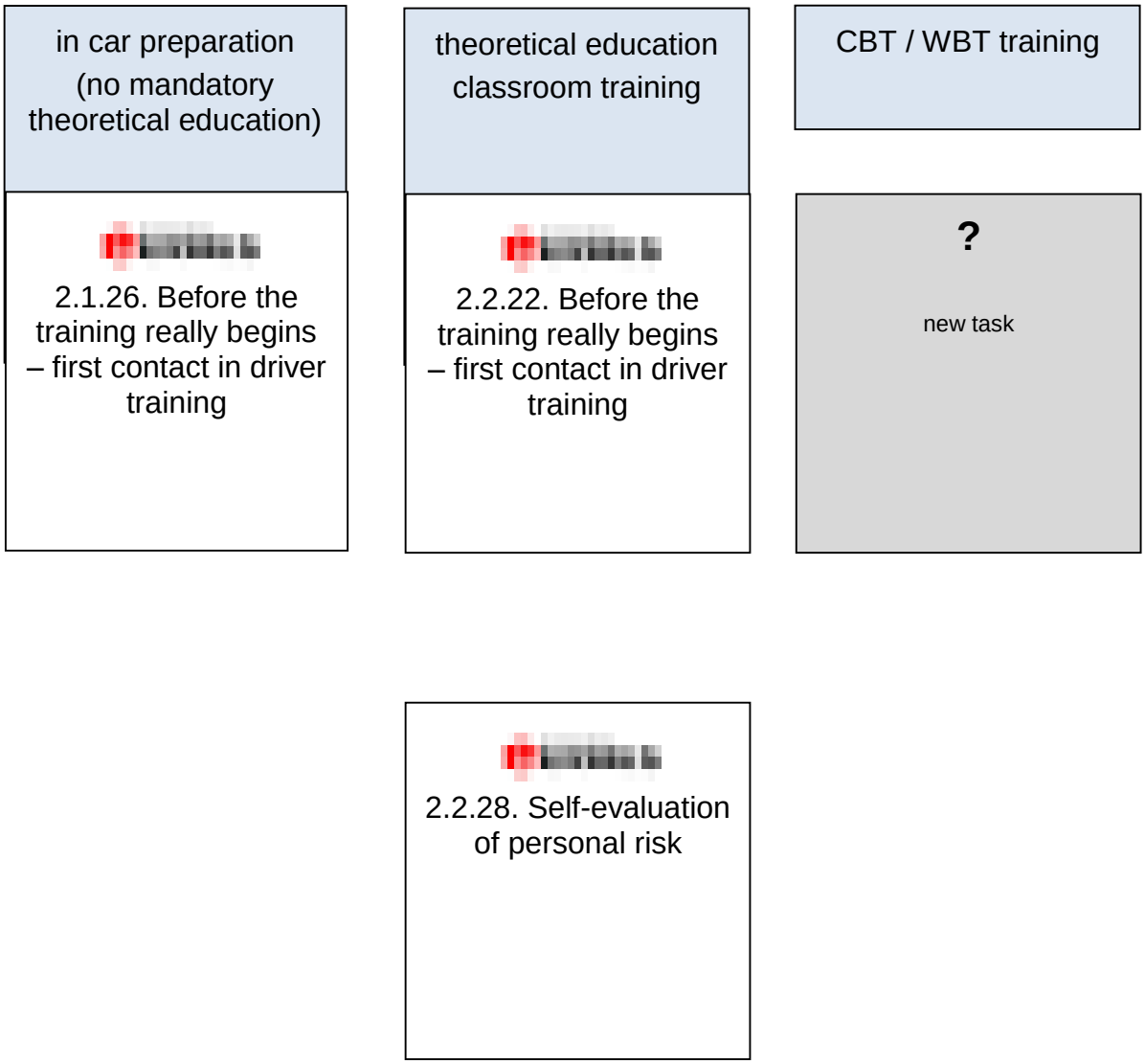
stage	comments	pedagogical principle
feedback stage	The student must evaluate his experiences and his understanding about the contents with support of the driving teacher. This can/should be combined with a professional feedback from the driving teacher. e.g. questions: "What is your main result and why?" "What do you understand concretely?" "What is your conclusion and why?" "What does it mean for your driving and why?" "What does it mean for your learning and why?" "What does it mean for the driver education?"	**self-reflected learning** **self-evaluated learning**
preparation stage	The student needs support to get an idea of possibilities of self-evaluation in the near future. One example can be that the student has the task to evaluate his attitudes, motives etc. in other areas of life (e.g. school or work) at this stage. The driving teacher can support this task with clear formulated questions. e.g. questions: "What are you expecting from school education?" "How do you learn at school?" "What can you do to learn effectively?" "What is your preferred learning style?" "What do you need for learning with fun?"	

Example 1.1.

Examples of how it is possible to integrate the contents of attitudes, motives, backgrounds as social competencies in different driving education systems are published in the EU-HERMES-Project[36] under

http://www.allesfuehrerschein.at/HERMES/

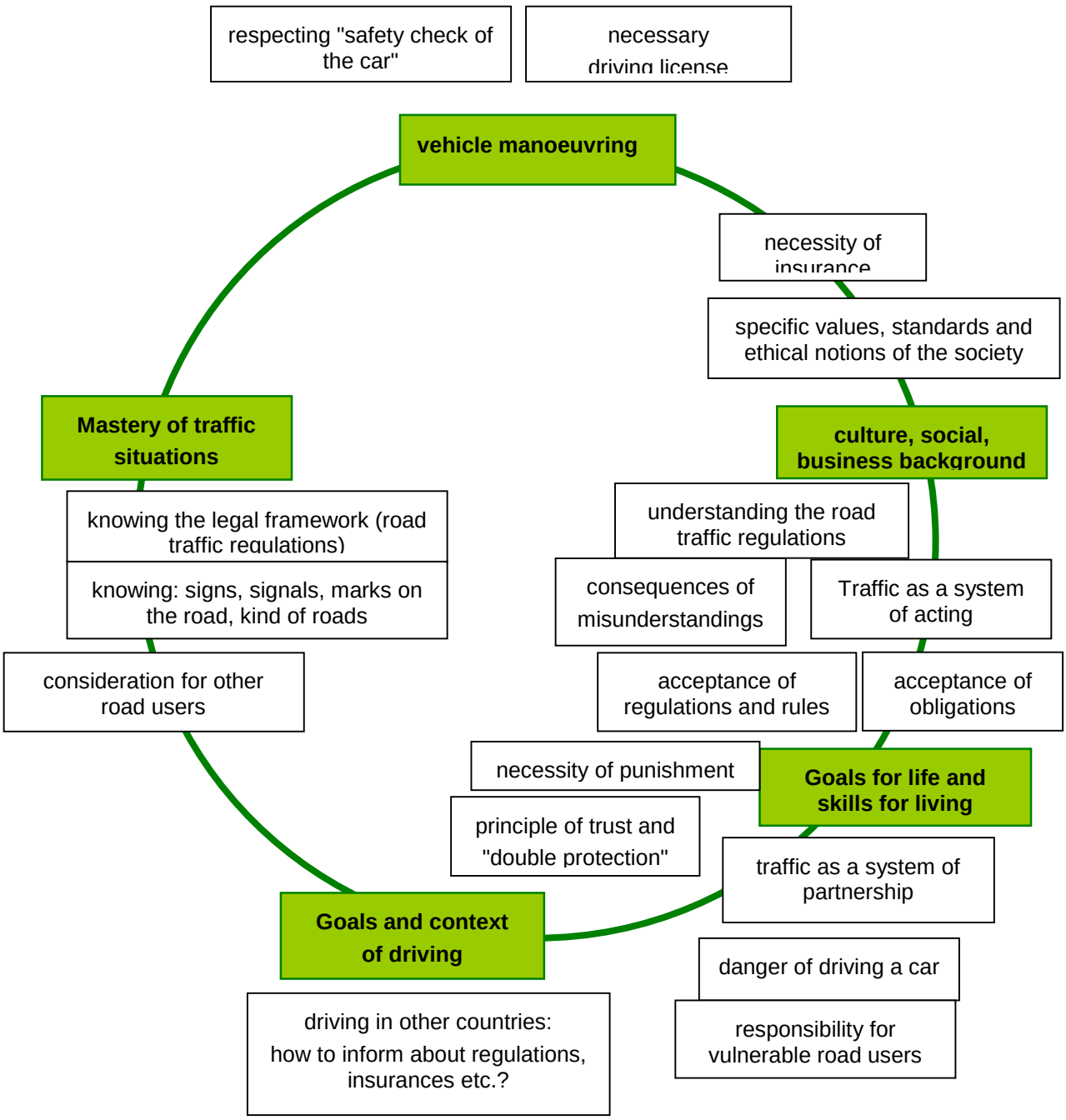
http://www.fahrenwieeinprofi.de/cieca-rue/index.htm



[36] *HERMES coaching scenarios, 2010*

WG 1 Competence “Road traffic as a system”

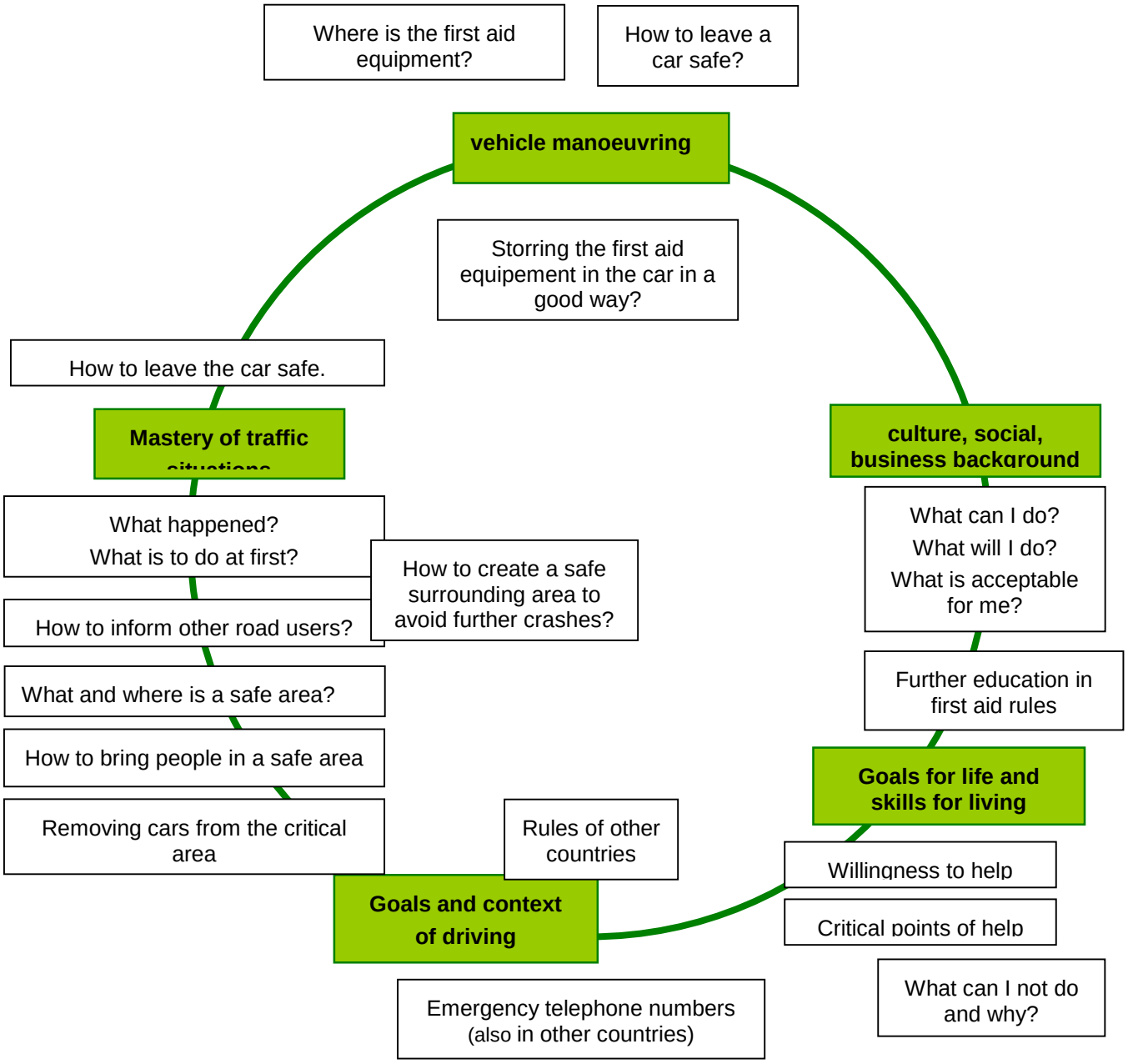
Chapter IV.2.1) Road traffic as a system: rules and regulations



WG 1 Competence “Behaviour at crash sides”

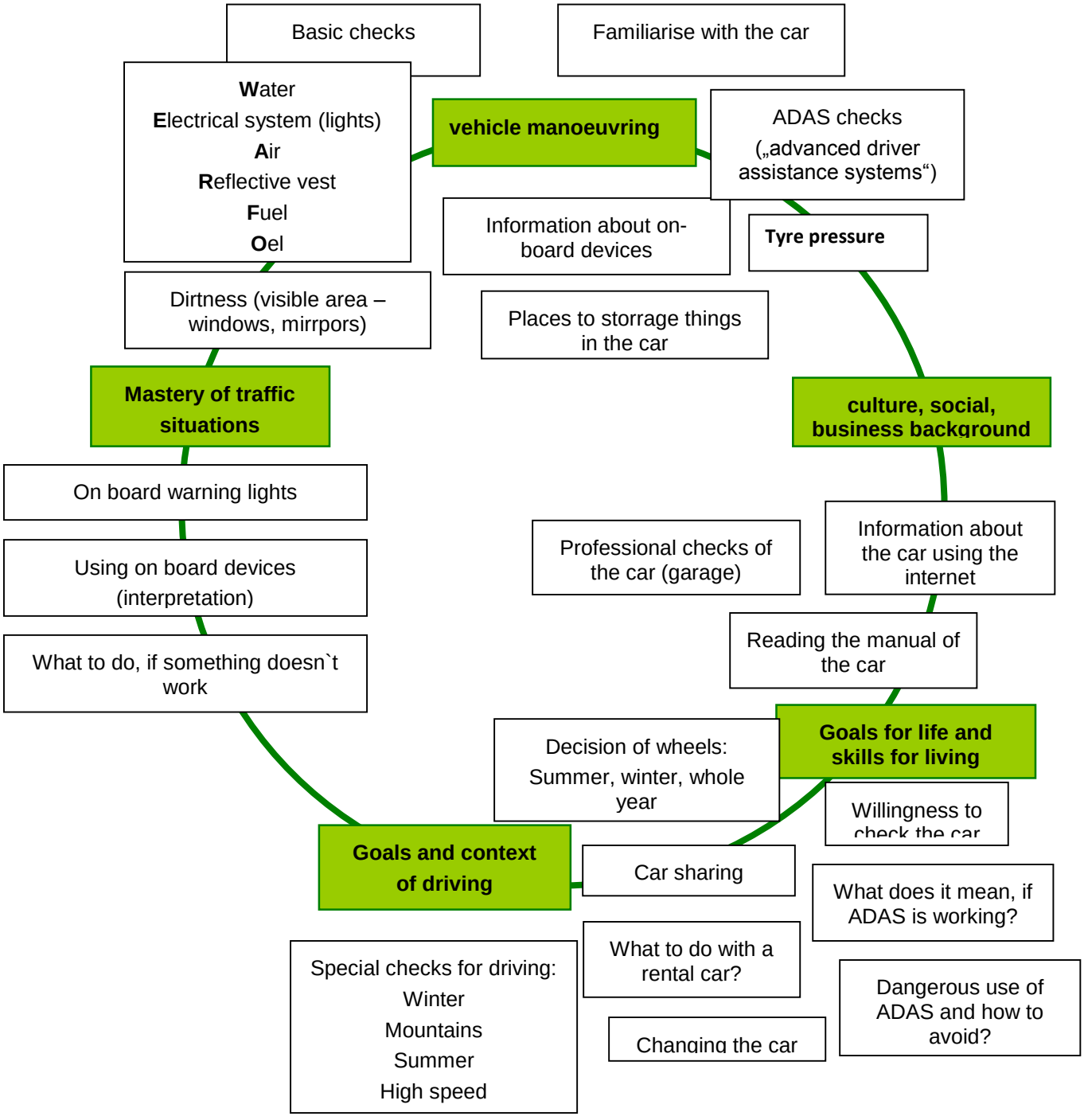
Chapter IV.2.2) Behaviour at crash sides

(Some aspects of this competence are not offered by driving schools. There are a lot of existing organisation, which are really familiar with this. But it should be also discussed during driving education in general)



