EU HERMES Project
Final Report

High impact approach for **E**nhancing **R**oad safety through **M**ore **E**ffective communication **S**kills

In the context of category B driver training

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CONTENTS

I. Coaching in driver training 5
1. The HERMES project 5
2. Objective of this report 5
3. Defining coaching within the HERMES project 6
4. Rationale of coaching (in a learner/novice driver context) 7
5. Principles of coaching 7
- Leading the learner into an active role 8
- Creating an equal relationship 9
- Identifying and meeting goals 9
- Raising awareness, responsibility and self-acceptance 10
- Raising awareness through senses and emotions 12
- Addressing 'internal obstacles' 13
- Building on prior knowledge and experience 14
- Being convinced of the coaching role 14
- Authentic, neutral and non-judgemental communication 14
- Questioning, listening and reflecting back 15
- Coaching and instruction? 17
- Coaching as a voluntary process 19
- Coaching is not just asking questions! 20
6. Process of coaching 20
7. Pre-conditions for coaching 21
- Prepare oneself as a coach 21
- The coach-coachee relationship 22
- Features of a good coach 22
8. Learner centred methods in driver training 22
- On-road training 22
- Classroom training 23
- Track training 29
9. GDE Matrix 31
10. Coaching further developments for driver training 32
- Car accidents are a result of human behaviour 32
- Why coaching instead of teaching? 33
- Communication approaches in traffic safety education 34
- Coaching is a specific relationship 40
- Key issues for professional customer-coach relationship 42
- Definitions and principles of coaching 42
- Coaching description from the EU MERIT project 46
II. Evaluation of HERMES-Coaching Seminar 51
1. Students' feedback before - after HERMES coaching seminar 51
2. Instructors' feedback after HERMES Coaching-Seminar 83
3. Results of audits 92
Bibliography 102

I. Coaching in driver training

1. The HERMES project

The HERMES project began in March 2007 and was finish in February 2010. It's main aim is to create a short 3-5 day training course for driving instructors to allow them to develop their 'coaching' skills. In addition, a number of coaching scenarios have been developed to enable instructors to coach in on-road training, track training and the classroom, and to meet a wide range of goals in the driver education process.

The EU HERMES project on coaching:

March 2007 until February 2010

HERMES builds on a number of different EU projects in the driver training field which recognise the need for:

- less reliance on short-term instructional methods which tend to help learners to pass the driving test, and more focus on active-learning methods to prepare learners for solo driving and to foster ongoing learning after the test
- more focus on the higher levels of the GDE matrix[1] in driver training (personality factors, self-awareness, emotions, different trip-related contexts for novice drivers and their motives for driving).

This project also comes at a time when various countries are optimising their driver training curricula and taking into account the goals outlined in the GDE matrix. These countries, while changing their curricula, have also identified a need for a corresponding change in the way driving instructors conduct the training.

The final HERMES product includes the following:

1. **HERMES-project final report** (state of the art report on learner centred methods plus newly developed communication techniques and scientific evaluation of the HERMES-Seminar)
2. **HERMES Coaching Scenarios** (English and German)
3. **HERMES Seminar Manuals** (English and German)
4. **HERMES Film** "Coaching in Driver Training" (English and German)

HERMES provides:
- a seminar manual
- a film
- an evaluation
- a state of the art on coaching in driver training

The documents and the film can be downloaded from the official HERMES-Website: www.alles-fuehrerschein.at/HERMES

2. Objective of this report

The aim of this final report is to create a coherent package from a range of sources on the subject of coaching and active-learning methods in the context of

[1] See annex 1

learner/novice driver training. It provides the largest background knowledge for those who want to conduct coaching seminars for driving instructors.

Additionally, all evaluation results of the HERMES coaching seminar (feedback analysis and audits) are outlined in this report.

3. Defining coaching within the HERMES project

HERMES-Definition of Coaching in driver training:

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.

Coaching: A Method and a specific kind of relationship.

Defining coaching has been a challenge for the project consortium because, inevitably, each member of the team has brought his own interpretation of coaching to the table. Clearly, it is important to agree on a common definition as a means to maintain progress in the project. The definition that has been agreed upon reflects how coaching should be seen in the context of driver training. HERMES will thus focus on developing:

- Methods which activate the learner driver and make him[2] more aware of himself, the car, and the interaction between himself and others in a (social) traffic environment.
- Methods which accept the learner driver as being responsible for himself, his own learning and his behaviour in traffic (and which help him maintain this sense of responsibility in complex situations).
- Methods where the teacher/coach and learner form a partnership in which the coach, through observation, questioning and feedback, encourages the learner to be himself, identify goals, reflect on his experience and develop strategies to meet his driving goals in the future[3].

[2] For simplicity's sake, both the learner driver and the coach in this report will be referred to as a male.
[3] If necessary, this process should sets limits to the learner's goals and behaviour, but these limits should be fully accepted by the learner.

4. Rationale of coaching (in a learner/novice driver context)

Coaching is designed to develop the awareness and responsibility of the person being coached. These are all vital components in encouraging safe driving. Driving is a self-paced task which involves constant decision-making and a continual need to make choices. To make the right choices in traffic, a novice driver requires:

Most important in coaching: Awareness and responsibility

- Self-awareness, e.g. how one's mood or emotions can affect one's driving
- Awareness of inner and outer factors, such as the actions of other road users
- A sense of responsibility and of the consequences of his behaviour and the confidence to act accordingly
- Self-confidence, or perhaps more appropriately 'self-acceptance' in the case of novice drivers, to prevent bravado or any feeling of inadequacy leading to risky driving behaviour

5. Principles of coaching

A number of principles have been identified to provide insight into the role of the coach and the process involved. These principles are listed below, and then explained in some detail.

1. The coaching relationship is an equal relationship: the trainer is no longer 'the expert' in the hierarchical sense.
2. Coaching puts the learner in an active role.
3. Coaching encourages the learner to identify his/her goals and to meet these goals.
4. Coaching raises the awareness, responsibility and self-acceptance of the learner
5. Coaching raises awareness not only through rational thought but also through the learner's senses and emotions. It raises awareness of the learners' values, goals, motives and attitudes as well as his sensations and emotions, knowledge, skills and habits.
6. Coaching addresses the learner's internal obstacles to change
7. Coaching builds on the prior knowledge and experience of the learner
8. The coach is convinced of his role and of the benefits of coaching
9. A coach communicates in an authentic, neutral and non-judgemental manner
10. The basic skills a coach uses are effective and precise questioning, listening and reflecting back
11. Coaching and instruction do not mix: if instruction cannot be avoided, alternate with coaching rather than mixing them.

12. Coaching shall be experienced by the coachee as much as possible as a voluntary process: the learner shall not be forced to participate in the coaching method.
13. Coaching is not just about asking questions: it is about using a method which is appropriate for the circumstances, ensuring that the learner is put in the active role wherever possible.

Many of these principles are actually interlinked and mutually dependent.

- Leading the learner into an active role

Today's society contains so many influences which encourage youngsters to take a passive role. For instance, in school they are often talked at rather than to, and cinema, computer games, internet and TV are always available to entertain them. This is one reason why they may approach driver training in the same way. Instead of being actively interested in developing safe driving competencies, some are happy to remain passive and to be 'told and shown how to pass the driving test'.

> "The challenge of coaching is to lead the student out of the role of a passive consumer and into the role of an active producer".
>
> Gregor Bartl

The big challenge of coaching is to "lead the student out of the role of passive consumer and into the role of active producer" (Bartl). The more active a person is involved in the learning process, the more responsibility and awareness we create and the better we recognise learning opportunities and the will to act upon them. In short, the more active the student is in the learning process, the more likely they are to develop and maintain skills not just during training but also when driving solo after the test.

It should be understood that simply manoeuvring the car in driver training is not 'active enough'. The need for greater activation in the learning process was already recognised in the 1960s. For instance, Holt observed that learning is enhanced if the 'student' is asked to the following 'active' things:

1. State what they have learned in their own words
2. Give examples of it
3. Recognise it in various guises and circumstances
4. See connections between it and other facts or ideas
5. Make use of it in various ways
6. Foresee some of its consequences
7. State its opposite or converse.

There are many ways in the coaching process to activate the learner, as described below.

- Creating an equal relationship

If the learner feels the instructor is in control of the training, he will be encouraged to take a passive role in the training process. This feeling implies a hierarchy, with the instructor as 'boss' and the learner as obedient servant. Such a hierarchy can also create anxiety in the learner because he feels he is constantly being judged. This anxiety can lead to defensiveness and other forms of resistance to learning. If the instructor presents himself as an equal, and someone with whom the training can be tackled in partnership, the learner is likely to be more relaxed and more inclined to share his concerns and views with the instructor. It should be stressed that, whilst the instructor-coach would no longer be the dominant party in the training process, he remains an expert. However, he is an expert in the coaching sense rather than an expert in terms of knowledge and driving skills.

The coach is no longer primarily an expert in the technical sense. He is an expert in the coaching sense.

This transition from a hierarchy to an equal relationship is recognised to be an important challenge for the HERMES project. Both are of the same value although the competencies of the coach and the coachee will vary. The attraction of telling (i.e. imposing a hierarchy) is that, besides being quick and easy, it provides the instructor with the feeling of being in control. And being in control can be one of the most attractive aspects of the role of a driving instructor.

- Identifying and meeting goals

Goal setting is another key principle of coaching. First and foremost every goal in driver training, independent on the learning method (coaching or telling etc.), must fit to the needs of traffic safety! The coach helps the learner to identify his goals and then to realise them – again, in accordance with the needs of traffic safety. Goals in driver training could be the overall goal: "what do I hope to achieve as a result of the training?" or specific goals, for instance within each lesson. It is very important that the learner fully accepts the goals in the coaching process – because coaching is tailored towards change in that individual only. Efforts should be made, using coaching, to ensure that learners subscribe to the basic goals of training (safe, social and environmentally-conscious driving). And there is no reason why driving should not be a pleasurable experience too, provided it remains safe at the same time.

Goals must fit to the needs of traffic safety.

Of course, driver training has certain pre-defined limits (laws, regulations, etc) within which the individual goals of the learner should co-exist. It is important, however, that the instructor does not impose goals on the learner driver, for instance for a specific driving lesson. The learner needs to fully accept the goals – and the goal must meet the needs of the learner. For example, if a learner driver has had a driving lesson and there was an aspect of it they were not comfortable with, that thought or anxiety remains dominant in the next lesson. If the instructor imposes a goal on the next lesson which does not address this concern, the anxiety constitutes interference and the learning process is disrupted. It is vital to address this anxiety before moving onto the next step in the training process. The

The learner shall become his own teacher.

instructor should activate, listen to and follow the learner rather than rigidly following a fixed curriculum.

In practice, many youngsters are used to obeying and following instructions. Agreement on goals at the start of training is therefore often hard to get, partly because the person has never been asked to identify goals before, and partly due to a lack of knowledge of the training process (how can I set goals if I don't know what is important to become a good / safe driver?). So any agreement may be formal at the beginning, but after two or three lessons, as long as the coach keeps trying to jointly identify goals, the learner will start realising that the coach is 'different' and start thinking for himself. It may therefore be during the training rather than at the beginning when the learner starts to identify his own goals. And goal setting can be a type of negotiation between coaching instructor and learner. The coach must make his intentions explicit, make the learner aware of what he is feeling, seeing and what his perspectives are, and encourage the learner to identify his own goals. The coaching instructor and learner then meet halfway. This is an ongoing process.

The coach encourages the learner to identify his own goals, within the limits laid down by the training programme and the law.

In practice, the learner drivers' most important goals relate to what they need to know and do to pass the driving test. These kinds of goals are probably not that difficult for learners to conceptualise and express. The difficult ones are more general and more focused on levels 3 and 4 of the GDE matrix – a person's driving context, motives, moods and habits when driving solo. Getting the learner to focus on goals on these levels is a real challenge, especially because measuring these goals in the driving test is so difficult.

- Raising awareness, responsibility and self-acceptance

Awareness

Building awareness and responsibility is the essence of good coaching (Whitmore, 2002). A high state of awareness is required for driving, both in terms of awareness of the outside world (what is happening around me?) and in terms of self-awareness (how do I feel, and what do I feel?). To be in control and therefore to be able to drive safely, you have to be aware of these inner and outer worlds. It follows therefore that anything you are unaware of controls you.

"Building awareness and responsibility is the essence of good coaching".