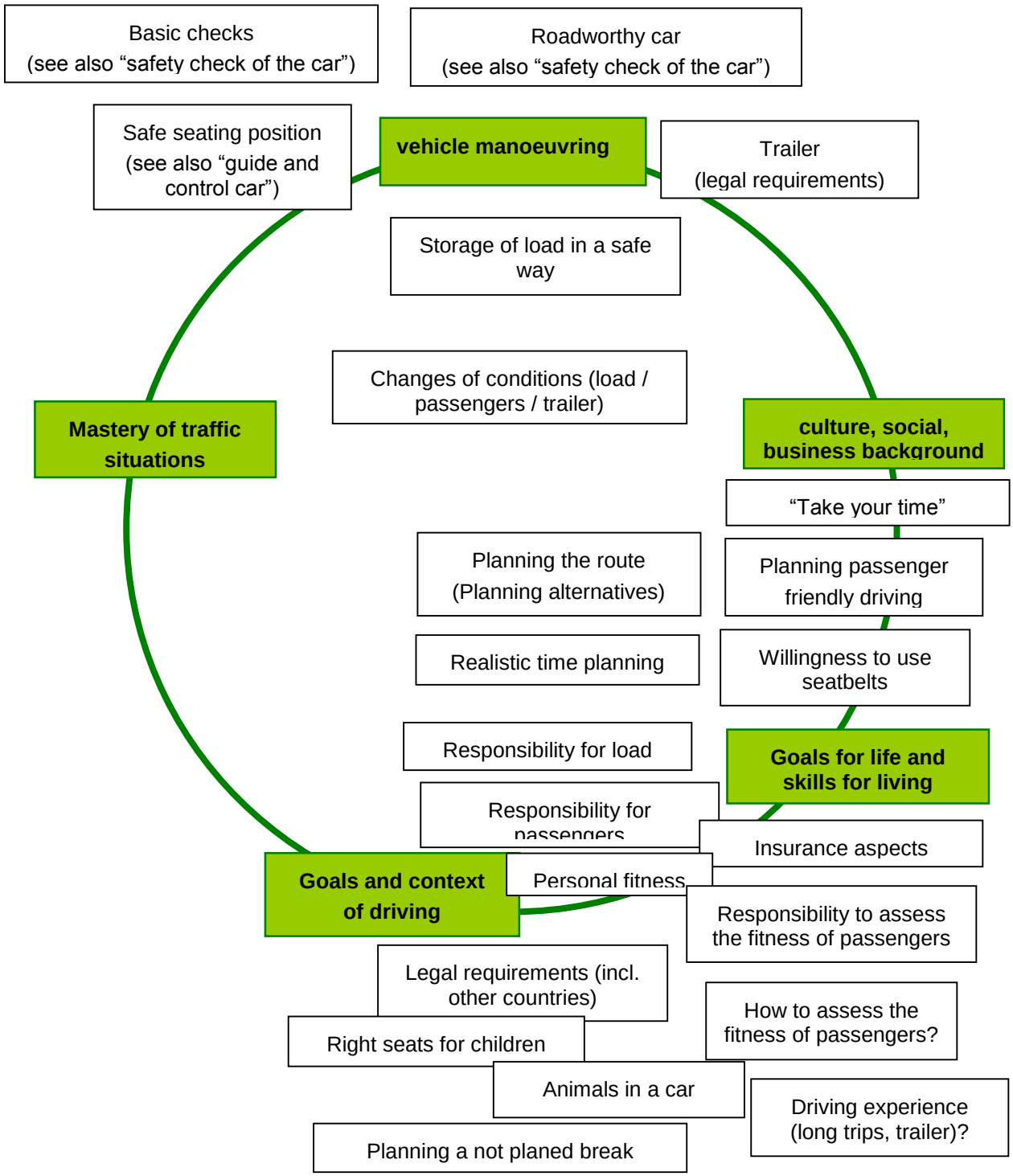
WG 1 Competence “Safety check of a car”

Chapter IV.2.3) Safety check of a car



WG 1 Competence “Preparation of car, load & journey”

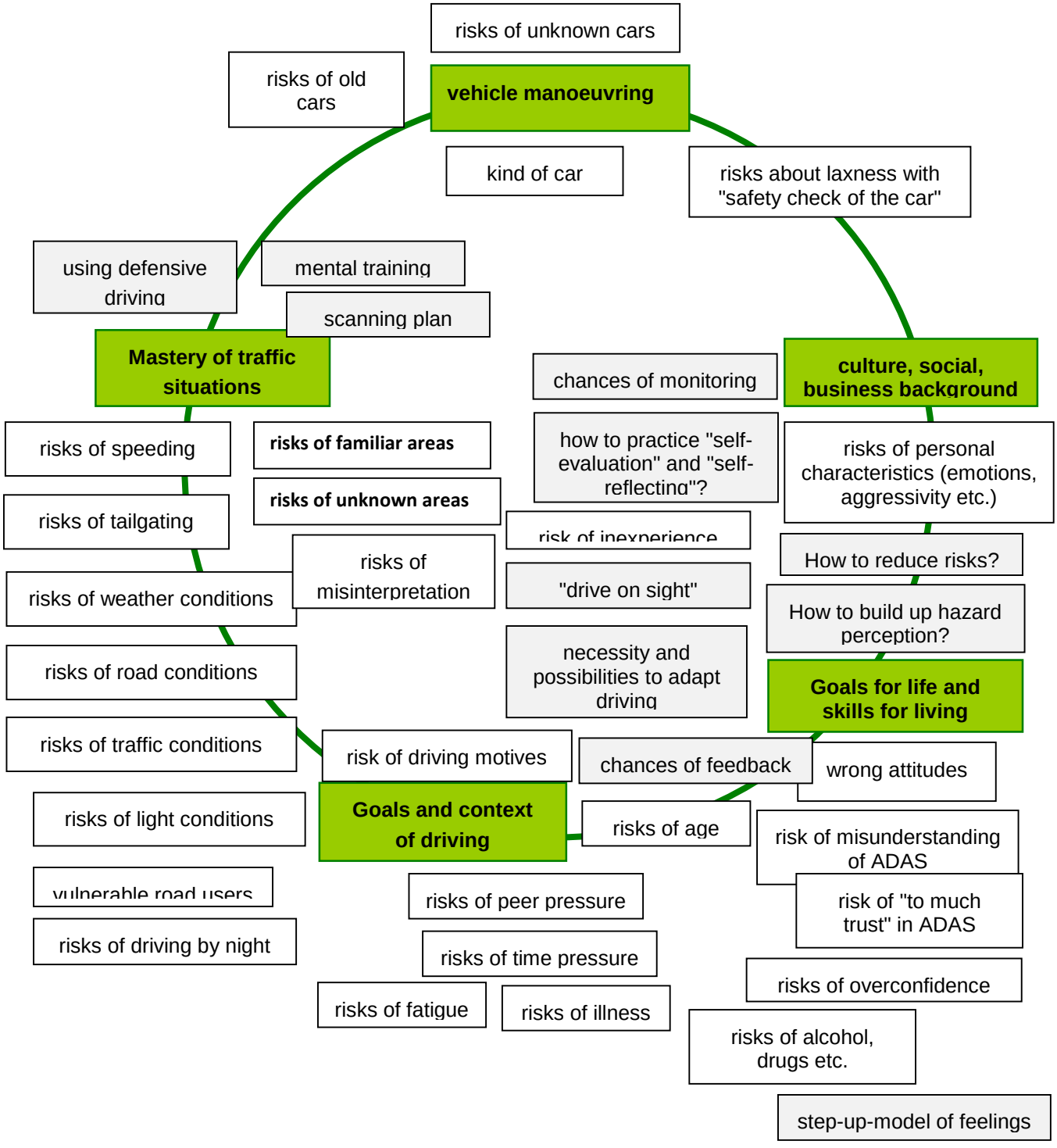
Chapter IV.2.4) Preparation of car, load & journey



WG 1 Competence “Risk awareness & hazard perception”

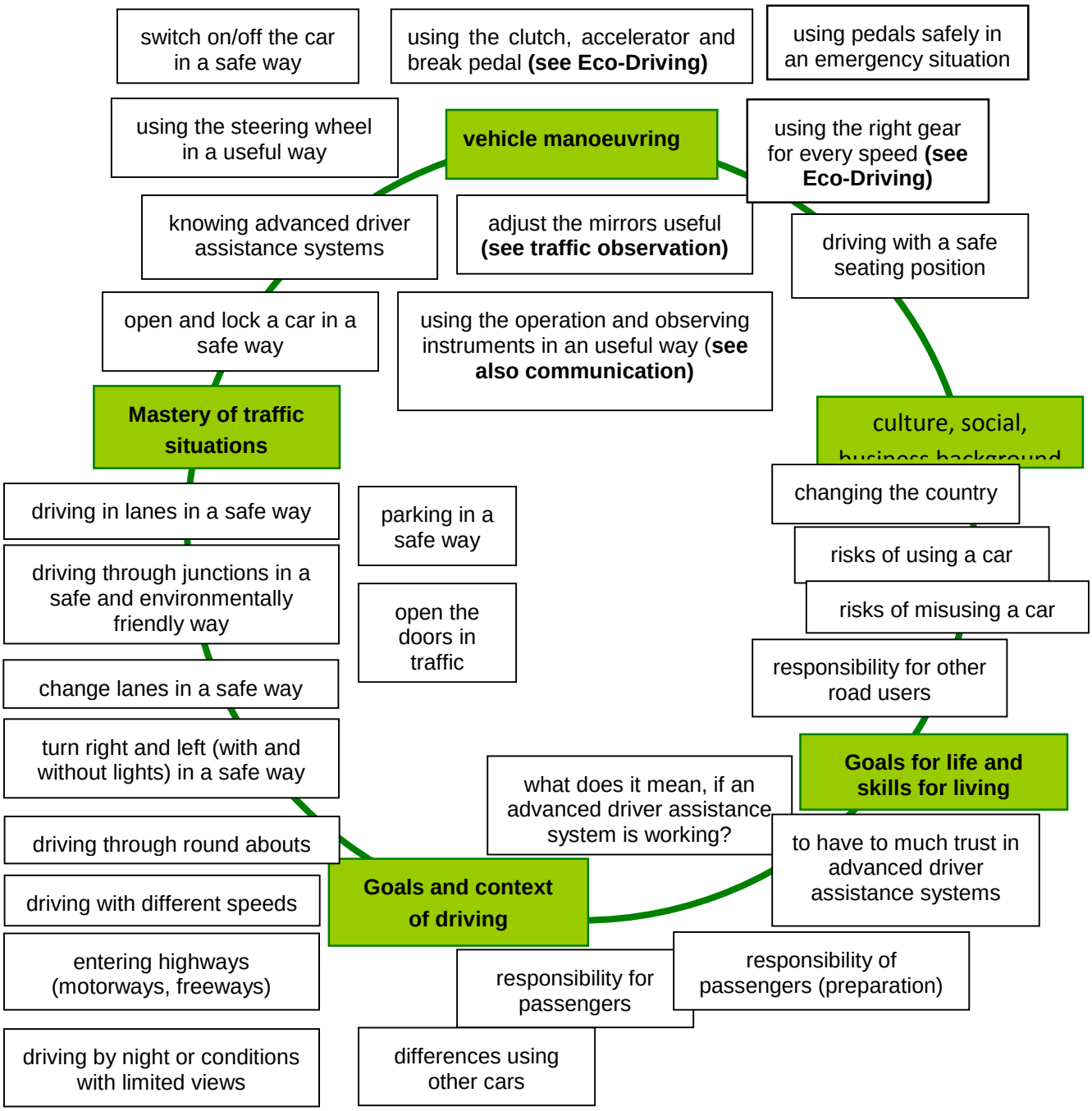
Chapter IV.3.1) Risk awareness & hazard perception

see especial hazard avoidance (page 87)



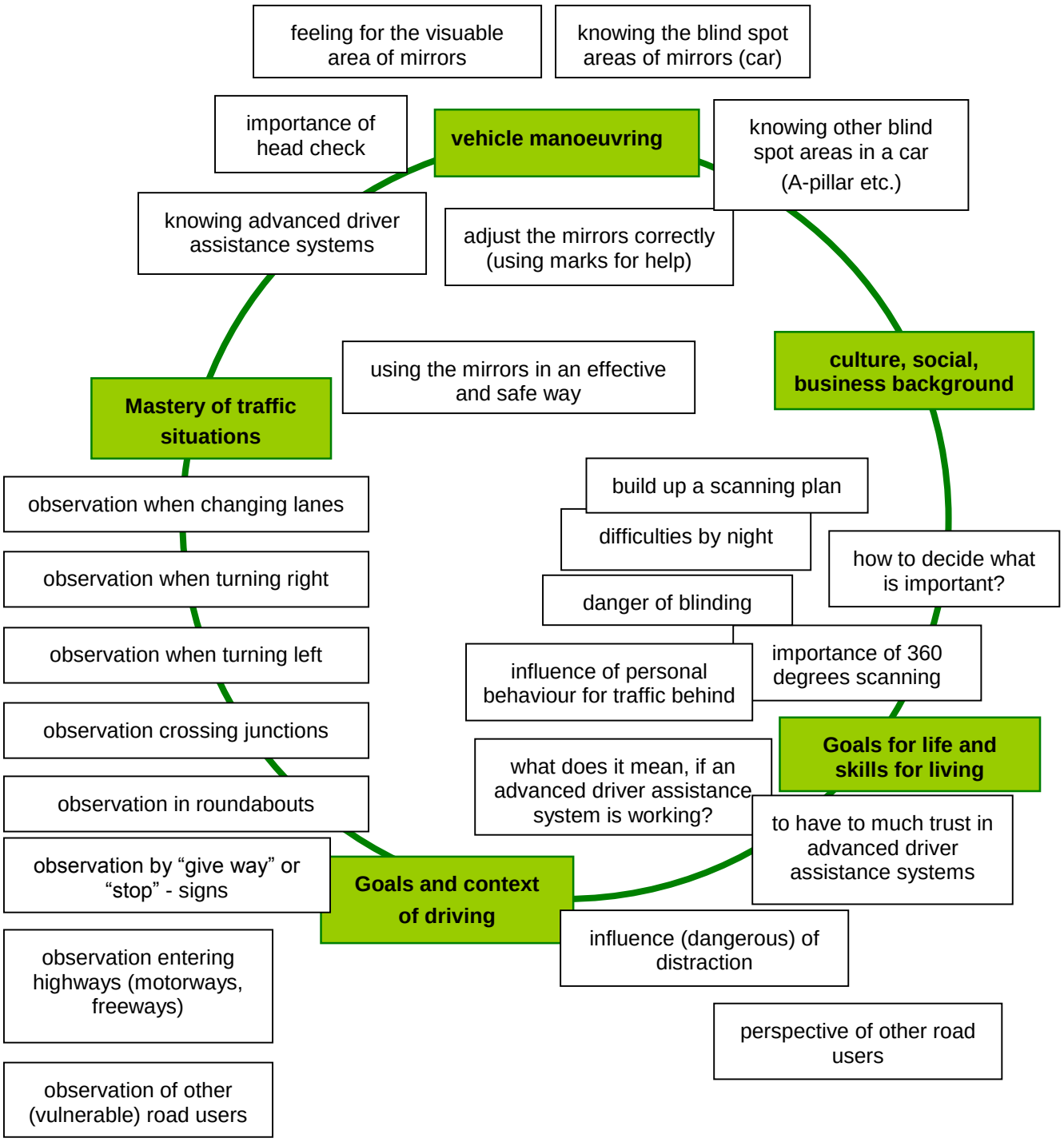
WG 1 Driving Competence "Car handling/manoeuvre"

Chapter IV.3.2) Guide and control car



WG 1 Driving Competence “Traffic observation”

Chapter IV.3.3) traffic observation



Preparation / theoretical part (theoretical education in classroom or in the car, CBT, WBT or handbooks)

- The student must have an understanding about the importance of traffic observation and is able to evaluate the importance.
- The student must have an understanding about the importance of 360 degrees scanning and is able to explain why.
- The student must come to know the importance of head check and is able to explain situations and reasons.
- The student must come to know the difficulties of traffic observation by night and is able to explain the reasons.
- The student must come to know the danger of blinding and is able to identify useful strategies.
- The student must come to know the influence of personal behaviour for traffic behind him and is able to explain why.
- The student must come to know the importance of a scanning plan and is able to evaluate the importance.
- The student is able to build up a scanning plan and is able to reproduce it for different situations.
- The student comes to know how to decide what is important in traffic observation and is able to explain how and why for different situations.
- The student must come to know the influence of distraction of traffic observation and can explain the reasons.
- The student is able to evaluate the risks of influence of distraction of traffic observation.
- The student is able to transfer his/her knowledge on the perspective of other road users and is able to explain this.
- The student comes to know driver assistance systems for traffic observation and can explain, what it means, if an advanced driver assistance system is working and supporting him.
- The student is able to explain the risks of too much trust in advanced driver assistance systems.