John Whitmore

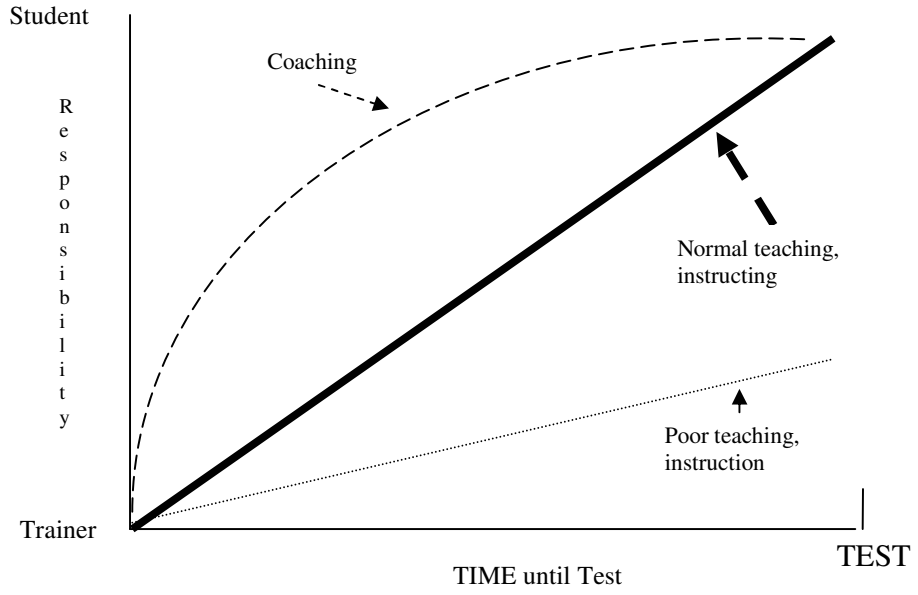
The instructor-coach can raise awareness of both these worlds, primarily through questioning. For example, what do you see, what can you hear, how do you feel, what do you feel, etc? These questions raise awareness in the form of feedback: but this is feedback from the environment, from your body, your actions and from the car you are driving, rather than feedback from people.

Responsibility

Safe drivers are responsible drivers.

Safe drivers are responsible drivers. This sense of responsibility can be developed in the driver training process, if the learner is empowered to make decisions, choices, identify his own goals, etc. Ideally, learners should be given responsibility from the beginning of training. Starting with coaching immediately increases the sense of responsibility within the learner when he is in the car. We want to create a situation where, each time the learner gets in the car, the learner's inner voice says "this is a place where I am responsible". By giving him responsibility from the beginning of the training process, this goes some way towards reaching this goal.

It should be emphasised that this responsibility does not mean that learners should immediately be able to make decisions which have serious road safety implications[4]. The learner should 'feel responsible for his own learning', rather than responsible for making major decisions in traffic right at the beginning. The allocation of responsibility between trainer and student, according to 'coaching', 'normal instruction' and 'poor instruction', can be presented as follows:



Each action of an instructor can be classified as to whether it increases or decreases the sense of responsibility of the learner drivers.

According to the 'coaching' line in this model, learners must be given responsibility right from the beginning of the training process. This should soon get them accustomed to making decisions, and making choices. If the trainer retains too much or even all the responsibility, this is a bad model for the learner to start with ('poor instruction'). A classic instructor will only start giving responsibility gradually, as the training progresses ('normal instruction').

[4] All learners need to have a "supportive and safe environment" to be able to learn. The coach/trainer has to take responsibility for the total situation in such a way that the student's activation (or stress) level does not go too high and thus prevent learning. The learner needs to know what are his or her expected responsibilities are in different situations. Is he able to concentrate on a certain learning task or does he have to take the whole responsibility of the situation?

Driving instructors should be constantly aware of the decisions to be made in the learning process: does my action give responsibility to the learner, thereby encouraging independence of mind, or does it take away responsibility and encourage dependence? One of the main ways of giving responsibility to the learner is to encourage them to identify their own goals during the training process.

Self-acceptance

Low self-acceptance is a typical trait of young males. Feelings of inadequacy (e.g. not being manly enough) can lead to compensation in the form of risky behaviour, such as showing off in order to try to gain the respect and admiration of others. Such behaviour can of course have serious implications in traffic. Low self-acceptance in girls often breeds anxiety and dependence or nervousness and lack of concentration.

If the learner feels empowered and responsible for the learning process, he recognises the trainer as a partner rather than an instructor and he feels he is being listened to, this develops a sense of inner self-esteem which is often lacking in teenage males. If self-acceptance is developed within the training process, the learner will be more relaxed and learning can be a lot more effective because it is built on a much sounder basis than building on an external image which does not correspond to the real person inside. Coaching should be used increasingly to develop an environment where it's ok to act naturally.

- Raising awareness through senses and emotions

A limitation of driver training today is that there is too much focus on rational thinking and not enough on the senses and emotions. Senses and emotions are important for a number of reasons:

1. Driving is not just a rational process. People inevitably bring in their lives and their emotions into the car with them. And it is a highly physical activity.
2. Young drivers are going through a very emotional period in their late teens as they develop into adults and start to experience new freedom. They have numerous 'building sites': what they learn is constantly being torn down and re-built based on their new experiences. Driver training is about giving them experiences which they can relate to and build on. Coaching on an emotional and physical level is all the more important to prepare novice drivers for feelings and emotions they will have in a wide variety of potentially risky situations in the initial post-test period of solo driving.
3. Self-awareness, as recognised by the third column of the GDE matrix, is an important characteristic of a good driver. Self-awareness can only be developed if the learner recognises physical sensations and emotions which often precede rational thought. Knowledge and rational processing of

> "Coaching is about making people realise if they *feel* right or not. Any change will not be stable unless it comes from an emotional standpoint. This awareness will then become self-correcting in the future."
>
> Ian Edwards

information is not enough to produce awareness. Awareness can only be achieved if the learner emotionally processes an experience.

Importantly, coaching already on the lower levels of the GDE matrix (vehicle manoeuvring, interaction in traffic) can bring the learner into contact with their senses (e.g. physical sensations) and their emotions (e.g. anxiety). So coaching on the lower levels already raises awareness of emotions that are also important to recognise on the higher levels of the GDE matrix (e.g. a person's moods, anxiety, willingness to show off, etc). Coaching should make them aware of their 'internal state'. So by the time levels 3 or 4 of the GDE matrix are more addressed in the training process, the learners will already have some experience recognising their emotional and physiological state.

In short, being encouraged to learn for oneself, based on emotional, physical and intellectual experiences, is considered to have a longer-term impact on learning and well-being than more instruction-based teaching techniques.

This aspect of coaching is recognised to pose a challenge for the HERMES training programme because driving instructors are generally not accustomed to teaching on these levels.

- Addressing 'internal obstacles'

'Internal obstacles' are any form of interference inside a person which disrupt the learning process and ability to meet a goal. An internal obstacle to an effective driving lesson could be a concern that the learner has from a previous lesson. If this concern is not addressed, and the instructor continues with 'the curriculum', the learner is unlikely to able to focus fully on the new goals. Internal obstacles to safe driving include a desire to show off or to be competitive. The need to remove internal obstacles emphasises the importance of setting goals which suit the learner driver rather than the trainer. To do this, the trainer needs to put the learner in the active role. A typical coaching question at the beginning of each lesson could be: "What is your main concern today?"

Another type of internal obstacle is low self-esteem. As described in the above section on self-acceptance, low self-esteem can induce teenagers to compensate for their perceived inadequacies by projecting an image which does not reflect their true selves and by acting in a 'don't care, high-risk' manner. If coaching can at least create a sense of self-acceptance in the training process, this internal obstacle can be addressed. "I am who I am now, it is good that I exist, and I can learn from here".

- Building on prior knowledge and experience

Building on prior experience is another important principle to incorporate into driver training through the coaching process, and to bear in mind when developing and setting goals. Learning is about connecting new elements with old elements (= prior experience) or building blocks on existing blocks. Therefore, an important principle of coaching is that it doesn't start from scratch. It assumes that learner has had some kind of experience already in life which they can link with the new learning. This exposes the limitations of a programme externally imposed on individual learners which does not recognise their individual learning sequences, experiences, motivations and concerns.

Learner drivers bring to driver training a wealth of experience from life and often from driving itself. Many will have driven before (depending on the licensing system) and all will have had the opportunity since childhood to observe their parents and others drive. Most learners will have cycled before, all will have been pedestrians and some will have ridden mopeds.

Of course, the driver training process itself also provides for a wide range of experiences. But these experiences must be built on and structured in a process of reflection to ensure that what has been learned is sustainable in the future.

"… if you aim to guide a person towards a specific goal, you must first discern where he is, and start from there."
Søren Kierkegaard

- Being convinced of the coaching role

One of the main challenges of the HERMES project is to develop a course which convinces instructors that coaching is a worthwhile approach in driver training. It should be recognised that it can be more difficult to make a coach out of an instructor than to develop a coach who has no teaching experience. It can be a typical and natural reaction of the instructor to be resistant towards the idea of coaching. But if a person is not convinced of the coaching role, this will be quickly perceived by the learner and the process will not work. Furthermore, for an expert driving instructor with a wealth of technical knowledge, it is very tempting and easy to revert back into a telling, hierarchical role. One of the main focuses of the HERMES coaching programme is to address this issue in detail.

- Authentic, neutral and non-judgemental communication

That communication must be authentic simply means that the coach must be convinced of the coaching process and genuinely interested in the 'world of the learner'. Coaches have a range of techniques to help their clients feel that they are being listened to and being treated seriously. These include things like repeating sentences, rephrasing and repeating the main ideas, looking at the person, facing them (when you can) rather than standing beside them, and so on.

A good coach focuses on the positives, and avoids direct criticism in areas where there is need for improvement.

The ability to communicate in a neutral way is an art, but a necessary one for a coach. It is easy for the instructor's communication to be misinterpreted by the learner, for instance due to his tone or choice of words. The 4-sided model of communication (Schulz von Thun – outlined later in this report) highlights how communication can often interfere in the learning process and stresses the importance of the instructor being aware how his questions, comments and feedback can be perceived by his customer.

Finally, the instructor-coach needs to be non-judgemental with the learner. Direct criticism or blame invokes defensiveness and tension which puts a strain on the relationship and encourages the learner to close up. Instructors should avoid focusing only on errors and establishing their authority in pointing them out (even though the way the driving test is assessed in many countries only serves to encourage this approach). Again, there are various techniques to avoid direct criticism, such as:

- Don't tell the learner he has done something wrong. Ask non-judgemental questions about things that went wrong…such as "What do you think happened back there?"
- Focus on the situation and not the driver's behaviour. Try to focus on the specific behaviour or situation that was a problem rather than directing a criticism at the driver's ability to drive.
- Focus on the positives. Always first point out: "What are you doing well?" We learn most from our mistakes, but in learning from them we rest on our qualities, our already mastered skills. The key is to find the qualities, even in a mistake (after all, some aspects may have been correct). Going through this process together develops confidence and trust.

We learn most from our mistakes, but in learning from them we rest on our qualities, our already mastered skills.

Lauk Woltring

- Questioning, listening and reflecting back

The main method for the coach to raise the awareness of the learner and give him responsibility is in the form of questions. *Questioning* techniques are therefore one of the key skills of a coach and a whole field of expertise in itself.

A typical coaching question at the beginning of a driving lesson could be: "What is your main concern today?" This immediately activates the learner, allows for any internal obstacles to be addressed and encourages him to identify a goal.

A number of principles have been established for good coaching questions. They include:

- Questions should follow the interest of the learner and use their words
- Questions should start broadly and then increasingly focus on detail
- The coach should only ask one question at a time
- Effective questions are clear, 'open questions' (what, when, where, who, etc) which require attention and thought, and are non-judgemental

Questioning is the main method used by the coach to raise the awareness of the coachee.

- Questions can and should focus on the **senses** (seeing, hearing, touching, etc), **emotions** (moods, feelings…), **attitudes** (opinions, values), **goals and motives** as well as **cognitive** factors (knowledge, habits).
- Questions can relate current experience to prior experiences.

Some basic examples coaching questions in the context of on-road driver training are presented below:

"What is your main concern today?"

"What do you want to do next?"

"Have you done this before?"
"How did it go?"

"What do you need to know to do this?"

"What do you need to particularly watch out for in this situation?"

"What can you hear/see/feel?"

"What are you feeling at this moment?"

"How are you going to deal with this?"

"Where are you looking?"

"What did you actually do?" What else?

"How did you feel in the situation?"

"What did you do well?"

"What could you do in the future to avoid such a situation?"

"Has this happened before?"

"What would make it easier for you to do this?"

All these questions not only raise awareness but also train the learner to express in words whatever they sense and feel. This act in itself already requires thinking and reflection. It stimulates the parts of the brain that are necessary for anticipation and inhibition of impulses. This is very important for young men.

If the learner is to have responsibility and decision-making in driver training, the coach has to listen to make sure the learner's needs are being met. And the coach's questions, if they are following the interest of the learner, are tightly linked to what the learner has already said. This makes *listening* an important skill for coaching. However, perhaps the hardest thing for an expert is to learn when to keep quiet. The learner should not be denied the instructor's experience, knowledge or wisdom, but this expertise should be given as an extra, a surplus on what they have already experienced and thought through for themselves. It's at this point that the instructor's expertise and contributions may be fully welcomed.

Some tips for active listening include:

- Look at the learner when he is talking
- Light nodding and friendly facial gestures are useful if the participant is shy and needs encouragement
- Do not try to finish off someone's sentence
- Do not try to cut off the person when he is talking, even if you think you have understood the essence of what he is saying.

Reflecting back is an important method for ensuring that nothing is lost in the questioning and listening process and for summarising the learner's words. A coach in driver training could say:

"So, is it fair to say that your main concern today is to gain more experience turning left at junctions?"

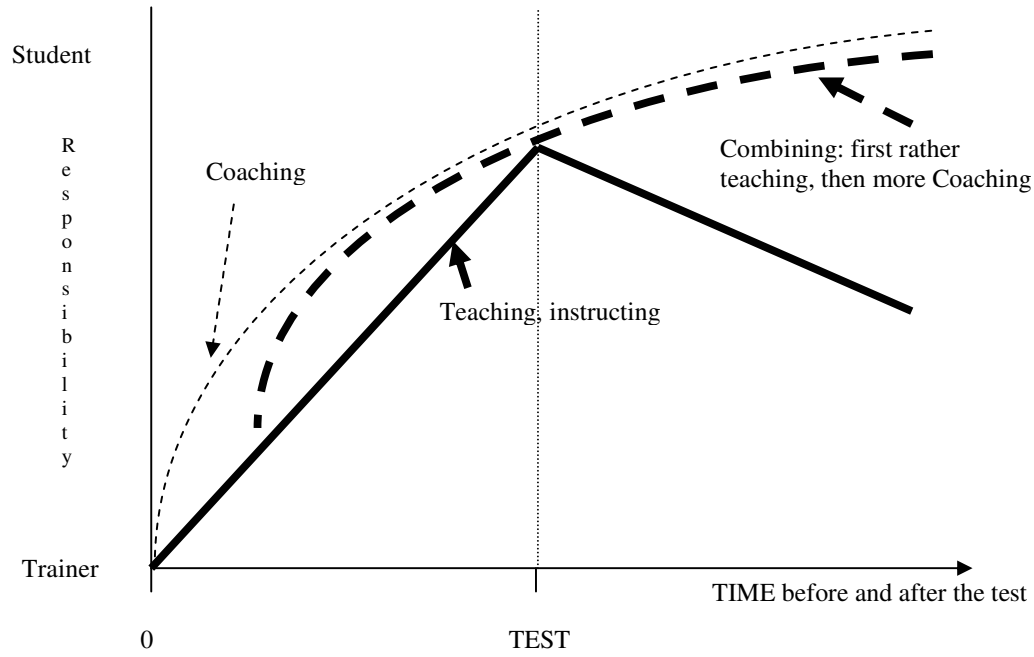
This process shows you are listening and that the learner's input is being appreciated and allows both of you to establish if you are on the same wavelength. If reflecting back can summarise the words of the learner, this can also help structure his thoughts. This may all appear to be very time consuming. But experience in other fields shows that later on in the process learning will take place much faster than with traditional instruction.

"However clear the coach may feel, it is worth reflecting back to the coachee from time to time and summarising points. This will ensure correct understanding and reassure the coachee that he is being full heard and understood."
John Whitmore

- Coaching and instruction?

Coaching experts stress the fact that coaching and instruction do not mix. Coaching aims to increase the responsibility and awareness of the learner, to help him learn how to learn, even after the driving test. Instruction may be quicker in the short-term but essentially this type of teaching only prepares the learner to pass the test, rather than preparing the novice driver for ongoing awareness and learning when driving solo. Giving a basic instruction has the effect of lowering the level of responsibility and awareness of the learner. An instruction says to the learner: "I, the trainer, am in control. I will tell you what to do and when to do it". The learning effect is minimal because the action did not come from within: it is obeying rather than learning. But keeping the following two facts in mind a combination of both is highlighted: First, students might require to be thought instead of coached especially during the first lessons on vehicle manoeuvring and basic traffic regulation, and second, some of the present driving instructors might not be willing or able to coach right from the beginning.

A combined model of teaching and coaching during the training period is illustrated in the model below. It shall especially highlight that coaching shall support the period after the test when the student is driving alone and makes his choices on his own pure responsibility:



Source: HERMES-Team

A combination of teaching-coaching is illustrated on the model above, with coaching being added to teaching, rather not in the first lessons of training but later. It shall be highlighted that pure teaching, instructing leads to responsibility in behaviour until the test, but decreases after the test, because the thought contents is not internalised. Pure coaching shall off course lead to a sustainable increase of responsibility in the students' behaviour (responsible decision making as a driver). And also a combination of first teaching and then more coaching can result in almost the same amount of responsibility of driver's behaviour in traffic after having passed the test. Ideally, however, the coaching experts state that coaching should be used throughout the learning process. This has various advantages:

1. Starting with coaching immediately increases the sense of responsibility within the learner when he is in the car. We want to create a situation where, each time the learner gets in the car, the learner says "this is a place where I am responsible". By giving him responsibility from the beginning of the training process, this goes some way towards reaching this goal.

2. Starting with coaching as early as possible makes it easier to coach in the latter stages of training – when, for instance, the higher levels of the GDE matrix are more explicitly addressed. This is because youngsters are not accustomed to being coached, so it takes time for them to accept this approach. It is all too easy for them to sit back into a passive customer role and to 'do what they are told'. The best way to avoid this is to start 'activating them' from the outset of the training process.

3. Starting the driver training process with coaching is also important for developing the self-acceptance of the learner. Low self-acceptance is a

classical trait of young males who feel inadequate (not manly or macho enough…) and therefore put on an act to impress others, and thereby gain their respect and admiration. If the learner feels empowered and responsible for the learning process, he recognises the trainer as a partner rather than an instructor and he feels he is being listened to, this develops a sense of inner self-esteem which is often lacking in teenage males[5]. Greater self-acceptance means the learner will be more relaxed, more natural and any internal obstacles (such as fear) are removed.

4. A further reason why coaching is important already on the lower levels of the GDE matrix is that this process brings the learner into contact with their senses (e.g. physical sensations) and their emotions (e.g. internal obstacles such as anxiety). So coaching on the lower levels already raises awareness of emotions that are also important to recognise on the higher levels of the GDE matrix (e.g. a person's moods, anxiety, willingness to show off, etc). Coaching should make them aware of their 'internal state'. So by the time levels 3 or 4 of the GDE matrix are more explicitly addressed in the training process, the learners will already have some experience recognising their emotional and physiological state.

That said, it should be recognised that there are limits to what can realistically be achieved in a 3-5 day HERMES coaching course for driving instructors, that a person is unlikely to become a very good coach in such a short period of time and therefore that it is likely that methods other than coaching will continue to be used in the driver training process.

Either way, the basic aim of HERMES is to design activities to (1) develop basic coaching skills amongst driving instructors, (2) give them a number of examples of how to coach and activate learners during driver training, on <u>all</u> levels of the GDE matrix ('coaching scenarios') and (3) give them a notion or even experience of what the benefits of coaching over instruction can be. What the instructors do with their training afterwards is their decision – they can use coaching in specific circumstances, use it all the time or not at all. But if they use it only some of the time, they should be aware of the difficulties of instructing sometimes and coaching other times – both in terms of being able to make the switch themselves and in terms of the affect that this has on the learning process.

- Coaching as a voluntary process

A basic principle of coaching is that the learner cannot be forced to accept the coaching approach. If the learner is to be the centre of responsibility and decision-making, neither the goals nor the method (in this case coaching) can be imposed on the learner. To do so would be to deprive him of choice and fail to follow his

[5] Inner self-esteem should be contrasted with a sense of esteem that a person gets from feeling appreciated or admired by others. This external source of esteem is a major factor in encouraging young drivers, especially males, to show off and take risks.

motivation. As previously stated, the learner is likely to be inclined to take a passive role in the training process, to want to be told what to do, and he may have limited experience with being put in an active role. A coaching approach could therefore come as quite a shock. There are various ways of overcoming this desire to remain in a passive role, especially at the beginning of training. One example is to state: "I will tell you in 5 minutes, but until then how about you trying to…?"

- Coaching is not just asking questions!

It is worth stressing the fact that, whilst questions constitute an important part of coaching, the worst thing you can do as a coach is to ask questions the whole time. Asking too many questions will quickly lead the coach to lose the relationship with the coachee. Coaching is being 'appropriate for the circumstances' and 'ensuring that the learner is put in the active role wherever possible'. Giving information and setting some limits, or suggesting some order of learning tasks can be part of this process. And active listening, followed by questions based on the learner's answers are also important. This process becomes clearer as experience with coaching progresses.

6. Process of coaching

Bearing in mind the principles of coaching outlined above, there is a sequence of phases to follow in the coaching process. These phases appear highly structured on paper but they can be integrated in practice by an expert coach in a far more natural and seamless manner. They are as follows:

1. (Prepare oneself as a coach)
2. (The coach establishes a relationship of trust with the person being coached[6])
3. The coach makes his coaching role explicit
4. The coach and coachee agree on the goals, task and methods in the learning process
5. The coach establishes 'reality', namely the prior knowledge, experience and attitudes of the coachee
6. The learning task takes place
7. The coach asks questions and gives feedback to encourage the coachee to reflect on the learning experience
8. The coach helps the coachee to develop strategies and motivation for future application
9. The coach and coachee reflect on whether or not they have reached the original goal.

[6] This person is henceforth referred to as the coachee.

The process is circular and ongoing, and its duration can vary greatly depending on the circumstances.

Steps 1 and 2 in the process constitute important cornerstones (or 'pre-conditions') of coaching which need to be in place before the coaching process begins. As such, they merit more detailed attention and are addressed in the following section.

7. Pre-conditions for coaching

- Prepare oneself as a coach

There are various questions that instructors need to ask themselves before embarking on the road to coaching. If the instructors know themselves better, in terms of their attitudes, skills and motivations, then they will be in a better position to train learner drivers in a neutral and effective way. For instructors that have essentially instructed throughout their entire career, just teaching them some basic active-learning methods by no means guarantees that they will use them afterwards. Instructors need to work out for themselves if they are mentally prepared and motivated to use different techniques. Below are some useful questions which could be used when applying the HERMES seminar programme:

- What are you good at and what is your potential as an instructor?
- Why do you like the job, what do you like and what do you like less?
- What are your beliefs as a trainer? For instance, do you think people can change as a result of training?
- What type of clients do you have, which clients are difficult and what difficult situations have you had?
- Which clients do you prefer?
- Discovering your own style – building on something that works…
- How stressed are you on the job, and why?
- Establishing core values as a trainer (and what values to move away from): What 3 best experiences have you had as an instructor / what 3 worst?

What are your strengths and weaknesses as an instructor?

What do you want to achieve in your work?

- The coach-coachee relationship

There are various characteristics of a coach which help establish a relationship of trust with the coachee:

1. The coach must be convinced of this (different) kind of relationship
2. The coach puts the coachee at ease
3. The coach is interested in his coachee's lives – helping them to find individual strategies (for safe and pleasant driving)
4. The coach shall be patient (listening to the coachee) and observant (watching the coachee)
5. The coach treats each coachee equally and consistently

- Features of a good coach

Building on these characteristics, Christie, Harrison & Johnson (Christie 2004) suggest that good coaches:

- allow the learner to develop skills through their own practice and experience with guidance and feedback.
- Ignore the small things unless they are a clear safety risk.
- Avoid being an expert and focus on the shared learning environment.
- Allow the new driver to make navigation and route decisions.
- Encourage the new driver to decide where to drive based on their needs at that time.
- See their role as a mentor.
- Believe that safe driving skills develop through practice and experience.

8. Learner centred methods in driver training

The final HERMES training programme includes more than 60 'coaching scenarios' which can be used in on-road, track and classroom-based driver training, and which will address all 4 levels of the GDE matrix. In the knowledge that this work has not yet begun, the HERMES team have nevertheless collected some examples of what could constitute 'active-learning methods' in driver training. Whilst these examples may not constitute true coaching scenarios, they go some way towards activating the learner in an innovative way.

- On-road training

Active learning methods in on-road training can be used in each stage of the learning process, whether it is in the planning and preparation phase (before the

action), the execution phase (during the action) or the reviewing phase (after the action).

Examples in the *preparatory* phase could be:

'Joint sketching'	- using paper and pencil to sketch, in cooperation between the instructor and the learner, an outline of a traffic situation, e.g. entering and leaving a junction. The learner is asked to explain how he will carry out this manoeuvre and what he would do in specific situations.
'Student becomes the teacher'	– the student is asked at the end of a lesson to prepare the theory for a specific task in the following lesson, e.g. overtaking. At the beginning of the next lesson, roles are reversed and the student teaches the instructor how to conduct an overtaking manoeuvre. They then do it in practice.

Examples in the *execution* phase could be:

'Compare and contrast'	– a learner is asked several questions to rate how efficient, effective, comfortable, etc it is to drive close to the vehicle in front. He is then asked to drop back and to make the same ratings based on larger safety margins. This can also be used for eco-driving techniques, for example.
'Positive reinforcement'	– the instructor asks the student why he is driving in a certain way when he is doing something well, e.g. driving well away from parked cars. The student is actively required to think about what he is doing and why. The instructor praises him for driving well.

An example in the *reviewing / feedback* phase could be:

'Video-based feedback'	– using in-car video cameras to record the actions of the learner and driving events, so they can be played back after the lesson. The instructor should use questioning to raise the awareness of the learner of what he did well, what he did less well, etc.

A further example of an active-learning method in on-road training is the '3rd person perspective'. This method is about seeing road traffic from a different perspective. The 3rd person perspective can work in two ways. Firstly the instructor can ask the learner to consider how another road user perceives the learner's driving. Especially where the learner has not driven well. The second way is for the learner to consider the behaviour of another road user: for example, is that driver driving well, and if not why not, and if so, what is he doing particularly well?