Practical education in car

- The student is able to demonstrate the observation with head check and is able to explain the importance in different situations.
- The student comes to know how to adjust the mirrors useful, demonstrate it and explain why.
- The student gains experience how to adjust the mirrors useful.
- The student comes to know the blind spot areas of the mirrors and other blind spot areas of the car (e.g. A-pillar) and can explain the risks of the blind spots.
- The student is able to explain the visible area of the mirrors and is able to explain necessity of knowing this.
- The student gains experience in explaining the visible area of the mirrors.
- The student gains experience using the mirrors in an effective and safe way and is able to explain it in different situations.
- The student gains experience with observing the traffic when turning right, is able to demonstrate it in different situations in a safe way and makes decisions in a safe way.
- The student gains experience with observing the traffic when turning left, is able to demonstrate it in different situations in a safe way and makes decisions in a safe way.
- The student gains experience with observing the traffic when crossing junctions, is able to demonstrate it in different situations in a safe way and makes decisions in a safe way.
- The student gains experience with observing the traffic when crossing junctions with “give way” or “stop”-signs, is able to demonstrate it in different situations in a safe way and makes decisions in a safe way.
- The student gains experience with observing the traffic when changing lanes, is able to demonstrate it in different situations in a safe way and makes decisions in a safe way.
- The student gains experience with observing the traffic in roundabouts, is able to demonstrate it in different situations in a safe way and makes decisions in a safe way.
- The student gains experience with observing entering highways (motorways), is able to demonstrate it in different situations in a safe way and makes decisions in a safe way.

- The student gains experience with observing other (vulnerable) road users, is able to demonstrate it in different situations in a safe way and makes decisions in a safe way.
- The student is able to asses his/her ability of observation and to identify the risks of wrong interpretation and is able to evaluate it.

traffic observation		
stage	**comments**	**pedagogical principle**
preparation stage	In some countries this content can be a special part of the theoretical education (classroom training). If this integration is possible, some teaser questions should be used before practical education as a reminder. If it is not possible to discuss this in classroom training, it should be integrated as a short theoretical part before practical lessons. At the beginning it is helpful, that some aspects will be discussed before the first lesson of the practical education in a car starts. Other parts (like observation in more complex situations e.g. turning right or left) should be discussed later. Therefore it should be designed as a part done at home (e.g. WBT, CBT, handbook etc.). This is a special task for publishers.	**theoretical classroom training**
	In preparation of the basic stage the - student must have an understanding about the importance of traffic observation and is able to evaluate the importance. - student must have an understanding about the importance of 360 degrees scanning and is able to explain why. - student must come to know the importance of head check and is able to explain situations and reasons. For this the driving teacher can use the following questions: What do you know about traffic observation? What do you think is important to observe? How can you observe? How do you use the mirrors and why? What do you know about blind spots?	**goal-oriented teaching and learning** **client-oriented teaching** **homework with worksheets** **or** **homework with a handbook** **or** **homework with CBT/WBT**
	How can you get the relevant information? What can help you to get the necessary information? What do you need from me? How can I support you? What do you need, to get the information?	**motivated learning**

Example 3.3.

traffic observation		
stage	**comments**	**Pedagogical principle**
preparation stage	What do you know about traffic observation? What do you think is important to observe? How can you observe? How do you use the mirrors and why? How would you adjust the mirrors?	**short theoretical reminder in the car before practical exercises**
basic stage	The student comes to know how to adjust the mirrors useful and can demonstrate it and explain why. - The student gains experience how to adjust the mirrors useful. - The student comes to know the blind spot areas of the mirrors and other blind spot areas of the car (e.g. A-pillar) and can explain the risks of the blind spots. - The student is able to explain the visible area of the mirrors and is able to explain the necessity of knowing this.	**goal-oriented, client-oriented, motivated learning**
feedback stage	The student must evaluate his/her experiences and his/her understanding about the contents with support of the driving teacher. This can/should be combined with a professional feedback from the driving teacher. e.g. questions: "What is your main conclusion and why?" “What does your experience mean for the next step (lesson)?” "What have you learned concretely?” What do you understand concretely?" "How was it for you to reach the goal? What was easy and why, what was difficult and why?" “How was the support for you?” “What do you want to change?”	**self-reflected learning** **self-evaluated learning**

Example 3.3.

Traffic observation		
stage	**comments**	**pedagogical principle**
	In preparation of the structural stage the - student should come to know the importance of a scanning plan and is able to evaluate the importance. - student is able to build up a scanning plan and is able to transfer it for different situations. - student comes to know how to decide what is important in traffic observation and is able to explain how and why for easy situations with low traffic.	**homework with worksheets** **or** **homework with a handbook** **or** **homework with CBT/WBT**
preparation stage	What do you know about a scanning plan? What do you think is important in easy situations with low traffic, a) crossing junctions, b) turning right, c) turning left?	**short theoretical reminder in a car before practical exercises**
structural stage	- The student gains first experience using the mirrors in an effective and safe way and is able to explain it in easy situations with low traffic. - The student gains first experience with observing the traffic when crossing junctions, is able to demonstrate it in a safe way in easy situations and tries to make decisions in a safe way. - The student gains first experience with observing the traffic when turning right, is able to demonstrate it in a safe way in easy situations with low traffic and tries to make decisions in a safe way. - The student gains first experience with observing the traffic when turning left, is able to demonstrate it in a safe way in easy situations with low traffic and tries to make decisions in a safe way.	**goal-oriented, client-oriented, motivated learning**
feedback stage	e.g. questions: "What have you learned concretely?" What do you understand concretely?" "How was it for you to reach the goal? What was easy and why, what was difficult and why?" "What does your experience mean for other situations?" "What is your conclusion and why?" “How was the support for you?” “What do you want to change?” “What does it mean for the next step (lesson)?”	**self-reflected learning** **self-evaluated learning**

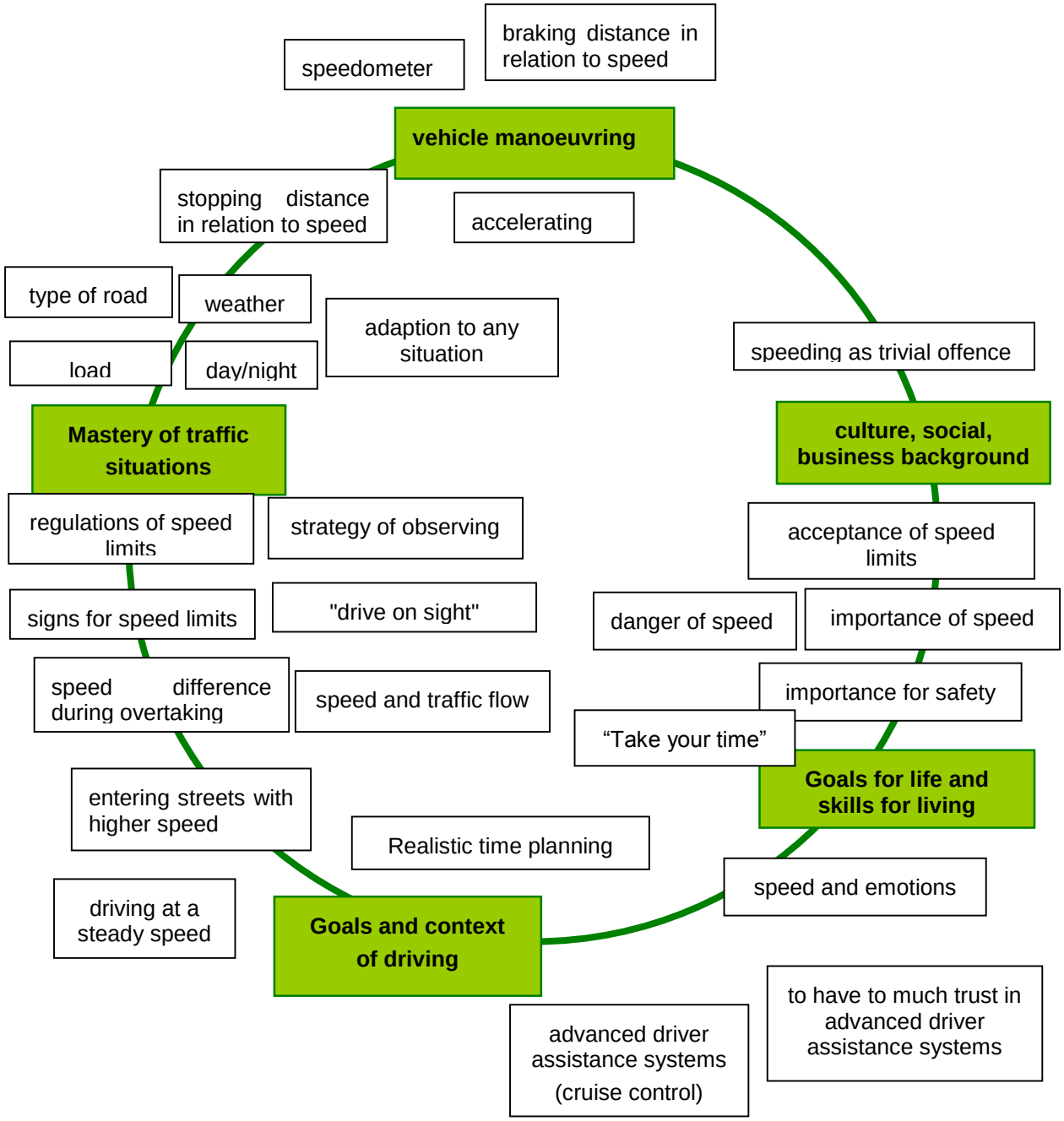
Example 3.3.

stage	comments	Pedagogical principle
	In preparation of the performance stage the - student is able to build up a scanning plan and is able to reproduce it for different, more complex situations. - student comes to know how to decide what is important in traffic observation in more complex situations and is able to explain how and why for different situations. - student must come to know the influence of distraction for traffic observation and can explain the reasons. - student is able to evaluate the risks of influence of distraction for traffic observation. - student is able to reproduce his/her knowledge on the perspective of other road users and is able to explain this.	**homework with worksheets** **or** **homework with a handbook** **or** **homework with CBT/WBT**
preparation stage	What do you know about a scanning plan? What is important for different situations (e.g. turning right/left in more complex situations; changing lanes; driving through round abouts etc.), Which influence distraction will have for observation?	**short theoretical reminder in a car before practical exercises**
performance stage		**goal-oriented, client-oriented, motivated learning**
feedback stage	e.g. questions: "What have you learned concretely?" What do you understand concretely?" "How was it for you to reach the goal? What was easy and why, what was difficult and why?" "What does your experience mean for other situations?" "What is your conclusion and why?" “How was the support for you?” “What do you want to change?” “What does it mean for the next step (lesson)?”	**self-reflected learning** **self-evaluated learning**

WG 1 Driving Competence “Vehicle positioning & speed adaption”

Chapter IV.3.4.1) Speed adaption

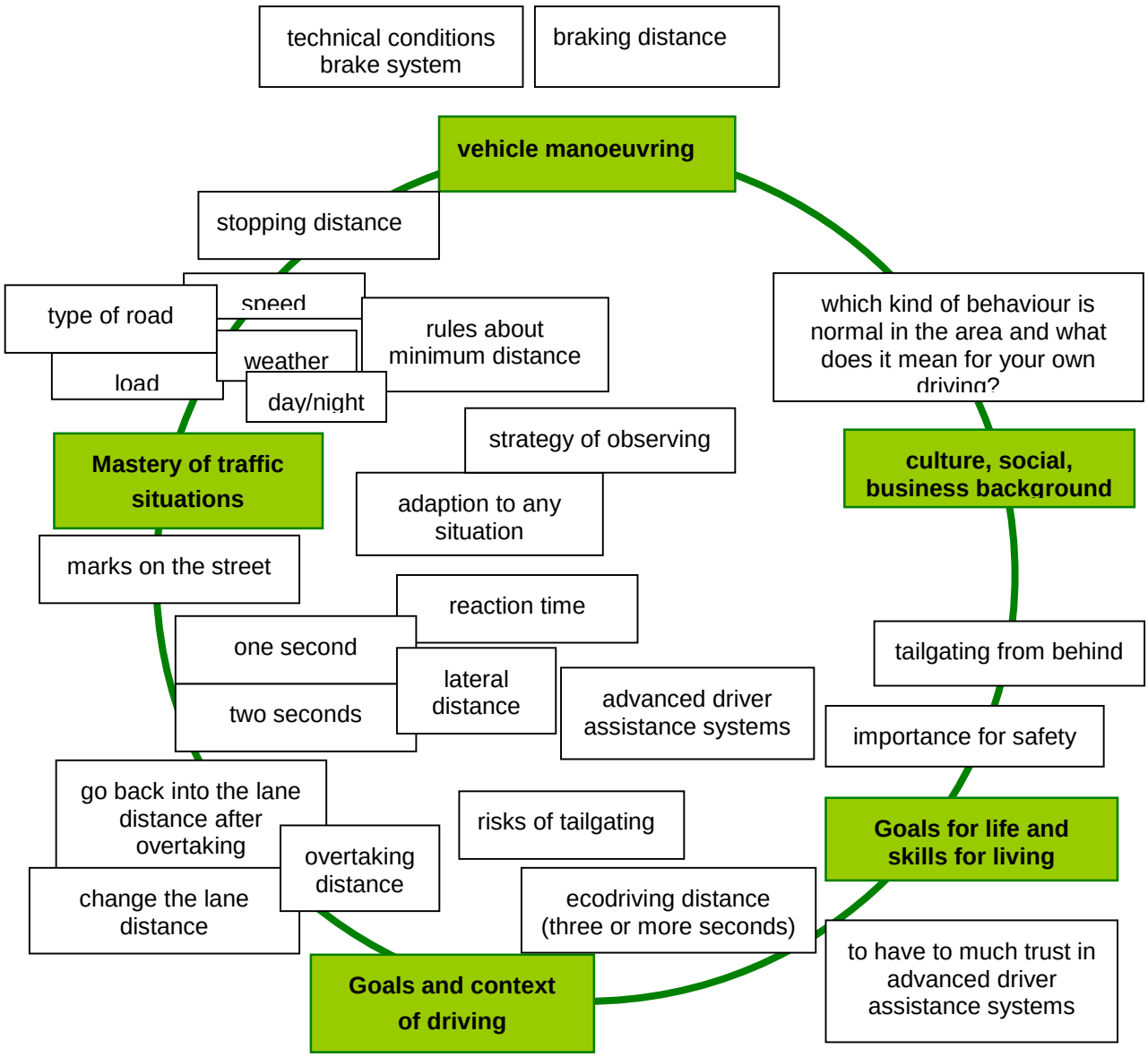
see especial "safety margin" - page 76



WG 1 Driving Competence “Vehicle positioning & speed adaption”

Chapter IV.3.4.2) Safety Margin

see especial "speed adaption" - page 75



Preparation / theoretical part (theoretical education in classroom or in the car, CBT, WBT or handbooks)

- The student must come to know the rules about minimum distance while driving a car in traffic and is able to explain the rules.
- The student must have an understanding of the terms braking distance, stopping distance and reaction time and can reproduce the connection of these aspects.
- The student must come to know how speed, weather etc. influences the braking distance and the stopping distance and is able to explain the connection.
- The student must come to know which factors can influence the reaction time and is able to reproduce and to explain the facts.
- The student must have an understanding of the importance of safety margin for responsible and safe driving and is able to evaluate the importance.
- The student must have an understanding of the importance of lateral distance to other road users for responsible and safe driving and is able to evaluate the importance.
- The student must have information about advanced driver assistance systems related to safety margin and is able to explain the danger of total trust in these systems.
- The student must have an understanding about the benefits of an "ecodriving distance with three or more seconds" and is able to evaluate the benefits.
- The student must have an understanding of the risks of tailgating and is able to evaluate the risks.
- The student must have an understanding about the risks of tailgating from a car behind and is able to explain strategies to avoid critical situations.

Practical education in car

- The student gains experiences with emergency breaking at different speed and is able to assess his/her ability and to reproduce it for different driving situations
- The student gains experiences of how to use e.g. the "one-second-rule" and the "two-second-rule" and is able to demonstrate it in different situations.
- The student gains experiences with useful marks and is able to demonstrate of how to use the marks in different situations.
- The student gains experiences of how to use the "ecodriving distance" and is able to use this in different situations.
- The student gains experiences with safety lateral distance with different road users and is able to demonstrate it in different situations.
- The student gains experiences of how to use the mirrors in a way to build up a strategy of observing when driving a car and is able to perform different observation tasks related to safety margin.
- The student gains experience to change lanes and of how to use helpful utilities to change the lane with a safe distance to a car in the same lane and is able to demonstrate it in different situations.
- The student adapts experience with changing lanes to overtake other cars and of how to use helpful utilities to go back into the lane with a safe distance and is able to demonstrate it.
- The student is able to identify critical situations in relation to the safety margin and is able to anticipate in a safe way.