In terms of what active-learning methods are currently being used by instructors in on-road training, this is a difficult area to research.

- Classroom training

Classroom training implies working with groups of learner or novice drivers in a 'theoretical' setting. Such training does not feature in a number of different driver licensing systems in Europe. However, it is seen to be an important learning environment for driver training. Firstly, it allows for more time to be spent

reflecting on experiences and developing strategies for safe driving than on-road training allows. Secondly, it encourages youngsters to share their experiences, views and opinions; and these views are often more likely to be accepted by other youngsters than by a driver trainer. (A disadvantage can be the 'transfer problem': things that may have been said in the classroom are not always likely to be transferred to a different situation in the car in traffic).

Some classic examples of active-learning methods used in classroom-based driver training are:

- Brainstorming
- Role plays
- Case studies
- Dilemma games
- Witness account

Tileston's Strategic Learning Model (Tileston 2007) lays down what she considers to be the important active-learning sequences in class-based training:

1. *Plugging in*: creating an environment for learning
2. *Powering up*: getting students involved
3. *Synthesizing*: providing new learning
4. *Outsourcing*: using the information learned
5. *Reflecting*: evaluating the learning

Group coaching, however, implies that the coach must not only be familiar with coaching, but also be at ease dealing with groups. The DVR (German Road Safety Council) has produced a manual outlining the basic principles for group coaching which highlights the skills needed by group coaches and how they can practise them[7]. These principles are likely to constitute the basis of the HERMES coaching approach for classroom training. The skills of a group coach laid down in the manual are:

Group coaching requires not only coaching skills as a trainer, but the ability to deal with groups.

1. Formulating 'open' questions
2. Waiting for and collecting responses from participants
3. 'Posting' opinions, facts, etc on wall, pin board, flipchart, etc ('visualisation')
4. Carrying out surveys of opinions/statements from participants (using cards which they write on or and 'points' in the form of sticky dots which participants use to rank the contributions that have been made)
5. Guiding group discussions according to aims
6. Launching, monitoring and rounding up tasks for individuals, pairs and small groups
7. Formulating preparatory tasks
8. Dealing with participants (valuing them)
9. Communication skills (simple, clear and oriented speech)
10. Non-verbal behaviour (mimicking, gestures, eye contact)

[7] An English translation of this manual by Nick Sanders is available on request at the HERMES website: www.alles-fuehrerschein.at/HERMES

Guided group discussions according to the DVR model consist of a series of steps in which the leader has specific tasks:

Skill 1: Initiate the conversation

The first task of the group leader is get the participants to agree on the choice of theme. Then he informs them which theme will be addressed and why he thinks this theme is important. The participants are also told how the theme will be addressed and what they should do first.

Important and useful:
- Keep the introduction as short as possible
- Do not anticipate any important content
- Create a link to previous themes already discussed
- Note the subject on the flipchart / whiteboard

Skill 2: Lead by asking questions

Questions are the most important tool in the course leader's kit. At the outset, an initial question – mostly very general – makes sense, such as the following: "What I would like to know from you: What do you think about….? What experiences do you have with….?"

Important and useful:
- Prepare your initial opening questions in advance
- Use open questions
- Keep questions short and understandable
- Only one question at a time, not two
- Direct your question or request to <u>all</u> participants
- Write up your question (giving the participants the time to think, instead of having to react immediately)

Skill 3: Open questions

If there is only one right answer to a question, this is a closed question. For example: what is the speed limit on motorways?

Also, questions that can only be answered with a yes or no are closed questions. For example: can you overtake a bus which is standing at a bus stop with its indicators on?

An open question is one which has a lot or at least several right or sensible answers and contributions. Such questions are frequently asked when inquiring into personal experiences, opinions and reasons. For example: in what situations have you got angry with another road user on the motorway? What do you think about the proposal to reduce the speed limit in inner city areas to 30kmh? Why do a lot of drivers fail to respect speed limits?

Skill 4: Waiting for participants to contribute

The moderator must be patient if the participants do not immediately react to a task or question: sometimes they need to think for a bit!

Important and useful:

- Look at the participants in a friendly and encouraging way
- Wait for at least 15 seconds before saying anything
- In the case of longer silences: Repeat the question – albeit possibly in a different way; if still no response, ask another question!
- In case of further silence (very unlikely!), ask yourself the reason why: did they not understand the question? Is the question too dumb? Do they lack motivation to participate?

Skill 5: Listen attentively and patiently

When a participant wishes to say something, they require the full attention of both the course leader and the other participants. Even participants who have problems expressing themselves need to be heard out.

Important and useful:

- Look at the participant who is talking
- Lightly nod and friendly facial gestures are useful if the participant is shy and needs encouragement
- Do not try to finish off someone's sentence
- Do not try to cut off the participant when he/she is talking, even if you think you have understood the essence of what they person is saying.

Skill 6: Collecting contributions from participants

As long as participants still have something to say and there is a possibility for further contributions from the group, the group leader should remain quiet. His task in this phase is to get as many participants to contribute as possible and to coordinate each contribution one after the other.

Important and useful:

- Do not comment on individual contributions
- Encouraging, friendly nods of the head
- When necessary, make small comments to encourage further contributions: any other opinions, experiences, possibilities? What do the others think about this?[8]

[8] If a participant says something you disagree with, the trainer can reply: "It's important you mention this. Many people think this way. Are there other options here?" Only if nobody gives an answer should the trainer then add his view - and ask the group to think about it. A good trainer/group coach avoids any conflict with the group.

Skill 7: Visualise the participants' contributions

In many cases it is useful for further stages in the conversation to note down the participants' contributions using keywords. Writing down answers with keywords encourages others to add something of their own, and the contributors feel like their opinions are being valued. Tips on this technique include getting participants to write their contributions on a card and to post it on the board. Another option is to get participants to rate the importance of their contributions by sticking a 'star' (sticky dot) next to the theme or problem on the board.

Skill 8: Lead the conversation towards a goal

The course leader must ensure that the conversation remains focused on the theme. Starting from the initial question, a theme can then be structured into different sub-themes. The moderator then suggests to the participants to discuss these sub-themes one by one and then raises more appropriate questions.

Important and useful:

- Allow short, conversational digressions from participants, until attention switches back to the actual theme
- If it's necessary to redirect the conversation back to the original theme, refer to the question or theme which has been written up (flipchart, board, etc).
- Write up the sub-themes into sub-questions on the flipchart or board

Skill 9: Didactical loops

As a result of the participants' statements, it may be necessary – in order to explain or deepen the theme – to provide a short piece of information. Or it turns out that another theme needs to be discussed before the original theme can be continued.

Important and useful:

- Limit this information to the absolute essential
- Following this, guide the discussion back to the original question (written up on the board)

If there is regularly a need for provide short pieces of information, it may make sense to construct the theme differently next time, and to address the individual themes in a different order.

Skill 10: Summarise discussion and results

When the course leader gets the impression that an individual theme has been fully discussed, and that no new contributions can be expected, he informs the participants and suggests to finish off the theme. He then gives a short overview of the most important points of view that have been expressed and discussed. If there is a clear, final result – with which (almost) all participants agree – this should be written up on the board in a short, concise way.

Important and useful:

- Contributions which correspond to the aims of the actual course can be emphasised as 'important' or 'worth reflection'
- Contributions which seem problematic with regard to safe driving should not be particularly stressed, but refer to this problematic if need be
- Do not expose or criticise participants who have made problematic contributions[9]

Skill 11: Move on to the next theme

Normally, the summary and completion of one theme allows for a smooth transition to the next subject in the course programme. In this way, the participants are clear about the structure of the course.

It is important to note that, should individuals or the class as a whole reach conclusions which the course leader judges to be incompatible with road safety goals – or simply incorrect – the latter should tactfully lay his/her own views on the subject beside the views of the class. In no way should the course leader attempt to enforce his own view, but at the same time the discussion cannot be left if the conclusions reached were not appropriate for road safety.

[9] A good trainer always ensures everyone's 'social safety' in the group. If someone is being put down by others, participants may become defensive or stressed, and open minds become closed.

- Track training

Track-training for learner and novice drivers was addressed at some length in the EU Advanced and NovEV project reports[10]. From an active learning perspective, it is important that the individual learners (and the group as a whole) reach their own conclusions as a result of their track-based experiences. Of course, the learners should not be left to themselves to make their conclusions. They should be developed, within the group, based on questioning from the instructor, discussion and reflection on the practical significance of such experiences in normal on-road driving. The most active learning approach therefore appears to be the 'experience before concept' method. If the learners are obliged to listen to facts and figures and be told exactly how to drive from a skills perspective before the actual track-based driving experience ('concept'), their own experience is missing and their motivation to learn is likely to be a lot lower than the other way around. If the learners first benefit from the sensations of the driving experience (experience), and are then encouraged to reflect on and discuss what they learned (concept), the learners are more involved in the learning process.

One example of an experience-before-concept exercise is the following (ADAC Augsburg, 2002):

The trainer asks the novice drivers[11] to complete a driving circuit – which has been set up on a track away from public roads - as quickly as possible. Each individual is timed around the course. The exercise entails:

- A slalom
- A narrow passageway
- Two parking exercises (frontways and reverse)
- A stretch of 100 metres to be covered as quickly as possible
- A finish line symbolised by a line and a traffic cone.

Although the goal stated by the trainer is a speed-related one, the actual goal of the exercise is to make participants aware how difficult it is to drive under pressure. This pressure is manifested in many forms:

- Just before the start, the trainer encourages the driver to increase the volume of his favourite music in the car; and
- asks a technical question, requiring some thought, which the driver must think about when covering the course before answering the question when he arrives at the finish line
- The driver begins the exercise with the slalom. He is penalised for every fault he makes: this generally involves knocking over traffic cones around the course (on the slalom, in the parking zones, etc)

[10] See http://www.cieca.be/advanced_en.pp and http://www.cieca.be/novev_en.pp
[11] Considering the type of exercise, this is most suitable for 2nd phase training or training shortly before the driving test.

- He feels the peer pressure due to the onlookers (or, perhaps, his passenger) and to the desire to complete the course in a respectable time compared to other drivers in the group
- He is timed, believing that he will be ranked afterwards.

In fact, there is no ranking and the penalties are noted but never added up. Group discussion, questioning and feedback afterwards is designed to encourage reflection and to make the individual drivers realise the effects of pressure – in a variety of forms[12] – on their driving behaviour. Ideally, the reflection period after the actual driving would take place in a calm, cool environment (at best, a classroom rather than still out on the track).

Some examples of HERMES track-based coaching scenario can be found in the report on HERMES coaching scenarios.

[12] Peer pressure, emotional impulses from the music, cerebral pressure from thinking about the response to a technical question, being in a hurry, etc.

9. GDE Matrix

GDE matrix: Goals for Driver Education

Hatakka, Keskinen, Glad, Gregersen, Hernetkoski, 2002

		Essential elements of driver training		
		Knowledge and skills	Risk-increasing factors	Self-evaluation
Hierarchical levels of driver behaviour	Personal characteristics, ambitions and competencies	• lifestyle • peer group norms • personal values and norms • etc.	• sensation-seeking • adapting to social pressure	• impulse control • risky tendencies • personal risky characteristics
	Trip-related context and considerations	• choice of route • estimated driving time • estimating urgency of the trip	• physiological condition of driver • social context and company in vehicle	• personal skills with regard to planning • typically risky motives when driving
	Mastery of traffic situations	• application of traffic rules • observation and use of signals • anticipation of events	• vulneable road users • breaking traffic rules / unpredictable behaviour • information overload • difficult (road) conditions	• strengths and weaknesses regarding driving skills in traffic • personal driving style
	Basic vehicle control	• control of direction and position of car • technical aspects of vehicle	• improper use of seatbelt, headrest, sitting position • under-pressure tyres	• strengths and weaknesses of basic vehicle control

10. Coaching further developments for driver training

G. Bartl

- Car accidents are a result of human behaviour

Car driving implies constantly making choices. In this sense car driving is a challenging task and it becomes obvious when we compare it for example with a captain of an airline plane whose freedom of choice is a great deal smaller. He does not have to think about whether to overtake or not, change lanes, maintain a proper safety margin at different speeds, when and how much to reduce speed before a bend, to give way or not, or how to behave in those many unclear situations occurring with other traffic users. To be clear, a car driver's behaviour is not only the result of free choice, but it is to a much higher extent than the behaviour of an airplane captain. The pilot mainly has to react to clear procedures. A car driver often has to react to procedures (general signs and laws), but he has - in contrast to the pilot – a greater degree of freedom. The following examples will illustrate that a driver's behaviour is a result of both reactions to procedures and free choices and shall make this distinction clear in order to be aware of the importance of choice-making in accidents:

When the traffic light is red the driver simply has to react to the law and stop his car (of course he could break the rules on purpose), but when the traffic light changes from green to orange and red the driver has a few seconds of free choice, whether to pass or to stop. When overtaking is forbidden the normal driver behaviour reacts accordingly and especially when oncoming traffic appears closely no normal driver would think about having a free choice, even if he would be in a different mood (in a hurry or aggressive at the moment, etc.). But in situations without this prohibition or with less dense traffic the choices if, when and where to overtake will vary from person to person and will also depend on the driver's mood at the moment. Further clear examples of free choices are: looking to the left one, two or even three times before crossing a road, turning the heater on now or ten seconds later when the traffic situation is less complicate, the steering and seating position etc.