Example for driver education

Example 3.4.2

safety margin in theory		
stage	**comments**	**pedagogical principle**
Preparation stage	In some countries this content could be a part of the theoretical education (classroom training). It is necessary, that this part is done before the lesson of the practical education in a car. In countries, which have no theoretical education (classroom training), it should be designed as a part done at home (e.g. WBT, CBT, handbook etc.).	
	The student must evaluate the importance of the safety margin for his/her safe driving in the future. The driving teacher must explain, that it is important to become acquaintance with the rules about minimum distances, the different terms, the influence of outside factors, the risks of tailgating, the aspects of advanced driver assistance systems related to the safety margin. The student must have an understanding about the importance of safety margin and the benefits of an "ecodriving distance". e.g. questions: "What do you know about the safety margin?" "What do you think about the safety margin?" "What do you know about risks related to braking distance and stopping distance?" “What do you know about risks of tailgating?” "How can you get the relevant information?" “What can I do for you to understand the important aspects?” “What do you know about the lateral distance?” "What have you observed as a passenger in a car?" "Which experiences do you have as a passenger in a car?" “What do you know and think about driver assistance systems?” “What do you know about the "ecodriving distance"?” “What can help you to answer these questions?”	**goal-oriented teaching and learning** **client-oriented teaching** **theoretical classroom training** **or** **short theoretical parts in a car before practical exercises** **in combination with** **homework with worksheets** **or** **homework with a handbook** **or** **homework with CBT/WBT**

Example 3.4.2

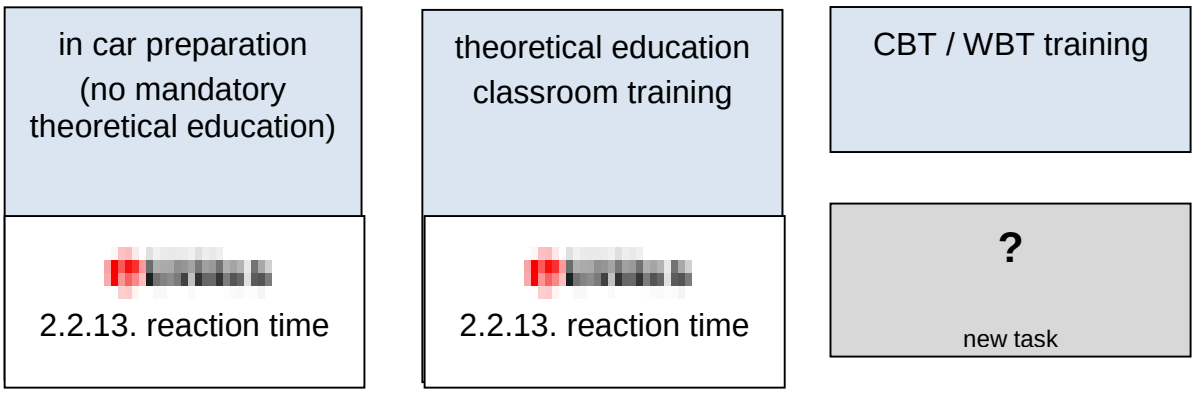
safety margin in theory		
stage	**comments**	**pedagogical principle**
	The student must know that he/she as a person is important to define the right teaching/learning methods/processes. The driving teacher has to ask, how he can support the learning process of the student in a goal oriented way. e.g. questions: "What can you do, to learn effectively?" "What is your preferred learning style?" "What do you need for learning with fun?" "Which goal(s) do you want to reach?" "How can I support you to reach this goal(s)"? "What do you want to know, e.g. from your parents?"	**motivated learning**
Feedback stage **Preparation stage**	This part should be done directly before starting a driving lesson where the "safety margin" is one topic of the session. The student must evaluate his/her experiences and understanding of the contents with support of the driving teacher. This can/should be combined with a professional feedback from the driving teacher. e.g. questions: "What are your main conclusions about this and why?" "What do you understand concretely?" "Which consequences do you convey about this and why?" "What does it mean for your driving and why?" "What does it mean for your learning and why?" "What does it mean for the driver education?" The student needs support to get an idea of the opportunities for self-evaluation in the near future. One example can be, that the student has the task to evaluate his/her attitudes, motives etc. in other areas of life (e.g. driving as a passenger) at this stage. The driving teacher can support this task with clear formulated questions. e.g. questions: "When can you observe the safety margin in traffic?" "What do you need for observing?" "How can you use observed situations for your learning?" "What do you want to know e.g. from your parents?"	**self-reflected learning** **self-evaluated learning**

Example 3.4.2

Examples of how it is possible to integrate the contents of safety margin in different driving education systems are published in the EU-HERMES-Project[37] under

http://www.allesfuehrerschein.at/HERMES/ and

http://www.fahrenwieeinprofi.de/cieca-rue/index.htm



[37] *HERMES coaching scenarios, 2010*

safety margin in practice		
stage	**comments**	**pedagogical principle**
	Based on the “feedback stage” it is necessary to define clear goals for the session, which are possible to evaluate. To be able to formulate clear goals it is possible to use the SMART-Method or the GROW-Method (see page 12). The driving teacher must also have an idea of a fruitful way of learning for the student. "What can you do, to learn effectively?" "What is your preferred learning style?" "How can I support you to reach this goal(s)"?	**goal-oriented teaching and learning** **client-oriented teaching** **motivated learning**
preparation stage	“What do you know about emergency braking?” “What do you know about the importance of emergency braking?”	**short theoretical reminder in a car before practical exercises**
basic stage	The student gains experiences with emergency breaking at different speed and is able to assess his/her ability and to transfer it in different driving situations	**goal-oriented, client-oriented, motivated learning**
feedback stage	The student must evaluate his/her experiences and his/her understanding about the contents with support of the driving teacher. This can/should be combined with a professional feedback from the driving teacher. e.g. questions: "What are your main conclusions and why?" "What have you learned concretely?” “What do you understand concretely?" "How was it for you to reach the goal? What was easy and why, what was difficult and why?" "What does your experience mean for other situations?" "Which consequences do you convey about this and why?" “How was the support for you?” “What do you want to change?” “What does it mean for the next step (lesson)?”	**self-reflected learning** **self-evaluated learning**

safety margin in practice		
stage	**comments**	**pedagogical principle**
preparation stage	“What do you know about the safe lateral distance?” “What do you know about the importance of lateral distance?”	**short theoretical reminder in a car before practical exercises**
structural stage	The student gains experiences with the safe lateral distance with different road users and is able to demonstrate it in different situations.	**goal-oriented, client-oriented, motivated learning**
feedback stage	e.g. questions: "What are your main conclusions and why?" "What have you learned concretely?” “What do you understand concretely?" "How was it for you to reach the goal? What was easy and why, what was difficult and why?" "What does your experience mean for other situations?" "Which consequences do you convey about this and why?" “How was the support for you?” “What do you want to change?” “What does it mean for the next step (lesson)?”	**self-reflected learning** **self-evaluated learning**
preparation stage	“What do you know of how to measure the safety margin?” “What do you know about the "ecodriving distance?"” “What do you know about the "changing lane distance"?”	**short theoretical reminder in a car before practical exercises**
performance stage	The student gains experiences with the safe lateral distance with different road users and is able to demonstrate it in different situations. The student gains experiences of how to use e.g. the "one-second-rule" and the "two-second-rule" and is able to demonstrate it in different situations. The student gains experiences with useful marks and is able to demonstrate how to use the marks in different situations. The student gains experiences of how to use the "ecodriving distance" and is able to use it in different situations. The student gains experiences of how to use the mirrors in a way to build up a strategy of observing driving a car and is able to perform different observation tasks related to safety margin. The student gains experience in changing lanes and of how to use helpful utilities to change the lane with a safe distance to a car in the same lane and is able to demonstrate it in different situations.	**goal-oriented, client-oriented, motivated learning**

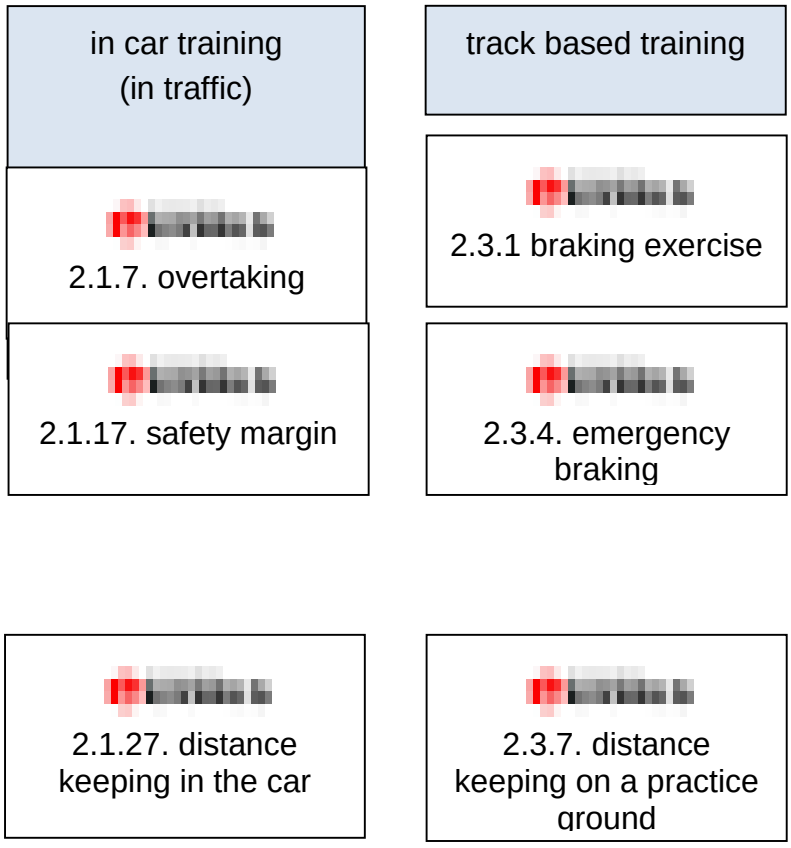
Example 3.4.2

safety margin in practice		
stage	**comments**	**pedagogical principle**
feedback stage	e.g. questions: "What are your main conclusions and why?" "What have you learned concretely?" "What do you understand concretely?" "How was it for you to reach the goal? What was easy and why, what was difficult and why?" "What does your experience mean for other situations?" "Which consequences do you convey about this and why?" "How was the support for you?" "What do you want to change?" "What does it mean for the next step (lesson)?"	**self-reflected learning** **self-evaluated learning**
preparation stage	"What do you think about safety margin in overtaking situations?"	**short theoretical reminder in a car before practical exercises**
stage of special rides	The student gains experience with changing lanes to overtake other cars and how to use helpful utilities to go back into the lane with a safe distance and is able to demonstrate it e.g. on country roads and highways	**goal-oriented, client-oriented, motivated learning**
feedback stage	e.g. questions: "What are your main conclusions and why?" "What have you learned concretely?" "What do you understand concretely?" "Which consequences do you convey about this and why?" "How was the support for you?" "What do you want to change?" "What does it mean for the next step (lesson)?"	**self-reflected learning** **self-evaluated learning**
preparation stage	"What do you want to know before driving by your own combining every aspect of a responsible and safe driving?"	**short theoretical reminder in a car before practical exercises**
maturity stage	The student is able to identify critical situations in relation to the safety margin and is able to anticipate in a safe way.	

Example 3.4.2

Examples of how it is possible to integrate the contents of safety margin in different driving education systems are published in the EU-HERMES-Project[38] under

http://www.allesfuehrerschein.at/HERMES/ and
http://www.fahrenwieeinprofi.de/cieca-rue/index.htm



[38] *HERMES coaching scenarios, 2010*

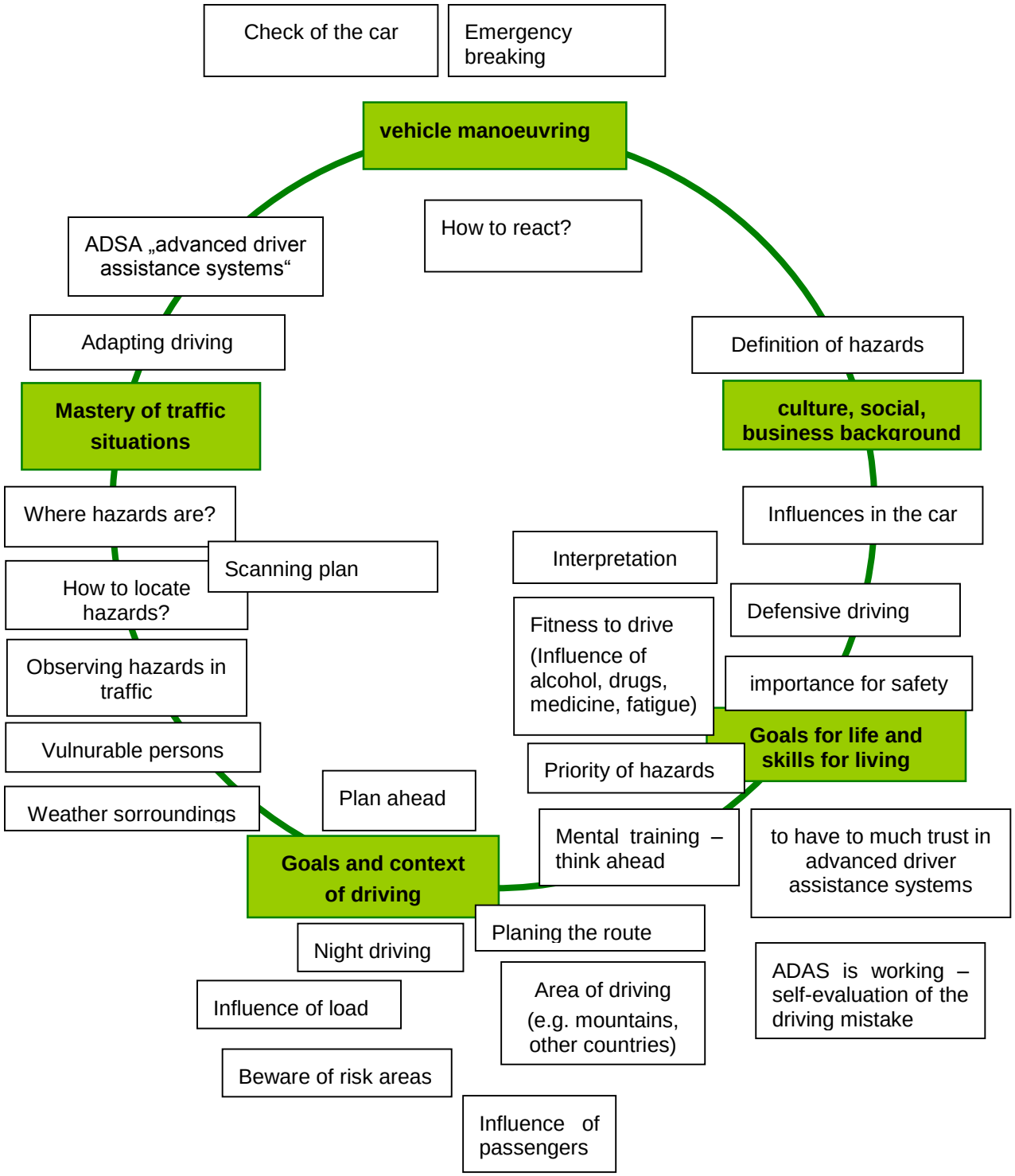
Additional example for feedback-situations (feedback drives)

safety margin		
stage	**comments**	**pedagogical principle**
feedback drive	With a feedback drive and a checklist (like the example in annex 2) it is possible to observe the driver and to make notes about the behaviour of the student. In a special feedback session after driving the following procedure can be helpful to build up "self-evaluation": a) The driving teacher asks the student • How was it for you? • What do you think about your driving? • What are you doing driving alone? • What was safe? • What was rather unsafe? What do you want to know from me? b) The driving teacher gives a feedback and uses also questions to get more information and to build up "self-reflection" I recognised the following situation. Why have you done this? What was the reason? Why can it be dangerous to do this? What can you change? Why should it be necessary to change this? c) Conclusions The student will get the form with the notes as a written feedback. At the end driving teacher and student clarifies the conclusions and formulate goals for the future.	

WG 1 Driving Competence “Vehicle positioning & speed adaption”

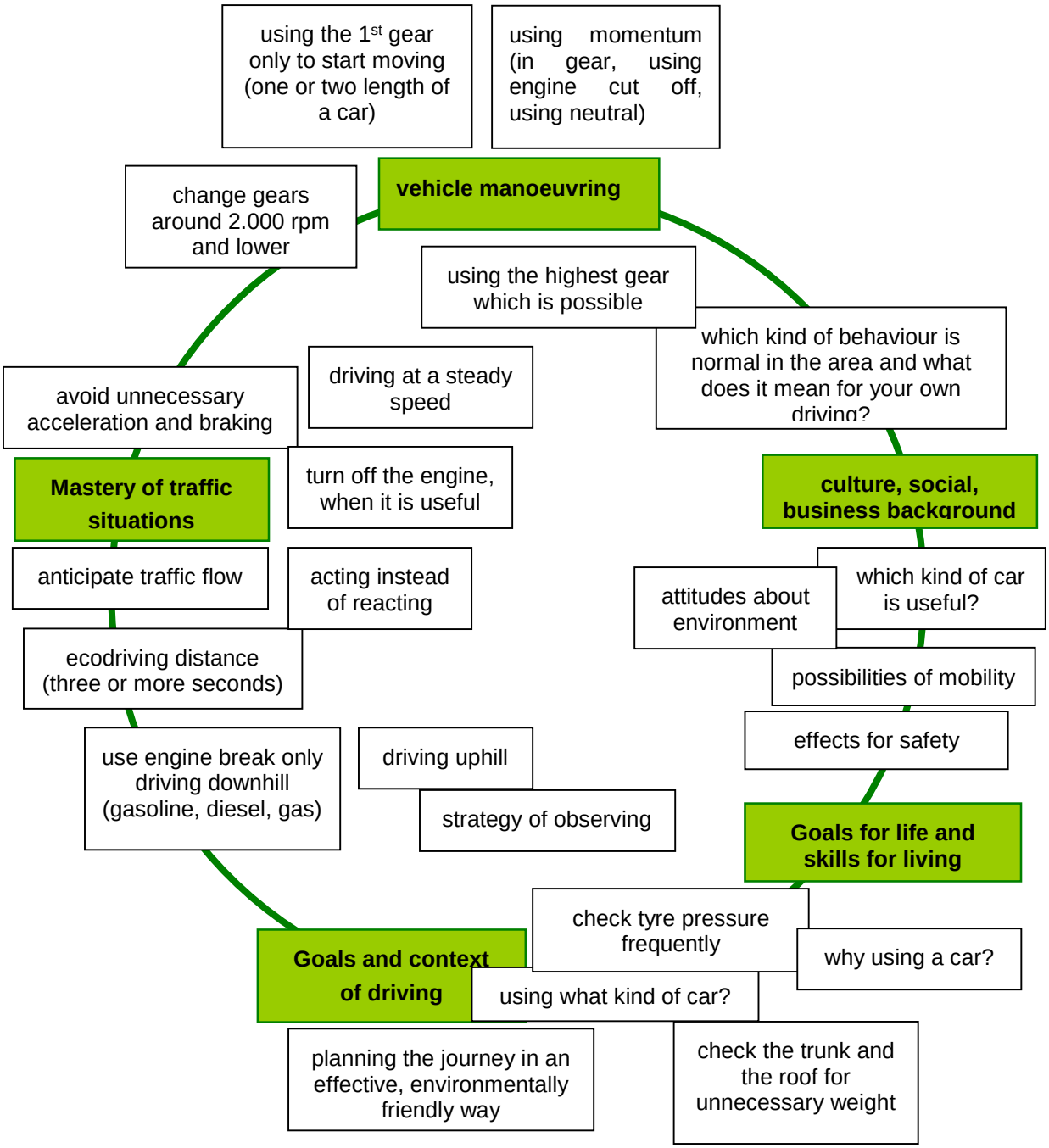
Chapter IV.3.4.3) Hazard avoidance

see especial hazard perception (page 65)



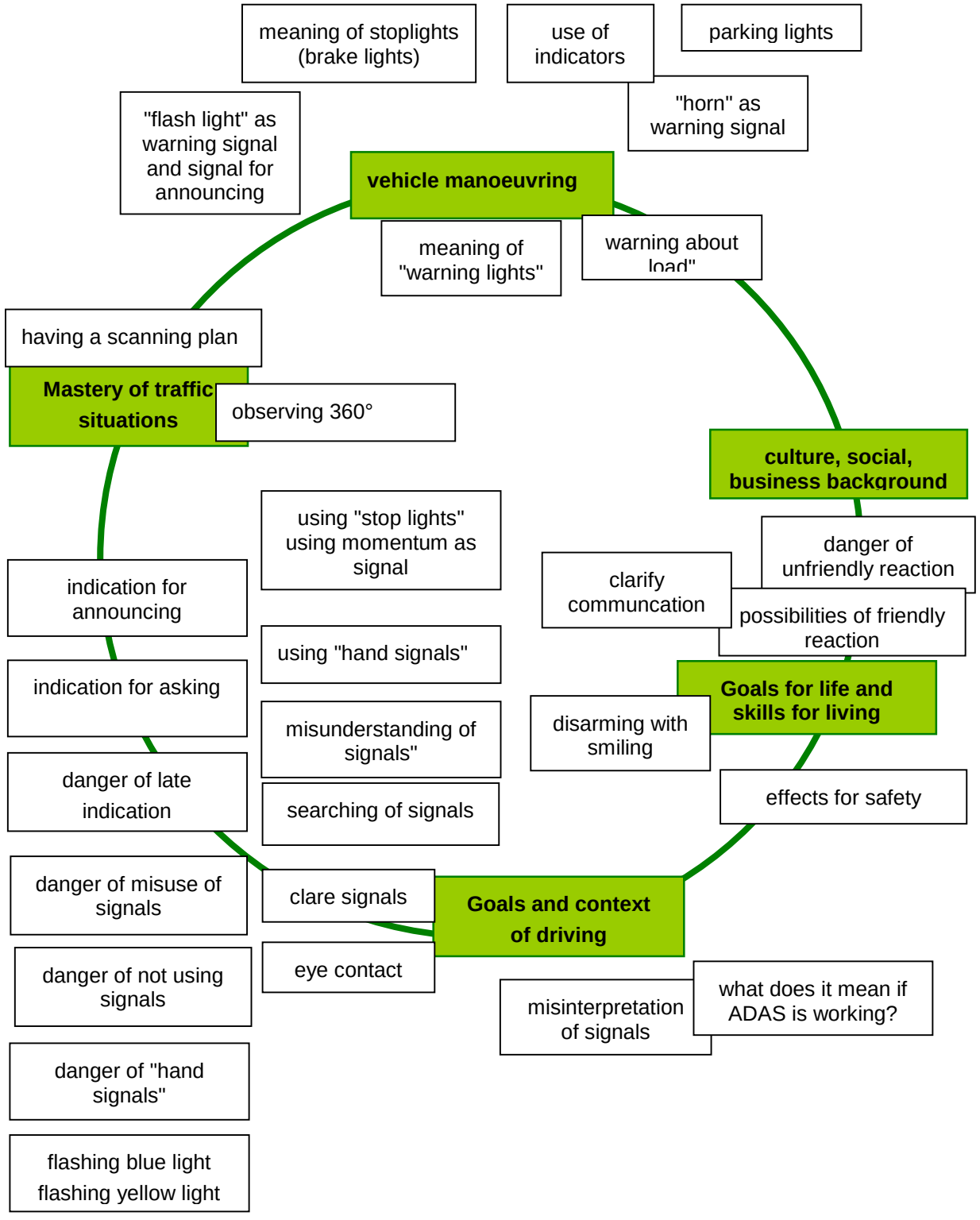
WG 1 Driving Competence “Vehicle positioning & speed adaption”

Chapter IV.3.4.4) Eco-Driving



WG 1 Driving Competence “Vehicle positioning & speed adaption”

Chapter IV.3.5.) Communication



Annex 1

The following words are used in the British version knowing that there are also exists an US version:

Behaviour =	is used instead of the word "behavior"
driving licence =	is used instead of "driver license" etc.
Manoeuvre =	is used instead of "maneuver"
environmentally friendly driving	instead of eco-friendly (used by WG 1)
road traffic regulations	instead of Highway Code (used by WG 1)

The following words are defined by WG 1 or WG 3

Competency =	soft (social) competences, related to the person GDE 3 and 4 (and 5) Since 20th October 2014 WG 1 call it “personality-related competencies”
Competence =	hard (technical) competence GDE 1 and 2 Since 20th October 2014 WG 1 call it “task-related competences”

Annex 2

Self-evaluation form CBR, Netherlands[39]

Self-evaluation of the test candidate

Driving test

bewaar → print →

Why this form?
Self-evaluation is part of the driving tests for the car (category B). It forces you to evaluate your development as a driver critically.

You can fill in the self-evaluation form beforehand, for example at home or during a driving lesson. Please give the form to your examiner at the beginning of the test. The examiner will not assess your answers until after the test results are known and will then discuss your answers together with you. Therefore, the form does not have any influence on the results of your test.

Do you have any questions?
For more information please go to www.cbr.nl or contact our Customer Service by calling: 0900 - 0210 (60 eurocent per call). The lines are open from Monday to Friday from 8:00 a.m. to 5:30 p.m.

Your personal details

Initials and surname	
Date of birth	→ *dd-mm-yyyy*

Test details

Date of test	→ *dd-mm-yyyy*

→ *Please tick the appropriate box below, regarding how good you think your driving skills are.*
1 = poor, 2 = moderate, 3 = satisfactory, 4 = good, 5 = excellent

Driving skills	1	2	3	4	5
Vehicle handling In normal traffic situations, I can handle the car in the correct way and I have the car under control.	☐	☐	☐	☐	☐
Safety I maintain sufficient safety distance from the traffic in front of me and I make sure there is enough room around the car.	☐	☐	☐	☐	☐
I recognise potential hazards in good time and I make sure that the situation remains as safe as possible.	☐	☐	☐	☐	☐
Traffic Flow I do not hinder other road users unnecessarily and my driving allows the traffic flow to progress normally.	☐	☐	☐	☐	☐
Consideration for other road users When driving, I take into account the actions of more vulnerable road users such as children, the elderly, pedestrians and cyclists.	☐	☐	☐	☐	☐
I take into account other traffic and I deal with other people's mistakes in a responsible way.	☐	☐	☐	☐	☐
Environmentally-aware driving I know how to drive in an environmentally-aware manner and I can apply this in practice.	☐	☐	☐	☐	☐

8ae - 8910 - 5pt - pweb

[39] *placed at the disposel from Jaan Kroop, 14th October 2014*

Checklist form (Ecodriving) – DVR, Germany

(known in Germany, Lithuania and Ireland)[40]

Checklist for Feeback - ECODRIVING

	never	seldom	sometimes	frequently	every-time
change gear (from 1st into 2nd gear) after lengh of one car					
shift up early (under 2.000 rpm)					
using safety margin of 3 or more seconds on streets with two or more lanes for one direction					
unnecessary shifting down, because the driver has to stopp the car e.g. red light					
driving 50 km/h in the 4th or 5th gear					
driving 30 km/h in the 3rd gear					
using momentum while approximating crossroads with lights (early reaction, stopping accelerating)					
using momentum while approximating crossroads with stop signs (early reaction, stopping accelerating)					
using momentum while approximating on other situations where you have to stop (early reaction, stopping accelerating)					
number (counting)					
multiplied with	1	2	3	4	5
result					

36-45 points = fantastic
24-35 points = good
18-23 points = ok and expandable
9-17 points = expandable

total points:

date:

sign

© German Road Safety Council (DVR), 2013/2014

[40] *placed at the disposel from Kay Schulte, 17th October 2014*

7.2.3 Working Group 3

Road User Education Project

Working Group 3: Minimum Competence Standards for Driving/Riding Teachers, Accompanying Drivers and Driving Schools

Final Draft 12/10/2014

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Glossary

'Accompanying driver' - a parent, sibling or friend who accompanies a learner driver to give them an opportunity to practice skills and gain experience, but who does not actively teach. This is different from the concept of a *'lay teacher/instructor'* i.e. a person who does not have a licence-to-practice as a professional driving teacher, but who does actively teach.

'Client-centred learning' (CCL) – an approach to learning based on the idea that people resist taking on new understandings and resist attempts to modify their behaviour if the person trying to teach them:

- fails to respect and value their idea of who they are
- is not seen as 'genuine'
- is not seen as having legitimate authority.

It is dependent on the teacher establishing a dialogue with the learner to ensure that they understand and can respond to the learner's needs, personal objectives and preferred learning styles.

For clarification, the term *'client*-centred learning' is taken to be broadly the same as *'learner*-centred learning' or *'person*-centred learning'. The term *'client'* has been used in this document because a financial relationship usually exists between a driving/riding teacher and a learner, as well as a learning relationship.

Driving teachers – CIECA members wish to use the word 'teacher' rather than 'instructor'. We have, therefore, used 'teacher' in this document except were the reference is to an existing document, or context, where 'instructor' has been used by others. The phrase 'driving teacher' here refers to a person who is formally qualified and approved, through whatever regulatory process is in place, to teach people to drive in exchange for payment.

Fit and proper – there is no formal definition of this term in English, as far as I am aware. However, within English speaking jurisdictions, the term is commonly used to refer to the process of judging whether somebody is an appropriate person to undertake a regulated activity. This process could be described as a risk assessment. The person with the authority to undertake a 'fit and proper' check may draw on any information which is considered relevant e.g. criminal records, subject to any rules about the privacy of information etc.

KSI – **K**illed and **S**eriously **I**njured statistics

Licence to practice

- the document which certifies that an individual is qualified and approved to teach people to drive/ride in exchange for payment.
- the process by which an individual is qualified and approved to trade as a paid driving teacher.

The way in which this process is carried out, and the language used to describe it, varies from country to country and this term is taken to include all those variations.

Level – refers to the levels within educational frameworks such as the European Qualifications Framework (EQF). Progression through the levels generally reflects an increasing degree of autonomy and discretion about how the skills, knowledge and understanding are deployed. The concept of level is used to ensure transparency of qualifications between countries, to maximise transferability and to enhance skills mobility.

1. Preface

This document has been drafted on the basis of discussions and correspondence with the members of Working Group 3 (WG3) i.e:

Ana Marti-Belda (CNAE)
Dr. Charles Johnson (CAS)
Gerard Acourt (ECF,)
Jan Schepman (VdTÜV)
Rolf Robertson (Nord-Trondelag Uni. College)
Sonja Sporstal (CIECA Honorary Member)
Ian Holden (DVSA)
Lars-Inge Haslie (NPRA)
Michael Dolan (RSA)
John Lepine (EFA)
Andre Tourneur (SPF)
Rosario Ruiz Pérez (DGT)
Reinhard Lauterbach (MOVING)
(Mika Hotti (TraFi)

It also reflects feedback received from members of the other working groups and from the RUE plenary sessions.

The conclusions presented here are generally based on a consensus between the members of the working group. However, in one or two areas, individuals within WG3 and from other work-groups have expressed differing opinions which, after extensive discussion, could not be reconciled with the group decision. These 'minority opinions' are duly noted.

Any errors or misunderstandings are entirely my own.

Ian Holden

Chair of WG3

2. Introduction

2.1. The Road User Education (RUE) Draft Project Plan (August 2013) set out a requirement to make recommendations for a:

- minimum road-user (driver) competence standard
- minimum competence standard for driving schools
- minimum competence standard for accompanying persons performing unpaid driver instruction
- minimum competence standard for persons performing paid driver instruction

2.2. The first of these requirements was assigned to Working Group 1 (WG1). The remaining three requirements were assigned to Working Group 3 (WG3).

2.3. An additional requirement was then generated i.e.

- to make recommendations for a 'framework for a curriculum (or blueprint) for driver education'.

This requirement was assigned to Working Group 2 (WG2).

2.4. WG3 has assumed that a very large percentage of the recommendations contained in its proposals for a driving teacher standard will apply across all categories. For example, all teachers should be able to:

"Give clear instructions (such as when and where to start, stop or turn), make sure that the learner understands their instructions and, if they do not, modify their instructions accordingly"

However, those involved in teaching Category A/M would need to demonstrate that they can do all of that while using radio-communication systems etc.

2.5. In the same way there may be technical differences e.g. related to the carriage of goods or passengers etc. which may call for additional, specialist, skill, knowledge and understanding in relation to Categories C and D. However WG3 believes that the underpinning principles of effective teaching should remain the same.

2.6. This approach was confirmed by recent steering group discussions, about the WG1 draft, in which it was agreed that a large % of the competences identified were universal i.e. applied to all categories.

2.7. In this context, this proposal attempts to cover only Categories B and A/M - reflecting the very particular differences involved in teaching people to ride i.e. the teacher must travel on a separate machine from the learner – but it does not attempt to identify particular competences for truck and bus drivers. We also note that the way in which truck and bus driver training is regulated differs between member countries with some, such as the UK, not having central regulatory process.

2.8. In reaching its conclusions WG3 has endeavoured to provide minimum competence standards that are relevant to driver/rider trainers in all the member countries of the EC, CIECA and beyond.