Human behaviour – here in the sense of permanent choice making – on the road is not only determined by skills and knowledge, because of the high degree of freedom when steering a car. Already the permanent choice of speed provides a rather wide range in each situation. Considering the fact that we for example choose higher speed in the same situation when we are in a hurry makes clear, that human behaviour is in addition to knowledge and skills also influenced by acuteness or moods, personal believes and the self-awareness of these conditions influencing our choices (analogous to the two higher levels and the right column of the GDE-matrix).

Because of the high degree of freedom when making choices as a car driver in the second, this task shall not be understood as a skill- or knowledge-based one only. In order to avoid accidents car driving shall rather be understood as a (psycho-)social task. Social behaviour is not primarily determined by skills and knowledge but acuteness or moods, personal believes or convictions and self-awareness of these conditions influencing our choices. Consequently, didactical methods for driver education must not only focus on traditional educational methods like teaching in schools which focuses on knowledge and skills mainly. Car drivers' education shall also focus on self-awareness skills of acuteness, moods, motives, believes and attitudes and on how these factors influence the choices on the road.

The most recent method to optimise and change these factors is coaching. Coaching means discovering the individual's possibilities and to develop them in a supportive and challenging way.

- Why coaching instead of teaching?

First, those important factors outlined above to reduce accident risk could be taught and examined as well, but it is by far not guaranteed that drivers are also convinced about the importance of these factors.

When attending school we learn various subjects such as mathematics, grammar, history etc. After having passed the tests at school we are busy in our jobs as waiter, accountant, journalist etc. Our motivation to apply in our jobs as exactly as possible, what we have learned at school is always 100%. Nobody would ever have the idea to change the mathematic or grammar rules and to invent own rules, because it would be of no advantage for the individual.

When attending driving school all students learn the rules about safety margin, seatbelt use, speed regulations, alcohol restrictions etc. But after having passed the driving test and after we have become a driver, the motivation to apply exactly what we have learned at driving school is by far not 100% - as practice shows. Now, as a driver we are generous in inventing our own rules about speed, safety margin, seat belt use, sometimes about alcohol, etc., because we are convinced that we can also drive safely with less safety margin, at higher speed, without a belt, drunken, tired etc. Inventing our own rules appears to be of advantage for us. Our only trouble seems not to be detected by the police.

Exactly here coaching shall help to support the right believes and conviction and to correct wrong ones. Coaching shall support the right motivation to apply the safe behaviour. In this sense coaching is a contribution to traffic safety. But important: Coaching shall not replace pedagogical teaching methods, they shall supplement each other.

Further, coaching is the method on how to realise the findings of the GDE-matrix. With coaching techniques the right column on self-evaluation of skills, motives and believes can be put into everyday practice and especially for issues on the higher levels coaching techniques are ahead of teaching methods.

Coaching stands for leading the communication by asking not by telling. And in this sense the big challenge of coaching is to lead the student out of the role of passive consuming into the role of active producing. Because the student shall acquire the understanding not from the coach but from his own awareness, stimulated by the coach! It may appear that coaching takes longer than just telling the contents. But the main advantage is, the more active we are involved in the learning process the better we recognise the learning opportunities and act upon them. In this way believes and convictions can be set up stable. And the more stable believes and convictions are the more people act upon them even under negative influences.

Typical negative influences are friends in a car who try to affect the driver to speed up when driving home from the discotheque. The more stable the young driver's believes are concerning risks the safer he will behave and the better he can resist such dangerous temptations.

In order to define coaching more exactly it shall be distinguished to other types of typical communication in traffic education in the following section.

- Communication approaches in traffic safety education

Communication approaches in traffic safety education can be distinguished as follows: On three axes of a coordinate system the poles of communication approaches in the learning process in traffic education can be described:

1. x-axes: outside (facts, practical skills) versus inside (personal) subjects
On the x-axes we can distinguish between outside versus inside oriented subjects. Outside subjects are e. g. traffic rules, seating position, hazard perception, the automotive engineering, vehicle manoeuvring, braking distances etc. In short: the knowledge and skills – rather lower levels of GDE-matrix.

In contrast inside oriented subjects are e.g. how does stress, inattentiveness, fatigue, aggression etc. influence driving style, the circadian rhythm of people, what are the different opinions about speed limits, how does alcohol impair driving performance, what are personal typical accident risks etc. In short: drivers believes and feelings about knowledge and skills – rather higher levels of GDE-matrix.

2. y-axes: trainer versus customer activeness
On the y-axes we can distinguish between trainer active versus customer active communication. If for instance only the teacher gives a speech, then it is 100% trainer active. If the teacher involves the students at least from time to time into the process, then he can reduce from this extreme position.

It can easily be observed and measured with a watch how many per cent of a lesson the trainer is in the active role (speaking, showing, writing, demonstrating…) and how many per cent the customers.

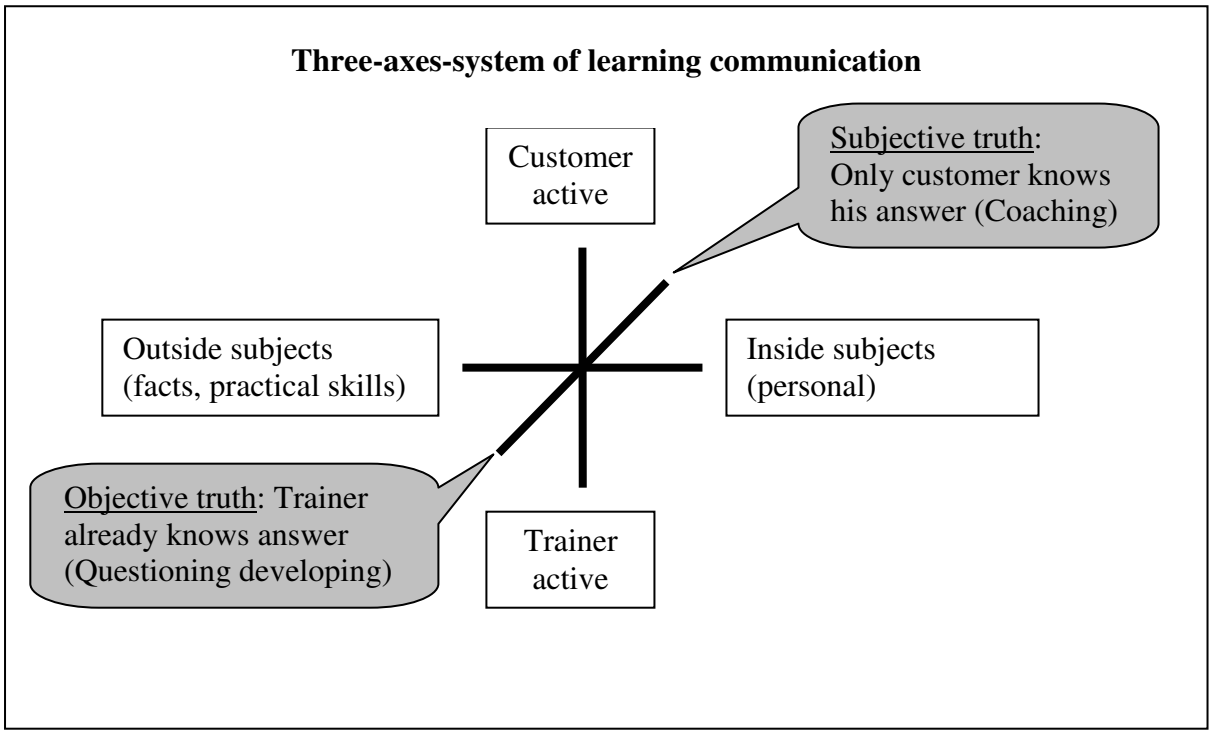
Good didactics always varies between trainer active and customer active communication. It is a question of the optimal fitting contribution.

3. z-axes: questioning versus coaching
Customer active communication usually is characterised by asking questions or giving tasks:

- Open questions are those ones where the teacher does not know the answer/s but the customer does (the coach helps the customer to elaborate his subjective truth, solution, believe, way to do something…; so the individual subjective truth can vary and shall be found in the customer).
- Closed up questions instead are those ones where the trainer knows the answer already when asking (the trainer motivates the customer to elaborate the objective truth, subject, way to do something…). There is only one correct elaboration result, but the teacher let the customers elaborate by themselves in order to keep the facts in good memory, when they are in the active role of learning.

Asking those questions, where the teacher already knows the answer when asking is the didactical method of “questioning developing”, whereas questions where only the customer finds his truth we can exactly call “coaching”. This distinction on the z-axes is important to show that just asking is not yet coaching and everyday practise shows that driving instructors just ask questions and think they are already coaches. Summarised, the poles can be named: subjective versus objective truth.

In the following diagram this three-axes-system of learning communication is illustrated:



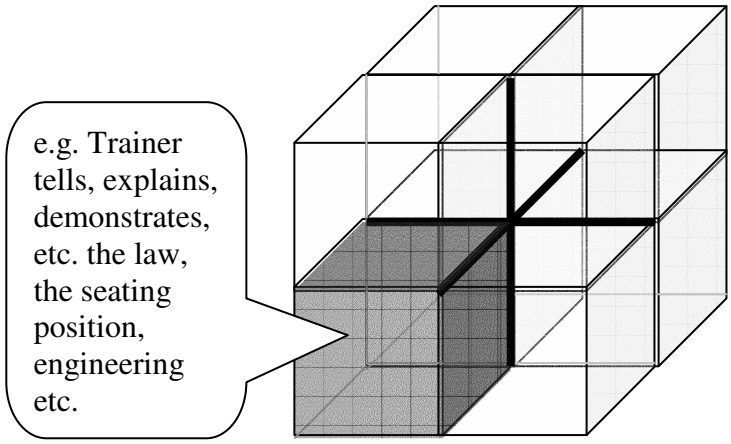
When applying this three-axis-system of learning communication every communication in training sessions can be observed and categorised to which extend it is the trainer or the customer who is in the more active role, are the subjects rather outside or inside oriented and shall the communication help that the customer finds his / her individual truth or a generally prevailing truth.

Naturally, the communication changes between the axis and quadrants quickly and can sometimes be clearly attributed to axes and quadrants and sometimes the transitions are continuously variable. (Human experience and behaviour often is not “black or white” but more grey or more white and so human communication often cannot be classified in either or but rather in more ore less dimension.).

In the following communication examples with short descriptions are given for the eight quadrants which arise from the three axes with their six poles:

Three-axes-system of learning communication

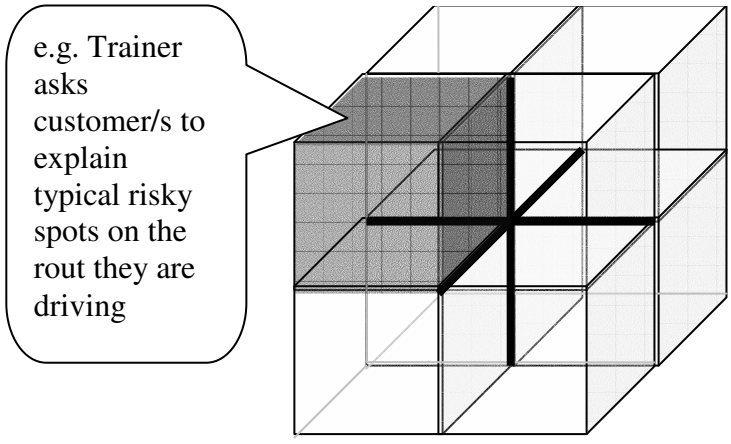
Example 1: traditional teaching on lower GDE-levels



Outside subjects, trainer talks about or is doing something general, (Trainer demonstrates seating position, explains rules, low friction risks, sense of safety margin and how to execute properly… Example: "Lets work out or I show you the optimal seating position")

Three-axes-system of learning communication

Example 2: customer active teaching on lower GDE-levels

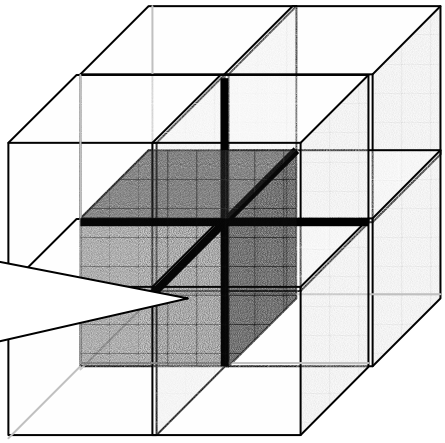


Outside subjects, trainer motivates customer to be in the active role to find out about general risks, the sense of rules, estimation of breaking distances etc. (Examples: "Which are the typical risky spot on our route? Which is the best seating position?")

Three-axes-system of learning communication

Example 3:
trainer active individual teaching on lower GDE-levels

e.g. Trainer gives feedback that he fears that customer is not enough convinced about seat belt use

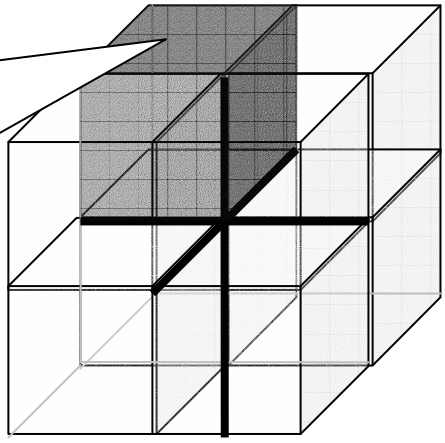


Outside subjects, trainer is in the active role e.g. giving feedback about what he thinks that the customer thinks or is able to do. (Examples: "I see that you are not convinced about the safety effect of the seat belt use. Your typical perception problems are…")

Three-axes-system of learning communication

Example 4:
customer active teaching on lower GDE-levels

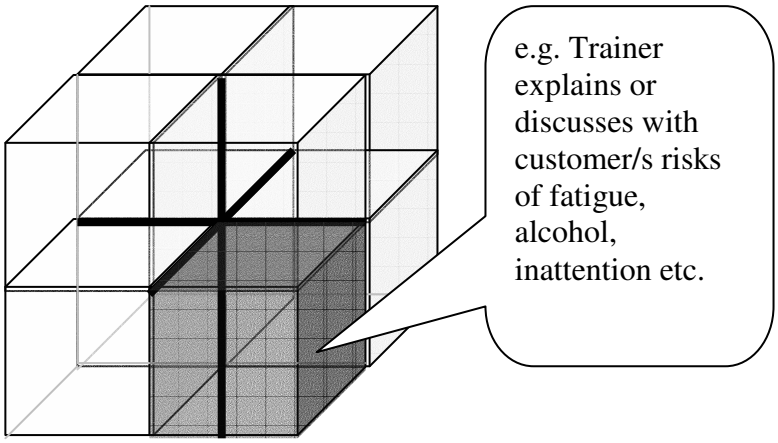
e.g. Trainer asks customer to explain which situation on their rout may cause him problems



Outside subjects, trainer motivates customer to be in the active role to find out about his individual believes, opinions, thinking etc. (Example: "Which situations are still difficult for you to master on our route?"). Coaching

Three-axes-system of learning communication

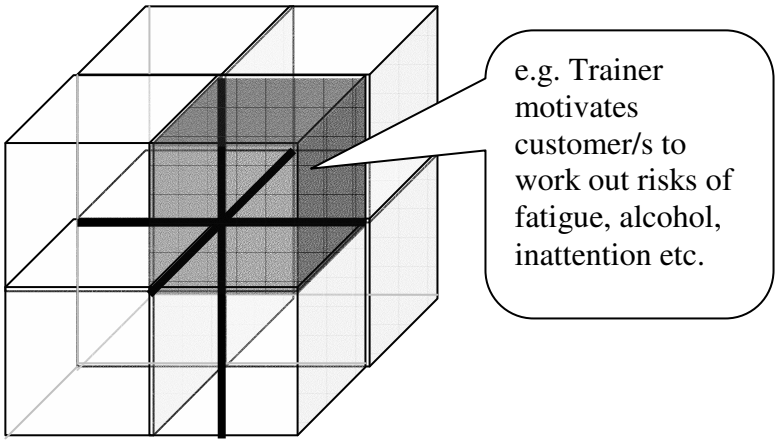
Example 5: trainer active teaching on higher GDE-levels



Inside subjects, trainer tells about general risks of human behaviour and experience (Example: “Fatigue and alcohol impairs our reaction capacity because…”)

Three-axes-system of learning communication

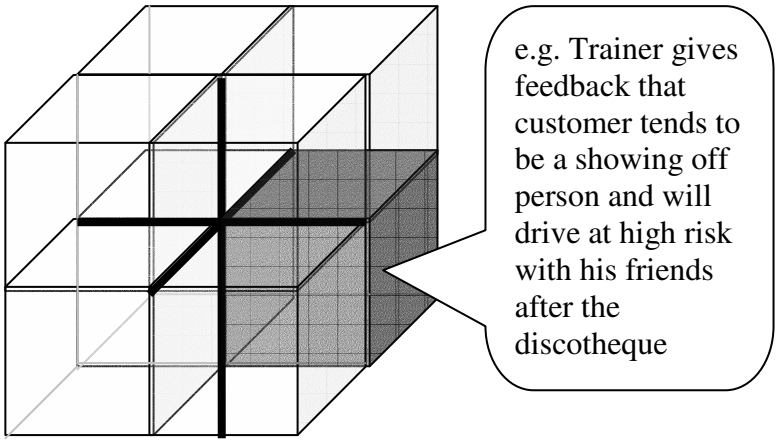
Example 6: customer active teaching on higher GDE-levels



Inside subjects, trainer elaborates together with customer/s by asking general risks of human behaviour and experience (Example: “In which way do you think does fatigue and alcohol impair our driving performance…”) typically “questioning developing”

Three-axes-system of learning communication

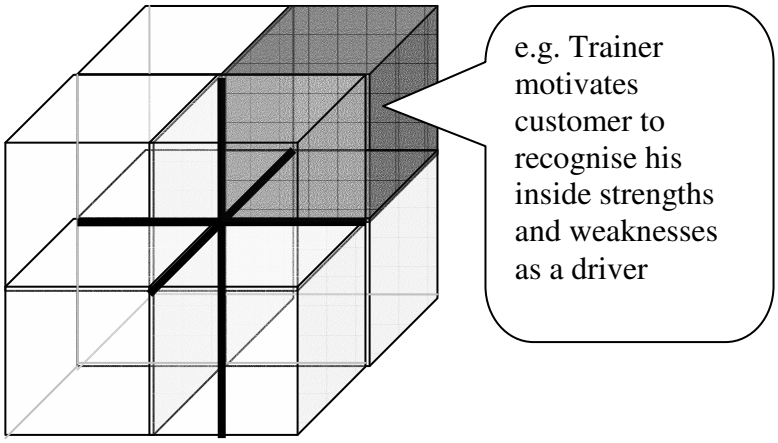
Example 7:
trainer active <u>individual</u> coaching on higher GDE-levels



Inside subjects, trainer is in the active role giving feedback to customer/s so that they can recognise their personal inside risks (Example: "I have the feeling or couldn't it be you compensate your pressure in the group with risky driving?"). About coaching

Three-axes-system of learning communication

Example 8:
customer active <u>individual</u> coaching on higher GDE-levels



Inside subjects, trainer motivates customer/s to be in the active role to recognise their individual feelings and believes. (Example: "What makes you most angry out on the road and how is it best for you to cope with it?"). Exactly coaching

When observing communication in learning settings two further typical components of communication are to be considered in addition to the axes 1 to 3:

4. Other subjects
Usually in lessons there will be communication which is beside the subject; e.g. talking about the others like the old drivers or driving habits in another country etc or about latest developments of car makes and car power etc. To a limited extend also these components can further a positive relationship between the customer and the trainer, but it is clear, that they are not contents of the lesson.

5. Organisational Details
It is also necessary to spend some time of the lesson on the discussion of organisational details which are not directly learning goals, such as introduction of the trainer or the customers, frame condition of the course, further dates, the test etc.

Professional communication shall limit talking about other subjects and organisational details to an appropriate limit.

Finally it shall be considered as very important, that the contents of communication can be distinguished follows:

6. Risk avoidance versus mastering of risk
Especially in track trainings certain exercises – especially if they are not moderated wisely – may cause self-overconfidence and may lead to a higher accident risk than without the track training (well known Example from Norway in the eighties and nineties, which was evaluated by Alf Glad).

Hence, any kind of communication can be analysed concerning

a. Communication and tasks with the clear target to avoid risks in road traffic
b. Communication and tasks with the clear target to master risks when they occur.

Both is important, but especially for young novice drivers two arguments against too much of training to master risks must be taken into consideration:

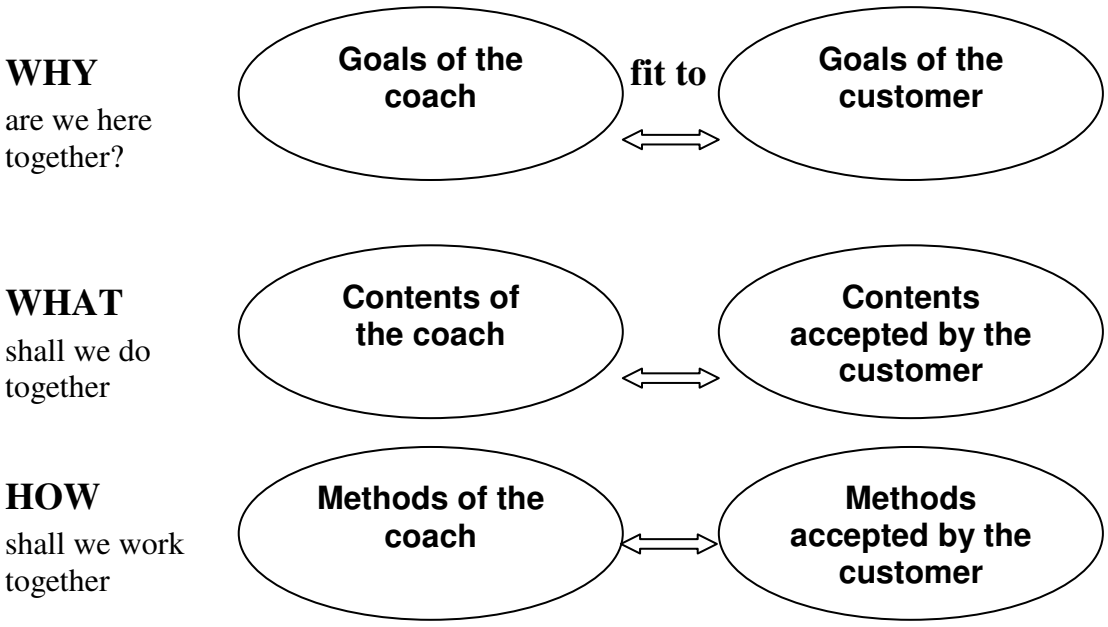
a. Young people are in general more risk taking in their personality and are therefore endangered to get mislead by “attractive” driving skills to show a more risky driving style as a result of self-overconfidence.
b. Relatively short training periods with almost no recapitulations make it impossible to internalise such skills. It can therefore not be expected that such skills to master risky situations on the road can be realised in the very seconds when necessary.

- Coaching is a specific relationship

In addition to the communication approaches presented in the section above also the kind of relationship between the customer and the trainer can be observed and described (but not exactly and objectively measured). Factors for a positive customer-trainer relationship were already described in the EU-project “Andrea”, 2002 – Analysis of Driver Rehabilitation Programmes, deduced from research in the field of psychotherapy:

If the relationship in a group is trustful in a climate of value-free acceptance, clients are more open for new experiences. A positive professional client-trainer relationship in psychotherapy appears to be set up when clients and trainers have found an agreement in the following three aspects and these three aspects can also be adopted to describe a positive coaching relationship in traffic education:

Basis for a positive relationship: Agreement between customer and coach:



The idea presented above describes important factors for an optimal relationship as a basis for the coaches to apply their methods. In practise usually it is highly demanding to set up this consonance between the two parties with sometimes different expectations.

In traffic education sometimes typical conflicts are inherent because the customer pays the coach and might sometimes expect something different than the traffic safety expert shall provide. Driver training or at least driver testing and in some EU-countries ongoing driver training after the test is compulsory for the purpose to achieve more traffic safety. A responsible coach therefore has to give the customer not always what the customer wants, but what he needs – and this may be sometimes different.

An everyday example is: Customers rather expect being in the role of passive consuming - because they are paying and are used to this passive role like in school. In contrast coaches rather wish customers being active and interested. Frustration therefore must be inherent unless the coach does nothing about it.

To illustrate these theoretical deductions and to clearly see the link to praxis, in the following the 12 main key issues for professional relationship were listed in the EU-Andrea-Project and can be also applied for the purpose in our EU-HERMES-project on coaching (not necessarily complete):

- Key issues for professional customer-coach relationship

- The client-trainer relationship (however it looks) shall be set up at the beginning; otherwise the course has not really started or has started without this essential effective factor, which shall be experienced by the client as the most stable factor in order to facilitate personal changes.
- Keeping the same distance to all clients of the group.
- Being empathetic enough but confronting where necessary.
- Not only talking about facts only (outside) but also to affect clients emotionally (inside).
- Not only finding general problem solutions but trying to understand the clients' life to help him to find his/her individual solutions which can be integrated in his/hers everyday life.
- Making use of positive input from clients.
- Assist clients when they want to talk openly and break taboos (inferiority feelings, loneliness, sexuality...) – if the coach is trained sufficiently to handle such private aspects.
- Giving attention to clients' disturbance as much as possible but then coming to an end so that the course or the single setting can continue. (disturbance only has limited priority)
- Being present as the leader of the group but avoidance of self-admiration and showmanship.
- Being consequent concerning frame conditions of the course.
- Being flexible concerning different groups with different problems instead of simply executing a programme.
- Avoidance of one way communication. And also clients shall communicate with one another.

In the field of traffic education it is often challenging to motivate customers to be interested in traffic safety issues. And the most important formula to achieve motivation in the customers is to be self motivated.