2.9. WG3 has not assumed any particular structure to the learning-to-drive process. Where individual countries decide to implement particular forms of teaching this may generate a requirement for additional competences beyond those itemised here.

2.10. This report sets out the initial conclusions reached by WG3.

3. Conclusions

Minimum Standards for Driving/Riding Schools

3.1. WG3 concluded that it should recommend to CIECA that there should be **no** mandatory minimum standards for driving/riding schools, because:

- there is no evidence of any link between any particular structure, or management model, for driving/riding schools and the effectiveness of the learning-to-drive/ride process that they deliver
- the structure of the driver/rider-training industry varies considerably between countries and, given the lack of any evidence of a link between any particular structure or management model and road safety outcomes, the imposition of a single model would impose disproportionate regulatory and financial burden – in conflict with the principles of "Regulatory fitness": Making the best of EU law in difficult times EC - IP/12/1349 12/12/2012
- all the competences relevant to effective driver/rider-teaching should be contained within any statement of minimum competence requirements for driving/riding teachers.

3.2. However, WG3 notes that there may be situations where countries wish to de-regulate or devolve responsibility for some, or all, of the teaching quality-assurance process to training bodies. In these circumstances WG3 believes it would be appropriate to develop clear statements of the standards which those bodies must achieve. However, those standards should reflect the particular circumstances in place in that country at that time.

3.3. WG 3 concluded that regardless of the particular business model in use, all driving teachers would benefit from being competent in business management and customer service skills or, as a minimum, being supported by staff with those skills. However, these skills are not directly linked to the delivery of effective learning outcomes and are, therefore, beyond the competence of this project.

Minimum Standards for Accompanying Drivers[41]

3.4. WG3 concluded that it should recommend to CIECA that there should be **no** mandatory minimum standards for accompanying drivers because the creation of an additional class of 'qualified' persons – effectively lay teachers - within the learning-to-drive process would:

- undermine the status and role of fully qualified driving teachers
- change the economic model which underpins the driver teaching industry and, in some countries, mean that it might no longer be economically viable to trade as a driving teacher – particularly where sole-traders and small and medium enterprises (SMEs) form the major part of the industry base.

3.5. However, it is clear that road-safety benefits do flow from increasing the amount of supervised practice that a learner receives prior to taking their test and starting to drive unaccompanied. WG 3 concluded that supervised practice is more beneficial if the person providing the supervision has some understanding of what the driving teacher is trying to do and of how they can provide appropriate support to the learner. In this context WG3 believes CIECA should recommend that all accompanying drivers should:

- have held a driving licence for at least 5 years
- undergo a short, formal, briefing setting out their responsibilities and the limits of their competence (which could be delivered by the paid driving teacher).
- establish a working relationship with the learner and the paid driving teacher which is formally registered (in whatever way is appropriate and cost-effective in each country).[42]

3.6. WG3 was concerned that some individuals may attempt to become 'serial' accompanying drivers. It recommends that a process should be put in place to limit the number of learners that an accompanying driver may supervise.

3.7. N.B. One member of WG3 reported that their government intended to introduce minimum competence standards for accompanying drivers and asked for the group to support its proposals more actively.

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[41] *WG3 has not considered the issue of accompanying riders. We are not aware of any country in Europe which requires/permits learner riders to ride, on L plates, accompanied by somebody who is not a qualified riding teacher. (N.B. We note that one of our members,* ***Société de l'Assurance Automobile du Québec (SAAQ),*** *has published a guide for accompanying riders.)*

[42] *Members are recommended to look at the guidance that* ***Société de l'Assurance Automobile du Québec (SAAQ) issues at:*** *http://www.saaq.gouv.qc.ca/publications/permis/accompagnying_passenger.pdf*

3.8. The group recognised that the culture and structural conditions prevailing in any particular country might mean that such standards could be introduced and have a positive effect. However, after considerable discussion, it concluded that it would still not recommend the creation of a common competence standard.

Minimum Standards for Persons Performing Paid Driving/Riding Instruction

3.9. **N.B.** Some members of the group felt that minimum standards should be expressed in terms of minimum input requirements i.e. a driving/riding teacher must undertake a given period of training at a particular academic level. WG3 concluded that this, input-based approach, was not in-line with the general understanding of competence outcomes. However, given that the proposals in this document are expressed in terms of learning outcomes, there is nothing to prevent a member country choosing to prescribe a programme of learning which they believe will achieve those outcomes.

Entry Criteria

3.10. WG3 concluded that it should recommend to CIECA that all persons wishing to become paid driving/riding teachers should meet initial criteria before being invited to undertake the qualifying process i.e. they should have:

- held an appropriate driving/riding licence for at least 3 years (this period is shorter than required by accompanying drivers because of the training that they will be required to undertake)
- successfully completed secondary education or demonstrated an equivalent level of competence, e.g. through vocational training.

3.11. WG3 recognised that this educational requirement is at a higher level than the requirements in place in some member countries where driver/rider training is currently operating effectively. It also recognises the concern that this requirement could significantly reduce the pool of individuals coming forward for training in some countries.

3.12. The cultural context, in which driver/rider training operates, in each country will clearly be important in determining whether this recommendation could be applied effectively. However, these concerns do raise the question of whether applying this requirement across all member states would be proportionate given that there is little or no evidence of any correlation between the general educational achievements of driving teachers and road safety outcomes.

3.13. WG3 considered recommending the exclusion of anybody convicted of a moving traffic offence within a particular period of time. However, the group felt that applying this

rule consistently would be difficult and might exclude individuals who are perfectly capable of delivering safe and effective teaching. Consideration was also given to excluding those with criminal convictions or who have been included on 'sex-offender' registers. However, concerns were raised about the difficulties involved in applying these rules fairly and about data-protection issues.

3.14. WG3 concluded that CIECA should recommend that there should be a nominated role, within each country's process for issuing a licence-to-practice, with the authority to undertake a 'fit and proper' assessment of all candidates and with authority to exclude those considered to be unsuitable.

Medical Standards

3.15. It was suggested that those wishing to become paid driving/riding teachers should meet the same medical standards as other 'professional drivers'. While driving teachers spend most of their time sitting in the passenger seat of the training vehicle, rather than behind the wheel, it was argued that the extent of their responsibility for their own safety, the safety of the learner and the safety of third parties means that they must be medically fit to undertake the task. It was also argued that when driving teachers do take control of the vehicle, e.g. to give a demonstration they must demonstrate professional standards. However, other members have argued that driving teachers are not primarily drivers and that they should not, therefore be required to meet any higher level medical standards than are currently required.

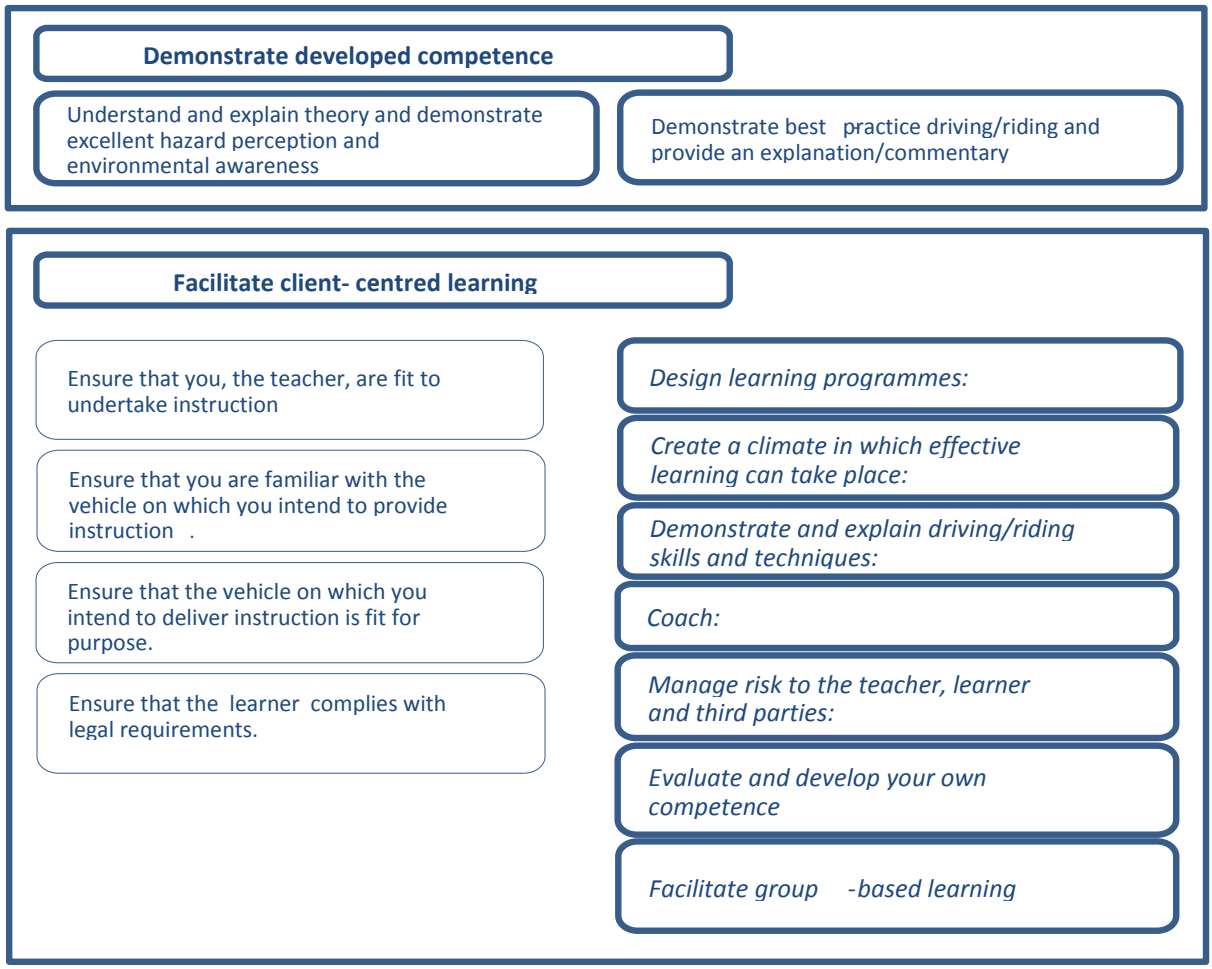
3.16. It has also been argued that any change in medical standards must not prevent driving teachers with disabilities, who can demonstrate the required competence and who are currently providing high-quality teaching, from practicing.

3.17. Any requirement to be medically assessed, in the same way as other professional drivers, would increase financial burden very significantly in some jurisdictions, as would any requirement to be re-assessed periodically. WG3 was not made aware of any evidence of a link between the lower medical requirements currently in place in some jurisdictions and the number of crashes that occur. The group concluded, therefore, that any requirement to raise those medical requirements would be likely to be considered disproportionate.

3.18. Riding instructors do have to maintain active control of their own machine while teaching. However, as there is no evidence to indicate any positive correlation between higher medical standards for riders and improved road-safety outcomes and, given the financial burden that such standards would impose, it is also likely that any requirement to raise medical requirements for riding teachers would be considered disproportionate.

Structure of the Driver/Rider Teaching Standard

Outline Competence Framework



WG3 concluded that CIECA should recommend that all persons considered fit and proper and wishing to become paid driving/riding teachers should demonstrate, as a minimum requirement, that:

- they have continued to reflect on and develop their driving competence since they passed their driving/riding test
- they are competent to deliver effective, client-centred, learning on the road.

(The details of the required competences are at Appendix A. The diagram above provides a high-level outline of those requirements.)

Structure of Qualifications

3.19. WG3 recommends that any competence standard should be constructed in two distinct parts to allow for the construction of qualifications which maximise skills mobility and flexibility both for those wishing to become qualified and for those who decide, part way through their training, that they no longer wish to become a driving/riding teacher. For example, it should be possible for an individual to demonstrate developed driving /riding competence (see below) either by taking a formal course of training and assessment or by formal accreditation of prior learning or experience. Similarly, a demonstration of developed driving/riding competence should also be acceptable as the basis for other professional driving/riding competence frameworks/qualifications.

3.20. WG 3 has assumed that the minimum competence standard for drivers/riders (as specified by WG1) will require a person to reflect on their driving/riding competence and do what is necessary to maintain that competence, throughout their driving/riding career – in line with the requirements of the right hand column of the GDE matrix. In this context, a person wishing to become a driving/riding teacher should, at the very least, be able to demonstrate that they have continued to reflect on and maintain and improve their competence. Those who cannot demonstrate a willingness to engage in reflective practice are unlikely to be able to encourage and develop that approach in learners.

3.21. It has been suggested that a person who has progressed through the various categories of motorcycle e.g. A1, A2, A has already demonstrated developed competence. However, as the assessment for each of these categories is the same, an individual could progress in this way without demonstrating any substantive development in their competence. WG3 believes, therefore, that they should be required to either provide equivalent evidence of developed competence or complete a formal programme of training and assessment.

Classroom Teaching

3.22. WG3 concluded that where a national learning-to-drive/ride process includes teaching in a group or classroom the teacher should be required to demonstrate the competences required to teach groups effectively. (This would, for example, include motorcycle teachers delivering Compulsory Basic Training (CBT) in the UK). However, given that group/classroom-based teaching is not a universal requirement, this element of competence should be an option rather than a mandatory requirement for all driving/riding teachers.

3.23. WG 3 concluded that persons providing specialist training, as part of a national learning-to-drive/ride process, which is not directly related to driving/riding e.g. first-aid, need not demonstrate any driving/riding related competence (although, of course familiarity with the context of driving/riding would be an advantage) or any additional teaching or training competences over and above those required by their specialism.

Teaching Attitude and Behavioural Change

3.24. Research suggests that the delivery of group/classroom-based teaching specifically focused on attitude or behavioural-change requires high-level (EQF level 6 or above) competences e.g. to be able to manage complex or challenging group dynamics. These competences are only taught, as part of driving/riding-teacher training, in a few member countries. Very similar or identical competences can be found within a range of other education frameworks, e.g. health professionals. Making these competences a mandatory part of driving/riding teacher education would very substantially raise the educational level of that process. That in turn would very substantially increase the costs of that education e.g. in those countries where higher-education is not free. Given the economics of the driver/rider training industry, in at least some member countries, such an increase is likely to be considered disproportionate given that there is little or no evidence that such interventions deliver substantive road-safety benefits.

3.25. Where member countries do decide to incorporate group/classroom-based attitude/behavioural-change lessons teachers delivering those lessons should be able to demonstrate suitable professional competence. In terms of their credibility with learners, they should almost invariably be experienced drivers/riders (the requirement for personal credibility is, arguably, even higher in the motorcycling world than it is for driver trainers) and should have a demonstrated competence in the theory element of developed driving/riding. It is likely that their professional attitude/behavioural-change competences would exceed the client-centred learning requirements set out below. It is arguable whether they would need to be qualified to give in-car driving or on-road riding instruction. The viability of that as an option would depend on the overall structure and economics of the driver/rider training and driving/riding teacher training industry in each country.

Maintaining Competence

3.26. WG3 concluded that, as well as asking them to demonstrate their competence in order to gain their licence to practice, it would also be sensible and reasonable to require driving/riding teachers to demonstrate their continuing competence. There are several ways in which this could be done e.g. by requiring them to:

- undertake formally recorded continuing professional development (CPD)
- undertake periodic, formal, re-training e.g. every 4-5 years
- pass an assessment of competence e.g. every 4-5 years

3.27. All three of these approaches, and combinations thereof, are in operation in one or other CIECA member country.

3.28. Members of the group expressed concern that the requirement to pass a further test of competence, periodically, could mean that a driving/riding teacher would not see any need to gain extra skill, knowledge or understanding between one assessment and the next. However, the group concluded that while this might not be the ideal situation, given that they do continue to demonstrate the required competence a driving/riding teacher could not be penalised for that failure.

3.29. At this time WG3 does not feel able to recommend one of these methods over the others. There is no evidence that one or other of these approaches has any significant advantage in terms of road-safety outcomes. The ease of operation and effectiveness of quality assurance systems will clearly vary according to the structure and culture of the driver/rider training industry in each country.

3.30. However WG3 does strongly support the idea that the public should be able to be confident that a driving/riding teacher remains competent throughout their career. It is for each country to decide which method of achieving that outcome is most effective in its context.

4. Theoretical Assumptions

4.1. WG3 recognises the central role that the 'Goals for Driver Education' (GDE) matrix plays within European thinking about driver/rider training. The group recognises the need for all driving/riding teachers to be aware of and capable of responding to the wide range of factors which can affect an individual's ability, and willingness, to engage with the learning-to-drive/ride process and to be a safe and responsible driver/rider. We have had extensive discussion about what is actually meant by the phrase 'teach the higher levels of the GDE matrix'.

4.2. We have also considered what insights might be available from the wider fields of social psychology, etc. e.g. theory relating to:

- attitude change
- the links between attitudes and behaviour
- the impact of adolescence on behaviour – in particularly risk-taking.