Finally it shall be outlined that the relationship between customer and coach appears to be one of the essential effective factors. Research in the field of psychotherapy came to the result that the effectiveness does not depend on the different psychotherapeutic methods applied but the person' characteristics conducting the therapy which is the key element for a positive and stable client-therapist relationship. And the Relationship must be authentic and real, because Coaching only makes sense if the coach is convinced about this type of relationship.

- Definitions and principles of coaching

As already said at the beginning: Coaching means discovering the individual's possibilities and to develop them in a supportive and challenging way. As a consequence of this it is the big challenge for the coach to lead the customer out of the role of passive consuming into the role of active producing.

It is important for the definition of coaching that the customer recognises the situation or the facts, not from the coach but from within himself, stimulated by the coach!

Coaching therefore means leading the communication not by telling but by asking! The coach is responsible to ask the right question, the customer shall be responsible to elaborate his right answer:

- **Ask the right questions (instead of: give the right answers)**

The coach should allow the customer to find out his own best solution for himself. Because solutions worked out by oneself are longer-lasting than others. Pre-prescribed solutions (by the trainer) are likely to be met with opposition. If the right solution for the issue in question cannot be found, the trainer should try to open up the question to the group as a whole (if it is a group setting). Only when this does not work either the right or one right solution should be offered by the coach as his opinion. And this opinion shall be added beside other opinions of the customer/s it must not be put on top of them! It would be a mistake not to deal with incorrect assumptions because the trainer's lack of action could be interpreted by the client as tacit agreement.

Only short-term changes in attitude can be expected from a rhetorical over-the-counter solution provided by the trainer. Where no positive changes can be seen, the coach should raise the subject as judgement-free as possible, weigh up the pros and cons of the approach together with the clients and encourage them towards a solution. Too much coercion can be counterproductive.

Coaches should also bear in mind that solutions are often not just black and white and good or bad. He should raise interest in the many shades of colour in between. Instead of just "either… or", clients should be thinking in terms of probability. In order to take the pressure off the discussion the trainer should avoid focussing immediately on the concrete situation and the different observations. Rather, the focus should be on a general recognition of the problem and what the clients can learn from it.

Too much pressure can also be counterproductive because the client does not want to lose face and consequently puts up resistance. The coach should accept that it is sometimes better for the customer to take away the right question with him as a type of half-completed answer. The right question always has a chance of working at a later stage.

In order to lead the communication by asking and to lead the customer into the active role two aspects have to be highlighted:

- **The coach shall be prepared to let the customer show or tell him/her (Instead of: telling or showing the customer/s)**

The coach shall be an interested listener and onlooker for the customer/s. Time shall be left for reactions from the customer. The coach shall be curios for the customer, showmanship must be avoided. The coach shall be cautious with bringing in his own views.

- **The coach shall look at the customer how he does (instead of: showing him how to do it)**

The coach shall be a kind of mirror for the customer and shall consider the customer's behaviour as a whole. The coach then shall decide what form of behaviour will be discussed or repeated and optimised. But finally the discussion shall be lead in such a way that the customer can ultimately decide what he can take with him from the coaching-session.

The relationship between the customer and the coach shall be equal without a hierarchy. Hence, there is no longer one expert and one student but in some sense two experts working together with the goal, that the coach supports the development of the customer/s.

When leading the communication by asking the questions of the coach shall be open ones, which means, the coach does not know the answer – only the customer knows.
Open questions usually – but not solely - are "W" questions instead of "either – or", "yes or no" questions etc. (closed questions)

If the coach already knows the answer and especially if the answer is already hidden in the question then it is the didactical method of „questioning developing".

Coaching is a learning not a teaching method! This definition from John Whitmore makes clear that the learner is in the active role instead of getting taught in the more passive role.
Coaching is a method about how to work, not prescribing what to do! This definition includes that coaching can be applied in various field – also in traffic education. And at the same time it makes clear that in the present HERMES project the focus is not primarily on the "what to teach" (the contents) but on the "how to teach" (the method). And coaching can take place in moments or in longer terms! The Coach in traffic education shall vary from situation to situation which didactical method amongst various is best to apply for the specific customer and/or for the specific issue and sometimes or perhaps even in very long periods it is coaching. But at the same time it has to be considered that practical experience of coaching training seminars for teachers/instructors shows it is easier to learn coaching skills than to give up teaching. („Once a teacher always a teacher!")

At the end of coaching seminars for driving teachers/instructors they were ask to work out if they think that they will apply these coaching approach and if there are tendencies which mislead them to fall back into teaching. They elaborated the following results:

Why do driving teachers fall back into teaching instead of coaching?

- It appears to be easier
- They are used to teaching
- It appears to be quicker
- the teacher is in the powerful position
- the teacher is in the expert position
- He/she wants to show off
- He/she wants to get an easy emotional release in case a customer makes him/her angry
- The customer finds it easier to be in the passive role and misleads the coach to fall back into teaching

This list above includes some misunderstandings. If a person once is used to coaching he/she will recognise, that coaching is easier than teaching – because after having asked a question there are moments to relax and the responsibility for the learning process is shared which is comfortable.

Teaching may be quicker sometimes, but awareness and knowledge which is elaborated by one is longer lasting and more stable even against negative influences (e. g. peer pressure when driving home after the discotheque).

It is understandable that a teacher would like to be in a powerful position as an expert in order to be admired etc. But on the one hand being in a powerful position always causes stress to defend this position and in the coaching position it is easy to stay relaxed. On the other hand a coach can also be admired by the customer concerning how good he/she can coach. Customers also desire that someone is listening to them and is trying to understand their perspectives.

An example on how to coach by asking questions:
1. Ask open question („W")
2. Listen
3. Understand and summarize: e.g." you mean that…"

4. Analyse pros and cons together with the customer
5. But then the customer shall evaluate, not the coach (subjective truth)
6. If necessary, continue with open questions and if necessary the coach can add his opinion beside not above the customer‘s opinion
7. „What would you need and what would motivate you to apply this in real life?“

For coaching in groups the following approach is recommended:
Plan A:
Coach is responsible for asking the right question and Customer is responsible to elaborate the solution which fits (in a social not egoistic sense – also see later)

If it does not work, then
Plan B:
Coach delegates the question to the group and the group gives the feedback which fits to the customer.

If this does also not work then
Plan C:
Coach adds his opinion beside the other opinions, but makes clear that it is the customer’s decision and responsibility. And this shall be the end of the discussion, because any further discussion would just be quarrelling on not loosing face or on who is the more powerful one which does not help the contents and does not help traffic safety at all. In contrast it would leave at least two angry persons who then drive home aggressively.

Typical coaching questions are:
:: How do you evaluate this?
:: What do you want, what is best for you?
:: Why is this so important for you?
:: How will you decide?
:: What do you think about this?
:: How is this for you?
:: What can we learn out of this?
:: Where can we apply this in real traffic?
:: What for shall we especially take care of in this situation?
:: What is the specific risk in this situation?
:: How can we reduce the risk?
:: Which accident would most likely happen to you?
:: What are you experiencing at this moment?
:: What do you want to try next, what is best for you?
:: What is important to you in driving?
:: How do you decide what to do in this situation?
:: How successful was that action?
:: How confident do you feel now?
:: What can you learn from this?
:: Where would you apply this in real traffic?
:: What will you focus on in this situation?
:: How could you reduce the risk?
:: What is the weakest aspect of your driving?

As said earlier coaching can be applied in various fields as it prescribes the "how" and not the "what" to do. Therefore it is important to find a borderline between traffic safety coaching and coaching in other fields.

Goals of Coaching:

- In sport and business it is the goal of coaching to be the best (training to win – a rather egoistic goal)
- For road safety issues it is the goal of coaching that the drivers shall fit best or shall be appropriate for the traffic safety issues (training, to fit best in traffic – a rather social goal)

But coaching always focuses on future possibilities, not on past mistakes. The more a communication focuses on the past and the more it focuses on personal belongings instead on facts the rather it is pure psychology.

Various teaching methods have already been described in the final report of the EU-MERIT project on training of driving instructors (www.alles-fuehrerschein.at pg 36 to 49 by Bartl; 2005). In the following the paragraphs on coaching from the MERIT project shall round up:

- Coaching description from the EU MERIT project

The art of coaching is establishing itself more and more in adult training and education. It is increasingly used in ongoing driver training, for example in on-road feedback drives and track exercises in the post-licence part of multiphase training. Coaching, until now, has not been a method of choice in basic driver training.

Coaching is an optimal method for further education, but also for addressing attitudes towards risk (level 4 of the GDE-matrix) in initial driver training.

A basic characteristic of coaching is that themes are addressed from a number of different perspectives. The objective is to develop a basis for drivers to make decisions. It is particularly important that the coach accepts that the drivers ultimately reach their own decisions. The feeling of free decision-making which is conveyed not only makes the driver aware that there is a decision to be made, but also that the consequences of that decision and any ensuing actions are entirely his/her responsibility.

The special thing about coaching is that it is designed to improve ones self-awareness. This conforms to the aims of the GDE (goals for driver education) matrix where correct self-evaluation on all 4 levels plays a central role in safe driving. This self-evaluation can be described as 'subjective self-awareness' – man himself is the subject of this attention. Research has shown that when objective self-awareness is created (in the form of a mirror which you look into at yourself), one's behaviour is steered towards the moral high ground.

In test situations with such mirrors, candidates tend to cheat less. Clearly, this form of self-observation allows one to observe one's behaviour and simultaneously creates an internal picture of how one should behave. If there is a difference between the two (internal tension), one tends to address this by adapting to the morally more acceptable model. For the driver, this could mean that he then decides to leave a little more safety margin or that he drives around bends more cautiously. This is where behaviour-relevant decisions are made for the benefit of safety.

The basic approach of coaching is questioning. This is the opposite method to that used in traditional learning where the instructor is used to showing. If correctly used, a coached discussion weighs up the 'for' and 'against' arguments for specific forms of behaviour. Finally, however, it is the learner driver who makes the ultimate discussion.

If coaching is properly implemented, it is barely possible for a power struggle to ensure between the instructor and the pupil(s). The instructor must, however, be ready to use this form of relationship. He should not be led by the desire to show his pupils; he should be led by the curiosity and interest of the pupils. Some driving instructors want to show off their driving ability. This actually works against road safety because it sets the wrong example. It would be better to show off as a coach, by showing real interest in the pupils and by focusing on each one as an individual.

The goal of a coach when asking questions is to get as deep as possible into the individual basis of behaviour. If, for example, the learner driver fails to see a pedestrian at a crossing it is necessary not only to comment on this but also to ask what could have been the reason for this oversight. Based on this discussion the learner driver should be able to develop strategies for the future in a similar situation. The coach helps to activate the own resources of the candidate to find solutions.

The following principles of coaching should be borne in mind:

with Learning through showing…	**with Coaching…**
…you can reach a concrete learning objective	…you can guide the learning process
…a fixed programme is carried out	…it encourages individual development
…learning material is used	…experiences are discussed and analysed
…it is mostly knowledge which is conveyed	…the right convictions/believes are made
…there is only one truth	…there are several perspectives and outcomes
…the pupil should be shown	…the coach should be told or shown
…the instructor presents himself	…the coach meets the pupil with real interest and curiosity

Important points for the coach:

- The coach is responsible for asking the right questions, the pupil for the right answer
- The coach is shown something by the pupil, not the other way around
- The coach listens while the pupil explains
- The coach leads the discussion and works out solutions in conjunction with the pupil(s), but he accepts that the pupil decides which solution (or not) to take.

Problem-oriented learning

Problem-oriented learning is a great way to coach. The pupil, rather than the instructor, must discover the problem. This fosters active learning. The more the pupil is involved in the learning process, the more he feels responsible for making progress. The coach for example can ask the learner driver or learner driver to change the role: he is the instructor and the instructor is the learner driver. Now in the role of the instructor the pupil has to discover and explain important aspects of driving.