Goals for Driver Education (GDE)

4.3. WG3 notes that, while the GDE matrix provides an extremely useful handle on some of the factors that influence the learning-to-drive/ride process, it is not an entirely new concept. It can, for example, be linked to the concept of 'force-fields' or 'life-spaces', developed by Kurt Lewin – acknowledged as one of the seminal thinkers in the field of social psychology to which Hattaka et al refer as the basis of their thinking - who argues that we all exist in a matrix of factors, some of which are acting to promote and some of which are acting to resist change.

4.4. We note that the GDE matrix is not unique and that it would probably be possible to create a similar matrix for all professional learning tasks. Pilot training, for example, expressly recognises the relevance of 'attitudes' to safe and responsible flying.

Attitudes

4.5. We note that 'attitudes' can arise from any combination of emotional, cognitive or behavioural factors and are not stable. They can change from being very significant (salient) to being very insignificant in our thinking and vice-versa, and from having no real influence on thought and behaviour to having a strong influence which is persistent over time and resistant to change. They can switch from being positive to being negative evaluations (polarisation) and can become more or less extreme (moderation). They may come to mind automatically or need effort and thought to recover them and people may be aware or unaware of the attitudes they hold.

4.6. In this context theory suggests that there are two ways to change attitudes i.e.

- those that emphasize and encourage a process of thinking about the merits of an attitude object which involves effort and engagement – a process called elaboration – which research suggests are more likely to result in attitude change which is persistent, resistant to counter persuasion and predictive of behaviour
- those which rely on less cognitively demanding processes - which seem to result in less persistent change.

4.7. In this context theory suggests that any attempt to change attitudes will be more successful when the teacher works to:

- make the issue personally relevant (salient) to the recipient
- makes messages relevant to those attitudes the recipient is aware of and can access rather than those which are more deeply embedded
- matches the message in some way to the recipient's self-conception
- builds sensitivity and identification (priming and labelling) with a concept or attitude before introducing concept-relevant messages
- increases a person's belief that they are solely responsible and accountable for message evaluation
- increases the number of message sources
- provides independent assessments of the issue
- presents information in an unexpected form
- provides moderate amounts of repetition – provided it doesn't lead to boredom.

4.8. WG3 suggests that this approach is best developed through a client-centred approach to teaching

Attitudes and Behaviour

4.9. There is also a substantial body of theory about the links between attitudes and behaviours. This points out that the link between a person's attitudes and their behaviour is moderated by a variety of other factors e.g. personal and social norms, control and efficacy beliefs, knowledge and skill to perform a desired behaviour, the salience of that behaviour, environmental constraints and habit.

4.10. In this context, and referring back to Lewin's life-space model, a person's willingness and ability to behave in a particular way could be modified by engagement with any of these factors. In this model the overall objective is to change the balance of forces between those working to promote change and those resisting change. Looked at another way, a person may have absolutely ideal attitudes but still fail to behave appropriately because they do not feel able to overturn social norms, or they do not have confidence in their ability to implement a different behaviour. In this context, a

client-centred approach focuses on finding which factors are preventing a particular behaviour and helping the client to lower barriers and raise incentives.

Adolescence

4.11. WG3 notes that a large proportion, although clearly not all, of the individuals involved in learning to drive/ride are adolescents. These individuals are, by definition, at a stage in their lives where they are actively forming their 'life-space' i.e. when individuals must accomplish a number of primary psychosocial tasks i.e.

- to stand out – to develop an identity and pursue autonomy
- to fit in – to find comfortable affiliations and gain acceptance from peers
- to measure up – to develop competence and find ways to achieve
- to take hold – to make commitments to particular goals, activities and beliefs.

4.12. Contrary to much popular opinion there is little evidence that adolescents are less aware of risk than older people. In fact the research suggests that they are at least as knowledgeable, logical, reality-based and accurate as their elders - but they still engage in higher levels of risky behaviour. We also note that many millions of dollars/pounds/euros have been spent to try to educate adolescents about the risks associated with drug and alcohol use, sexual risk-taking and risky and reckless driving. However, whilst some types of high-risk adolescent behaviours have declined there is no significant evidence of an overall decline in adolescent risk behaviour in recent years.

4.13. The above items should not be taken as an exhaustive list of the relevant theory. They should be taken to indicate that there is a wide body of theory available to support the learning to drive/ride process which is closely linked to the GDE matrix.

Appendix A: A Driver/Rider Teaching Competence Standard

Scope

This Standard covers teaching for:

- drivers and riders of all types of cars and light vans, motorcycles, mopeds, scooters and quad-bikes covered by Categories A/M and B, for use on the road
- licence acquisition and post-test driving/riding programmes (e.g. workplace and eco-driving or enhanced-rider programmes).

A person who qualifies on the basis of this standard will be qualified to teach on all types of vehicle/machine within the licencing Category e.g. small 'city cars', large saloons, sports cars, 4 x 4 'SUVs' and vans up to 3.5 tonnes, or any type of motorcycle, moped, scooter or quad-bike, and in all sorts of driving/riding contexts. Assessment is likely, therefore, to require demonstration of competence in/on a range of vehicles/machines and contexts sufficient to allow the assessor to come to a judgment of overall competence.

The Standard assumes that any person wishing to teach somebody to drive or ride has:

- an appropriate, current, driving/riding licence
- mastered all the competences set out in the relevant Driver or Rider Competence Standard.

N.B It is important to remember that, while the competence statements set out below may appear to be in a chronological order, this is only partly true. Clearly driving teachers must 'prepare' and 'plan' before they can 'deliver'. However, other elements should be seen as running in parallel. For example, 'coaching' can be deployed alongside 'explanation' and the 'management of risk' is an ongoing responsibility throughout the teaching process.

N.B. To keep these Standards as simple as possible we have used the term:

- 'vehicle' to refer to cars, small vans and 'machine' to refer to motorcycles, mopeds, scooter and quad-bikes.

Driver/Rider Teaching Competence Standard: Part 1

Developed Driving/Riding

The first part of the Driver/Rider Teaching Competence Standard **does not** comply with the normal competence standard format i.e. it is not a set of learning outcomes. Instead it sets out requirements to demonstrate developed competence in the learning outcomes which **have already been specified in the driving/riding standard**. In that sense it could be more accurately described as an assessment specification.

Rather than representing what teachers should be '*able to do'* and what they should '*know and understand*' it sets out what they must be able to do to demonstrate *a*, their practical skills and *b*, their theoretical understanding.

To demonstrate the required competence teachers

a, must be able to:	b, must be able to:
• provide best-practice demonstrations of the competences required by the Driver/Rider Standard, across a representative range of driving/riding contexts and in/on a range of vehicles/machines from the category • be able to provide an explanation/commentary, in real-time, while carrying out those demonstrations[43].	• pass a test of objective knowledge about the driver/rider standard and the rules of the road with no errors (or only a very small number of errors) • pass a test of hazard perception and environmental awareness with no errors (or only a very small number of errors) • explain the rules of the road (e.g. as presented in case-studies or scenarios.)

[43] *Riders of Cat A/M machines will, clearly, not be able to deliver an explanation/commentary in real-time in the same way as a driver. It will require further work to determine how this level of competence can be demonstrated and assessed adequately in Cat A/M.*

Driver/Rider Teaching Competence Standard: Part 2

Teaching Ability

Section 1: Prepare to Teach

This section is about confirming that all legal requirements have been met before teaching begins. A teacher must know and understand what the law says about their entitlement to deliver teaching, to use a vehicle/machine for training purposes and an individual's entitlement to be trained.

N.B. Some of the tasks identified below could be given to another person, who is not a teacher, in a training organisation e.g. the checking of a learner's documentation. However, a competent teacher should still be able to confirm that the vehicle/machine they intend to use is roadworthy, that they are legally able to carry out the training and that the person who wishes to be trained is legally entitled.

To demonstrate the required competence teachers:

must be able to	must know and understand
• ensure that they are fit to undertake instruction • ensure that they are familiar with the vehicle/machine in/on which they intend to provide instruction and that it is fit for purpose • **and**, check that the machine being used by the learner is suitable • ensure that the learner is legally entitled to take part in a programme of learning on the road.	• The factors which may affect their ability to provide instruction safely and effectively *(these will mirror factors which affect your ability to drive safely and responsibly, e.g. fatigue, alcohol or drugs, medical problems, extreme emotion etc.)* • any mandatory minimum test-vehicle/machine requirements • the limits of their competence and how to familiarise themselves with a vehicle/machine which they haven't driven/ridden before *(While a high % of driving/riding instruction may be given in/on a driving/riding school vehicle/machine, qualification as a driving/riding teacher may lead to a teacher providing instruction on a range of vehicles/machines within the Categories. Also, vehicle/machine technologies change all the time.)*

	• how to carry out appropriate checks, in line with the vehicle's manual, to ensure that it is fit for the delivery of instruction. *(Where the training vehicle/machine is owned and maintained by a driving/riding school, a teacher must know how to confirm that the appropriate checks and approvals have been carried out before they start to use that vehicle/machine for teaching.)* • that a learner rider presenting themselves for teaching on their own machine has the primary responsibility for ensuring that that machine is fit for purpose • that a riding teacher would fail in their duty of care if they observed something which gave them reason to believe that a learner's machine was not fit for purpose e.g. damaged tyres or fluid leaking from the brakes and did not take appropriate action • what criteria a person must comply with and what documentation they must hold etc. in order to be legally entitled to undertake the type of training they intend to deliver.

Driver/Rider Teaching Competence Standard: Part 2

Teaching Ability

Section 2: Design learning programmes

It is recognised that most driver/rider learning programmes have some sort of pre-specified structure. This may take the form of a national syllabus, with prescribed content, a workbook, or a more informal learning model. However, even where there is a pre-defined structure it is expected that driving/riding teachers will be able to work with the learner to make the learning experience meaningful to each individual.

To demonstrate the required competence teachers:

must be able to	must know and understand
• work with the learner to plan an outline learning programme which: – takes into account prior experience, any special needs and any cultural factors – encourages them to take responsibility for their own learning – progressively transfers responsibility for the management of risk • work with the learner to agree individual lesson plans with clear learning objectives • explain how they intend to monitor progress during the programme of learning • agree the details of the learning plan with the learner within the constraints set by any assessment requirement • adapt the programme of teaching and individual lesson plans when appropriate • where relevant, define ways of working with accompanying drivers to gain maximum benefit from their involvement.	• the content of the relevant driver/rider standard, the learning objectives of licence acquisition or the requirements of any formal programme of training which is to be delivered e.g. Eco-will • the range of prior learning-inputs which a learner may have experienced e.g. simulators, off-road driving/riding and the way in which they may affect the learner's readiness to learn • the range of special needs a learner may present and their implications for driving/riding • what is meant by individual learning styles and how these may impact on the learning process • how cultural factors may affect the options available to support learning e.g. inability to attend on particular days, issues around eye-contact or the belief that it is bad manners to contradict the teacher

	• the range of tools and techniques which can be used to facilitate effective learning[44] • the way in which some approaches to teaching can encourage the learner to adopt a passive attitude to learning • how to select a range of tools and techniques which are effective for a particular learner • the range of materials, books, apps etc. which are available to support the learner • what resources, including other teachers with specialist skills, they can draw on to support their learning process • the limits of their own competence and when they should transfer a particular learner to a teacher with specialist knowledge, e.g. sign-language • how to maximise the involvement of accompanying drivers in the learning process • how to make use of digital tools to support the teaching process and to communicate with accompanying drivers.

[44] *Within client-centred learning there may well be occasions on which more 'traditional' methods, such as learning by rote, can be deployed effectively, particularly as part of a range of methods which support each other. The key competence is the ability to select a range, from all the available methods, which is effective for a particular learner. Particular attention should be paid to ensuring that the methods chosen support the learner to engage actively with the decision making process and to practice taking responsibility for risk.*

Driver/Rider Teaching Competence Standard: Part 2	
Teaching Ability	
Section 3: Create a climate in which effective learning can take place:	
To demonstrate the required competence teachers:	
must be able to	must know and understand
• communicate effectively, both verbally and non-verbally in a way which: – is free from discrimination – does not patronise or exploit the learner – does not collude with risky behaviour or attitudes • explain how they intend to work with the learner and what they expect of them • establish appropriate limits to the learning relationship, to protect yourself and the learner • ensure the learner knows what other resources are available to support their learning process • ensure the learner understands how their parents, partner, friends, etc. can support the learning.	• that learners who do not actively engage in their learning process, and are simply passive recipients of information, are less well equipped to deal with the wide range of challenges they will meet, when they start to drive independently, than those who are supported to be active learners • that adolescents are at a particularly critical stage in the development of their capacity for self-regulation and their cognitive control system and can easily be pushed into negative reactions if treated inappropriately • how to improve verbal and non/verbal communication by appropriate use of eye-contact, consistent and clear language, breaking subjects into manageable pieces, using graphics and visual aids etc. • the effects that their own assumptions, about particular groups within society etc., may have on their ability to deliver effective learning • how external factors may influence the learner's attitude to the learning process e.g. economic factors or peer pressure.

Driver/Rider Teaching Competence Standard: Part 2	
Teaching Ability	
Section 4: Deliver an Effective Learning Process	
To demonstrate the required competence teachers:	
must be able to	must know and understand
• deploy the range of teaching tools that they have agreed with the learner[45] • select suitable locations for delivering demonstrations • provide clear demonstrations and explanations, of how to: – operate the controls of particular vehicles/machines – coordinate the use of the vehicles/machine's controls to manoeuvre and make safe and responsible progress through traffic, in a variety of road conditions – coordinate the use of the vehicles/machine's controls to minimise the environmental impact of vehicle use – scan the environment effectively and prioritise hazards – use a systematic method of vehicle/machine control – negotiate the full range of situations and hazards that may be encountered when driving on public roads[46]	• how to use a range of tools and technologies to deliver learning inputs • how to select appropriate locations to deliver static or moving demonstrations • how to deliver an explanation or demonstration so that the learner gains the maximum learning, taking into account different learning styles • how each type of vehicle/machine works sufficiently well to be able to provide effective explanations • how the rules of the road apply in any given on-road situation • how to deliver moving vehicle/machine demonstrations and explanations while maintaining full awareness of the environment and full control of the vehicle • how to provide a verbal commentary on what they are doing while carrying out a moving vehicle demonstration • how to use radio equipment to provide commentaries or feedback while

[45] *It is impossible for a teacher to know every teaching tool and technique. We expect them to continue to develop their competence after qualification and one part of that process would be to extend their repertoire of techniques. However, it is reasonable to expect that, if a teacher decides that a particular technique is appropriate, they have the competence to deliver it correctly and effectively.*

[46] *Given that they cannot travel on the same machine as the learner, riding teachers cannot provide demonstrations in the same way as driving teachers. They must, therefore, rely more heavily on explanation.*

• encourage the learner to ask questions, check understanding and, where necessary, repeat or alter your delivery to ensure understanding • provide sufficient opportunities for the learner to practice of skills and techniques to ensure that they move from being conscious decisions to being automatic or motor responses • provide opportunities to carry out formative assessments, ideally involving the learner, and provide sufficient, timely, effective and appropriate, feedback • encourage learners to reflect on their progress • encourage the learner to practice skills and techniques in a structured way outside of the formal learning environment.	demonstrating or practicing on a machine. • how to check whether the learner has understood the purpose and content of a demonstration and how to adjust the pace of delivery if required • that they may have to find different ways to explain or demonstrate the same skill or technique to different learners because of their individual learning styles or the amount of background knowledge they have • that frequent demonstrations and explanations may be demotivating for some learners • how to carry out formative assessments of achievement against learning objectives • how to provide effective and motivating feedback • how to work with the learner to monitor progress against objectives and to ensure buy-in to any changes in the learning programme • the importance of moving the use of a vehicle's/machine's controls, and other practical skills, from the part of part of our reasoning process which deals with conscious decision-making to the part which deals with automatic functions and motor programmes (implicit or procedural memory) as quickly and as thoroughly as possible.

Driver/Rider Teaching Competence Standard: Part 2	
Teaching Ability	
Section 5: Coach	
To demonstrate the required competence teachers:	
must be able to	must know and understand
• work with the learner to understand and clarify how their learning goals change and develop over time • listen to what the learner is telling them about their preferred way of learning and the things that are getting in the way of effective learning • work with the learner to develop strategies for overcoming obstacles to learning • watch and listen for attitudes or behaviours, about which the learner may be unconscious, which are dysfunctional in relation to safe and responsible driving. • work with the learner to develop appropriate strategies for mitigating the impact of those attitudes or behaviours • support the learner to take active responsibility for their learning process from the earliest opportunity • encourage and support the learner to develop a reflective approach to their learning and their driving/riding • actively transfer the balance of responsibility for the learning process to the learner as soon as they are ready to take it, without forgetting that they have the ultimate duty of care in the learning process	• that being client-centred does not mean letting the learner make all the decisions – the teacher still brings essential expertise and experience to the learning process • how to listen effectively • how to use a range of client-centred techniques to help the learner identify and overcome barriers to the achievement of their learning goals • how to use a range of client-centred techniques to support the transfer of ownership of the learning process to the learner • the impact of their own willingness to transfer ownership of the learning • how to use verbal and non-verbal clues to identify when the learner is switching-off or not fully engaged in the learning process • that the decisions that we all make are constrained and shaped by a variety of influences including our skill and knowledge, our personal confidence to act, the opinions and attitudes or our friends, colleagues, peers, learners and the values and norms which operate in the wider society (our life-space) • that any of these factors can have a direct impact on the decisions we make when we are learning to drive and when we drive unaccompanied

• work with the learner to agree when they are ready to undertake formal assessment of driving competence • help the learner to reflect on the experience of formal assessment and, if they have failed, identify strategies for overcoming any problems or weaknesses that were identified.	• that adolescents are going through a key formative stage in the development of their personal, identity and their cognitive functioning and the habits they establish in learning to drive may be significant in the rest of their lives • that adolescents are generally just as aware of risk, just as rational in their information processing and just as risk averse as adults but are also subject to a number of psychological, interpersonal/contextual and biological factors which mean that they are more likely to behave in risky ways despite their understanding of that risk • that for adolescents, being told that they have 'failed' can prompt them to regress into a defensive or reactive mode of behaviour • that there is little evidence that educational interventions moderate risky behaviour in young people • that a person's attitudes are the product of a mix of emotional, cognitive and behavioural factors and can vary in polarity, salience, moderation and in the degree to which they are implicit or accessible • that the mix of those factors can change from moment to moment and over time • that if we are to bring about sustained and robust changes in the attitudes of individuals we need to encourage them to engage actively with the issues • that learners will disengage if we attempt to teach them one thing and demonstrate something else in our own behaviours

Driver/Rider Teaching Competence Standard: Part 2

Teaching Ability

Section 6: Manage risk to the teacher, learner and third parties

This section addresses those risks that can arise in an on-road teaching session. It assumes that learners will always be expected to take their share of responsibility for the management of risk, while recognising that their competence to take that responsibility will change over the period of their training. It also recognises that correctly understanding the nature of the risks that arise during a training session is central to a learner's ability to assess and respond to risk when they drive or ride independently.

The general principle of these learning outcomes applies to those teaching people to ride as well as to those teaching people to drive. However, it is recognised that there are particular problems that arise when the rider and the teacher are on different machines. For example, giving an urgent warning of a hazard over a radio link may, in itself, be a distraction for a learner.

To demonstrate the required competence teachers:

must be able to	must know and understand

• ensure, to the best of their ability, that the learner is fit to start the session and take suitable action if they are not fit
• ensure the learner fully understands how they will share with them the responsibility for:
  – their own safety
  – the trainer's safety
  – the safety of other road users
• give clear instructions (such as when and where to start, stop or turn), make sure that the learner understands their instructions and, if they do not, modify their instructions accordingly
• explain when and how they may use verbal or physical interventions to ensure safety
• continue to scan the environment and assess hazards while observing the learner and providing teaching inputs
	• the signs that a learner's fitness may be impaired by:
	  – alcohol
	  – illegal or controlled substances
	  – over-the-counter or prescription medicines
	  – a physical or psychological condition, including ones they are unaware of or are actively trying to hide
	• what actions they may take if a learner is temporarily unfit to be taught
	• what actions to take if they believe a leaner has a permanent physical or psychological condition that they have not revealed
	• what the law says about their responsibility for the health and safety of themselves and others in the on-road learning environment

• take appropriate and timely action where they identify a hazard that the learner does not appear to be aware of or where they believe the learner is unable to respond safely • use client-centred techniques to make sure the learner is better equipped to deal with such hazards in the future • take suitable and timely action, including stopping the lesson, where the learner becomes unfit to continue or behaves in a way that places themselves, the teacher or third parties at unacceptable risk • take suitable and timely action, including stopping the lesson if they become unfit to continue teaching • comply with any requirement to record details of situations in which specific risks arise.	• how they can take action, safely, depending on the type of vehicle being used • how to operate dual controls where these are fitted • how to take action, safely where dual-controls are not fitted • how to give feedback about risk-related issues so that they motivate and help the learner to change their behaviour without increasing fear or failure-based responses • what to do if a learner becomes unfit to continue during the session • how to promptly interrupt deliberate behaviour that places the teacher, learner or third parties at risk • their right and obligation to interrupt or stop sessions where an unacceptable risk arises • how to record incidents in which a risk situation arises • the impact of their own level of competence and attitudes to risk on their ability to minimise risk • the importance of demonstrating consistent attitudes in the their own management of risk to make sure that the formal messages being given in the learning programme are not undermined.

Driver/Rider Teaching Competence Standard: Part 2

Teaching Ability

Section 7: Facilitate group-based learning

This unit is designed for use where a decision is made that learners would benefit from group-based teaching or where a group-based approach is thought to be the most cost-effective way of delivering a particular learning outcome. Such activity usually takes place in a classroom of some sort. This raises particular issues e.g. around local fire-safety or health and safety regulations. It also raises particular risk management issues e.g. around dealing with aggressive students. It is assumed that these issues will be dealt with by existing national regulations etc.

This unit focuses on the issues which arise specifically from the fact that there is more than one learner present, rather than from the physical environment.

To demonstrate the required competence teachers:

must be able to	must know and understand
• make sure all learners understand the purpose and intended outcomes of each group activity, and how it links to the rest of their individual learning programme • make sure all learners feel comfortable and are able to express their views and concerns • deploy a range of techniques and learning activities which will encourage and enable all learners to take an active part in the learning process • encourage learners to ask questions and where necessary, modify their delivery to ensure understanding • make sure that the behaviour of individuals or group dynamics do not distract from the desired learning outcomes • make sure that the behaviour of individuals or group dynamics do not allow individuals to be isolated or excluded	• how to make sure learners feel: – at their ease within the group – safe – able to take an active part in the learning process • how different learning styles and personal characteristics impact on the way in which an individual interacts within a group • how to use a range of learning activities to involve and engage all members of a group so that they all gain the maximum learning benefit • how to use learner-centred techniques to help individuals within the group to: – identify obstacles to engagement with the learning process – devise strategies for overcoming obstacles • the potential effect of peer-group assumptions on the behaviour of learners

• make sure that they do not collude with inappropriate attitudes to other group members or to road safety • promptly and clearly interrupt behaviour that is discriminatory, oppressive or prevents any individual from benefiting from the learning experience • monitor the progress of individuals and provide feedback to the learner and other providers.	• the risk of group dynamics being dominated by sub-groups • how to interrupt individual behaviours or group dynamics which have the effect of excluding individuals or sub-groups • the risk of unconsciously colluding with inappropriate behaviours or attitudes • the risk of being diverted from intended learning outcomes by group dynamics • how to identify opportunities to increase learning that arise in the group, and how to adapt presentations to support that process • how to check an individual's understanding and progress within a group • how to give feedback in a group and on a one-to-one basis • how to provide feedback on individual learner's progress to other teachers.

Driver/Rider Teaching Competence Standard: Part 2	
Teaching Ability	
Section 8: Evaluate and develop your own competence	
To demonstrate the required competence teachers:	
must be able to	must know and understand
• reflect on their own attitudes and motivations and how far they may be influencing the way they teach • identify the skills, knowledge and understanding needed for the role and evaluate their own capabilities and performance against these. • evaluate their own working practices against relevant organisational and legal requirements. • keep up to date with driver teaching issues and recognise when changes in the industry mean that they need to update their knowledge, skills and understanding. • actively make use of all sources of feedback about their own performance e.g. – the performance records of previous learners e.g. pass rates – feedback from line managers – feedback from colleagues or other professionals • set out realistic and challenging objectives for the ongoing development of their knowledge, skills and understanding. • identify training or development opportunities that will help them update or close any gaps in their knowledge, skills and understanding.	• that they have their own hierarchy of factors, their own life-space, which influences the way in which they teach and which may change from moment to moment and from situation to situation • the personal and professional benefits of evaluating and developing their knowledge, understanding and skills • the requirements of the driver/rider standards • the requirements of the driver/rider training standard • the requirements of any formal syllabus/training structure in the country in which they are providing teaching • any formal periodic quality assurance processes in the country in which they are teaching • the specific performance and knowledge requirements of any body by which they are employed. • how to maintain a current understanding of development in driver education practice • how to obtain feedback on their performance in a non-defensive way • how to evaluate their own performance against requirements and recognise where gaps in their skills, knowledge or understanding are affecting their competence

• develop, and demonstrate, the reflective skills which they are asking the learner to demonstrate	• the opportunities for formal and informal professional development available through their employers or other providers. • the importance of modelling the attitudes and behaviours they are trying to develop in their students.

7.3 Additional Reports

7.3.1 EFA-Report “Minimum Standards for Driving Schools”

Driver Training For Life
Europäische Fahrlehrer-Assoziation e.V.
Fédération Européenne Des Auto-Écoles
European Driving Schools Association

Minimum Standards for Driving Schools

Throughout this document where the term driving school is used it is taken to include riding schools

Introduction to the Standard

The European Driving Schools Association (EFA) note that whilst the structure of the way that driver training is delivered varies considerably between countries in Europe, there is a link between high quality trainers working from high quality driving schools and producing high quality new drivers

Regardless of any particular business model in use, all driving teachers working in driving schools must be of high standard, properly licensed, qualified and supervised

We believe that to provide high quality ***Driver Training for Life*** all driving schools should meet the minimum standards contained in this document

Establishing common rules concerning the conditions to be complied with to pursue the occupation of a road transport operator is contained within regulation (EC) 1071/2009 We believe a similar regulation is required for driving schools that:

> Conditions of competition in driver training require the uniform application of common rules on **Minimum Standards for Driving Schools**

February 2015

European Driving Schools Association (EFA)

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Driving School Manager
• *Different countries and businesses give different titles to this role manager, operator, director; in this context the person who may be the owner or responsible to the owner or owners for the day to day management of the driving school* • *The driving school manager should also be responsible for all contractual arrangements with clients, staff and suppliers* • *The manager must have the skills to validate the training delivered by staff who may be described as trainers, teachers or instructors in the driving school*
The school is required to evidence that: • the manager has carried out a minimum of two years practice as a qualified Category B driver trainer of both theoretical and practical training • the manager is able to demonstrate his ability to validate training delivered by others • the manager is a Fit & Proper person to manage a driving school and holds the relevant certificate required in their country to prove they have been screened for previous convictions

Driving School Procedures
• *Proper procedures are necessary to facilitate the smooth running of the driving school and to ensure that the school is properly administered for the benefit of the clients*
The school is required to evidence that: • teaching plans are in place which reflect the curriculum of training laid down by each national government • there are signed contracts, including terms and conditions of business for every student • the driving school keeps relevant progress records on all their students • the security and privacy of such records are protected and treated confidentially • a Health & Safety policy is in place • a policy is in place to protect children and vulnerable adults

Driving School Teaching Materials and Equipment
• *The driving school must be equipped with proper teaching materials and equipment in order to facilitate learning*
The school is required to evidence that: • teaching materials are fit for purpose • up to date and in good condition

• equipment is properly maintained and fit for purpose

Driving School Buildings
• *It is important for the wellbeing of clients and staff that buildings are properly maintained and that classroom areas are separate from reception areas*

The school is required to evidence that:
• buildings operated by the school and open to the public must have:
• separate spaces for:
  • reception
  • classrooms
  • toilet facilities

Driving School Vehicles
• *These standards should be applied where possible throughout all vehicle categories* • *It is important for the wellbeing of clients and staff that vehicles are appropriate for the task and fitted with the proper equipment*

The school is required to evidence that:
• Vehicles for Category B training should have
  • four doors
  • dual controls
  • dual mirrors
  • exhibit the correct learner plates or signs

Driving School Quality Assurance
• *It is important that driving schools participate in quality assurance systems, to ensure the quality of the training and services that are being provided to clients*
The school is required to evidence that: • staff are properly trained and supervised • procedures are understood and adhered to • standards are correctly upheld • teaching materials are accurately updated • teaching equipment is regularly maintained • driving school buildings are correctly managed • driving school vehicles are appropriately serviced and maintained

7.3.2 Ecole de Conduite Française (ECF): Arguments in favour of minimum requirements for driving schools and proposals

Gérard Acourt

Arguments in favour of minimum requirements for driving schools and proposals

1- The context

The issue of significance of a driver training system based on controlled structures, what driving schools are, comes up to all the EU Member States, more particularly since the publication in the Official Journal of the European Communities of 27th December 2006, of the directive n° 2006/123/ec of the European Parliament and of the Council of 12th December 2006 on services in the internal market.

Within the framework of this text, activities and deliveries of services around the maintenance of order in society and the road safety are considered as "overriding reasons relating to the public interest" (cf. recital n°40).

Of course, driver training is an integral part of these activities and deliveries of services relating to road safety. In order to be effective, it must meet the GDE matrix goals, considered as reference tool for all the European experts.

That's why this training must be delivered by qualified trainers meeting a number of minimum requirements (level of general education, initial and on-going training, individual and pedagogical competences…) and practicing, according to Member States, be it individually or within the framework of driving schools which must meet minimum requirements imposed by the competent authorities for their operating and their functioning.

We can observe that driving access, which takes concrete form through the driving licence exam, may be carried out according to the Cieca Members, either individually or through a driving school.

Within the framework of RUE project, it is not the CIECA responsibility to give its opinion on the advantages of some system: on the other hand, as regards road education, it is natural that recommendations should be given by Cieca, in particular where this training is carried out by a driving school.

2- Recommendations

These recommendations must concern 5 domains:

- the driving school operator,
- the trainers,
- the logistical and material equipments,
- the educational methods,
- the assurance quality system.

2.1- The driving school operator

The driving school operator is personally responsible for contractual arrangements (content, organization and cost of the training) discussed with the trainees. Indeed, the driver training costs are high and there is no doubt that a failing organization of this training could involve drifts at the educational level with negative financial consequences for these trainees.

The driving school operator must provide evidence on his management competences.

Similarly, he must be able to master assessment framework and validations of training delivered by employed trainers in the driving school (it should be noted that this task could also be carried out by a duly authorized responsible).

2.2- Trainers

Minimum requirements for trainers working in a driving school are those specified in the final WG 3 report (Paragraphs 3.10 and seq. + Appendix A – Pages 7 to 32 “Minimum Competence Standards for persons performing paid driving/riding instruction »).

2.3- Logistical and material equipments

The driving school must be fitted out in order to allow the reception of trainees and their parents (or accompanying persons) in good conditions. We indeed know it is essential that there is an open and constructive exchange between the trainer and the novice driver in order to decide on goals of the training, its content, its organization (theoretical and practical parts), finally of the global programme.

Similarly, driving school has to get a classroom, duly equipped with the necessary educational tools and allowing the organization of group training (classroom teaching, group works, group discussions) during which trainees could also be actors of their own training (coaching methods).

2.4- Educational methods

The driving school operator has to apply within the framework of his company, a curriculum, that is to say a structured driving education (content, pedagogical tools, programme), an example of which is provided in the WG2 final report " Face 15 - Framework for a curriculum for driver education " - cf. figures n° 9, 11, 12 + the toolbox of pedagogical procedures in chapter III.1a).

Moreover, throughout this educational process, it is essential that trainees could have exchanges on their respective experiences, allowing them to deepen their thoughts in this domain (emulation) and to strengthen their positive attitudes concerning the road safety (motivation).

Finally, “Teach", “Train ”, “Coach" are activities which permanently put trainers faced with difficulties to be solved. To improve an educational performance, to take into account new tools, to develop the competences of a trainee are so many opportunities to exchange with their colleagues.

The place "driving school", workplace of driving instructors, becomes thus essential in order to set up what we call " the informal learning "; for the record, 90 % of driver education is carried out in an informal way, that is to say in contact with other trainees through the observation of their practices and exchanges on best practices.

Moreover, it is no coincidence if in general education, teachers, lecturers or professors do not work on their own. Their efficiency will be greater when there is a good management and an excellent environment.

It is the same thing within the framework of driver training: a trainer who works within a driving school and who meets and exchanges frequently with his colleagues, is undoubtedly more efficient than a trainer exercising on his own.

2.5- Quality assurance system

It is finally important that driving school adheres and participates to a quality assurance system guaranteeing the good application of a number of organization and functioning process (clear and precise information delivered to customers, quality of training, competences of trainers, on-going training, recent, clean and in good operational order vehicles, survey of customer satisfaction at the end of the training, annual analysis of performance indicators).

Nota bene:

These recommendations concern only Member States having implemented a training system based on driving schools.

Be that as it may, it must be pointed out that each Member State is free to apply (or not) these recommendations according to its specific historic, political, social and legal background.

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