"This could be me" method

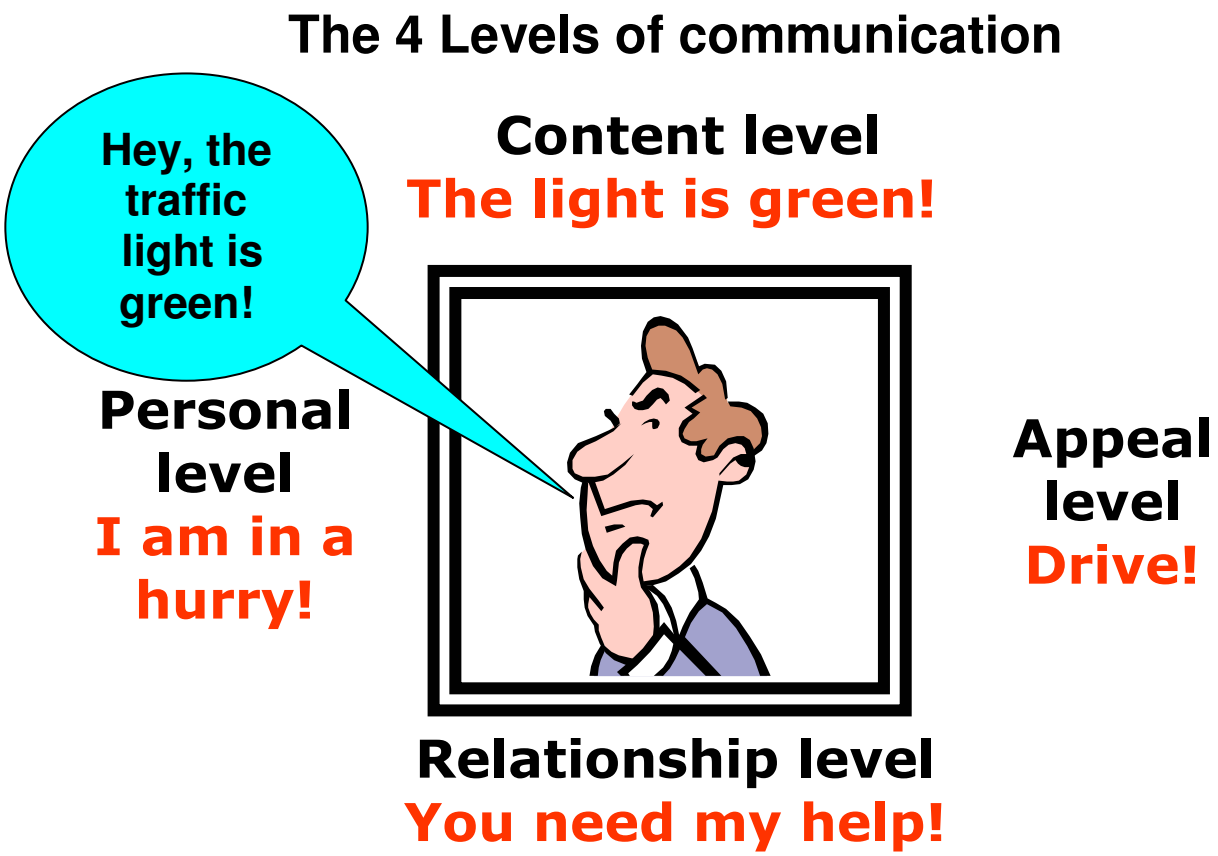
In traffic a variety of conflicts can raise. If we put ourselves into the shoes of the other traffic participant we get a better understanding and perhaps accept that also we make mistakes. People

become more understanding and less aggressive as a result. If the driver behaves in a highly risk-taking manner, the coach might ask how would you feel if you had caused an accident where you survive but in which you have killed your best friend. Again, it is important that only the driver finds his individual answer and that the coach appears value-free.

4-sided model of communication

Model of 4-sided communication (from EU MERIT Project)

The model of 4-sided communication of Schulz von Thun (2002) illustrates the complexity of communication between people. It shows how we communicate on 4 channels or levels, although we are often only aware of one of them.



Source: Schulz von Thun

1. Content level
A statement is made on this conscious level (e.g. "The traffic light is green!").

2. Relationship level
Without perhaps noticing it, one is also communicating something about the relationship between two parties (e.g. "you need my help").

3. Personal level
Mostly unnoticed, we are also saying something about ourselves (e.g. "I am in a hurry!").

4. Appeal level
And finally, each statement has a requirement characteristic (e.g. Drive!“).

The particular complexity of communication is not only that each statement contains 3 – often sub-conscious – levels other than the standard content level. It also requires the listener to be aware of the 3 other levels. We should imagine that each listener needs 4 ears, one for each level. In this way, the listener has a:

1. Content ear
What is he telling me, and have I understood correctly? (the traffic light is green)

2. Relationship ear
What relationship does he think he has in relation to me? (does he think that I need his help?)

3. Personal ear
In making this statement, what is he telling me about himself? (Is he perhaps in a hurry?)

4. Appeal ear
What does he want from me? (Ah, I am supposed to drive off now)

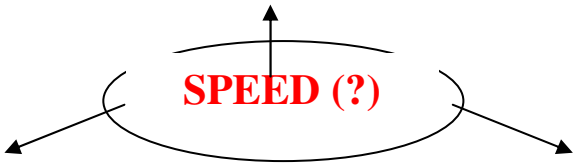
Incorrect interpretations on the part of the listener are often the source of conflict. A classic example of this goes as follows: A man asks his wife “What is the green thing in the soup?“ with which she replies: “If you don’t like it, you can always go to the pub!”. Clearly, the information and interpretation on the content and relationship levels are not in line. The man perhaps only wanted to know on a content level what vegetable was in the soup. The woman considered the question, on a relationship level, to be a criticism.

You can only get out of such conflict situations if you are aware of your communication levels. So, driving instructors need to be communications experts too. Instructors should ideally communicate as follows:

- His primary communication is on the content level.
- He analyses his own interpretations of the statements of the pupil in order to recognise the advent of conflict situations as early as possible, and he doesn’t react in a too hasty or exaggerated manner.
- In a conflict situation, he is the one who brings the communication back to the content level.

Deep-rooted conflicts cannot, of course, be solved through communication means alone. But such conflicts should not arise in every-day driving school situations. In contrast to lay instructors (e.g. mother or father), the pupil has no shared history with the instructor which could manifest itself in tense situations. Adopting a neutral, professional stance is a key element. You are spared of conflictual communication, you reach your objectives more quickly, customer satisfaction is greater and you are generally more content with yourself. This is also important to prevent burnout.

Typical active-learning methods in class-based driver training

Method	Description
'Brainstorming'	To start off a discussion theme, starting with a word, a phrase or a question, everyone expresses themselves based on a trigger such as "What does this make you think about?" and "everybody says something and nobody judges". Remarks are noted on a board.
'Dazibao'	Variation of brainstorming in which different themes and precise questions related to each theme are noted on a pinboard. Everyone expresses themselves using cards which they write on and pin on the board.
'Role plays'	Participants play out roles in (e.g. driving) situations outlined in a written text, film or witness account. Some participants are the actors, others are observers. Observers take notes. The results of the game are then discussed.
'Case studies'	This type of method allows participants to apply their knowledge to a particular situation, to analyse it and resolve specific problems. The case study can be presented in the form of a text or a film or a combination of the two. It can be accompanied by 'annexes' such as statistics, tables, interviews….). The case should present the situation to be studied, the problem to be resolved, the actors in the situation, the event that was at the origin of the problem (if there is one).
'3-word exercise'	• A sheet is distributed with 3 'trigger' words: each word is surrounded by an oval from which 3 arrows point outwards  • Each participant fills out the first 3 words that come into their heads for the trigger word in the oval. • These words are written up in columns under the relevant word on the wall and serve as discussion (how different people perceive things differently…)
'Trigger document'	A document (text, song, video) can serve to launch a debate or discussion. Questions on the document have to be pre-prepared by the trainer.
'Dilemma games'	A risky driving scenario is told step by step by the trainer. The participants are told to imagine they are in the car and are asked at each step: "what do you do now?". Once finished, the pros and cons of a particular course of action can then be discussed. See section 7 (Woltring).
Mini-debate (+ aquarium)	The group is split into smaller groups and each are given a theme or question to reflect on. One member of each group acts as *rapporteur* and reports back to the whole group. The results are written or posted on the board and a discussion ensues. The 'aquarium' technique can be used when reporting back the results and developing a further discussion between rapporteurs. The rapporteurs sit in a small circle (like fish), surrounded by a wider circle of the whole group. The rapporteurs further discuss and debate the theme based on any differences between the mini-group's results.
'Questionnaire'	A questionnaire is pre-prepared for the participants. Participants interview each other and record the responses of the interviewee on the questionnaire. The results are then discussed in plenary, leading to a more focused discussion on a specific theme.
'Witness account'	An external person is invited to give evidence of a specific situation that he/she has experienced.

II. Evaluation of HERMES-Coaching Seminar

1. Students' feedback before - after HERMES coaching seminar

Keskinen, Katila & Laaksonen

METHOD

SUBJECTS

Driving students

In total 285 driving students took part in the study (table 1). They formed two groups according to when they participated. The ones who participated before the instructors' three day coaching seminar served as subjects in the first measurement of this study. The ones who participated after the coaching seminar served as subjects in the second measurement of the study.

Table 1. Measurement and the amount of subjects, age & gender

		Age*				Gender**	
Measurement	N	M	SD	Mo	Md	Male	Female
1.	158	21.31	7.14	18	19	76	80
2.	127	20.23	4.86	18	19	70	56

* 17 subjects did not give information about their age in both 1. and 2. measurement

** 2 subjects from the 1. measurement and 1 subject from the 2. measurement did not answer the question about their gender

First measurement

Driving students (N=158) ranging in age from 15 to 60 years (M=21.3, SD= 7.14) served as subjects in the first measurement of this study (table 1). The gender of the subjects was evenly distributed (male n=76 and female n=80). Male and female subjects had a similar educational background (Table 2). Most of them were employees or students in a school with a matura exam. Subjects completed the questionnaire mainly after a safe driving course (n=50) or a theory lesson (n=96) (table 3). Only five subjects completed it after a driving lesson and seven after a feedback drive.

Second measurement

130 driving students took part in the second measurement of the study. Three of them answered the questionnaire without any inner variation and thus they were eliminated from the data. Therefore 127 driving students, 70 male and 56 female, served as subjects in the second measurement of the study (table 1). The age range was 16-48 years (M= 20.2, SD=4.86). The driving students were mostly employees, both male and female subjects (table 2). Most of the subjects completed the questionnaire after a theory lesson or a safe driving course (table 3).

Table 2. Students' educational background and gender (%)

	Gender			
	Male		Female	
Subjects educational background*	1.	2.	1.	2.
employee	36.1	38.1	38.7	47.3
student in a school with a matura exam	31.9	25.4	38.7	25.5
apprentice	11.1	25.4	8.0	16.4
student	13.9	7.9	8.0	7.3
student in a vocational school without a matura exam	6.9	3.2	6.7	3.6
Total (n)	100 (72)	100 (63)	100 (75)	100 (55)

* 11 subjects in the 1. measurement and 9 subjects in the 2. measurement did not give information about their educational background

1. = first measurement

2. = second measurement

Table 3. When the questionnaire was completed (%)

	Measurement	
Questionnaire was completed after	1.	2.
Theory lesson	60.8	41.7
Safe driving course	31.6	33.1
Feedback from driving	4.4	12.6
Driving lesson	3.2	12.6
Total (n)	100 (158)	100 (127)

Driving instructors

Experiences on the three day seminar

17 driving instructors took part in the first measurement of this study. They completed the questionnaire after the three-day seminar and they have marked on the questionnaires that they have answered the questions after a safe driving course (n=4), a driving lesson (n=4), a feedback drive (n=5) or a theory lesson (n=4). Neither the age nor the gender of the driving instructors was asked.

Evaluation of own teaching style

In the second measurement of the study 14 driving instructors who attended to the seminar evaluated their own teaching from a student's point of view. The questionnaires were completed after a safe driving course (n=9), after a driving lesson (n=3) or after a feedback drive (n=2).

MEASUREMENT

Based on conceptual framework of coaching (Whitmore, 2006) a 29-item questionnaire was developed to asses driving students' experiences of the driving course and driving instructors' experiences of the coaching seminar and evaluations of their own teaching. Data was collected in Austria from several driving schools and the questionnaires were presented for subjects in German language (appendix 1).

Responses were made on a 5-point scale, varying from a positive to a negative pole (1=positive, 5=negative). Only in one item *Although the course leaders were nice and cool, I didn't really learn anything* the scale varies from a negative to positive pole (however, the question was also negative, so the meaning is parallel with other items). The scales were reversed in order to make the understanding of the results easier. Thus the bigger the value, the bigger the effect was. Because in the item *In my opinion this course was just a money-spinner and a waste of time* the content was opposite to other items, the original scale was preserved.

Forming the mean variables was made in three steps. The first step was to conduct a factor analysis (GLS-extraction method and oblique rotation) for these 29 items. Only driving students (from the first measurement) were used as subjects for the analysis because of the small amount of driving instructors. A six factor -model ($\chi^2(165)=182.13$,

p>.05) was formed with the help of factor analysis. Some items were excluded from the model because they did not fit into it.

In the second step the factor model was reformulated with help of a conceptual analysis and bivariate correlations (Spearman) between the occasional items and the factors. According to this step six mean variables were formed and the internal consistencies (Cronbach's alpha) were tested.

The third step was to assure the adequacy of the summary variables with the conceptual framework. This was conducted by the corrected item correlations (item's own value was eliminated) with the mean variables. Finally, the six mean variables were reconstructioned (table 4) and their inner consistencies (Cronbach's alpha) were tested. The inner consistency of these mean variables (from α=.68 to α=.81) and correlations between the items and the mean variables (from r=.36 to r=.74) showed appropriate results in the first measurement of the study. These mean variables conform to illustrate also the results of the second measurement well enough (table 4). The inner consistency (from α=.60 to α=.83) and correlations (from r=.34 to r=.74) of the second measurement showed appropriate results, too.

Some of the items (table 4) were analysed as a single variables because they did not fit in to any of the mean variables.

Table 4. Mean variables, Cronbach alphas and corrected item-total correlations

Mean variables (scales 1-5)	α_1	r_1	α_2	r_2
Experience of own personal growth as a driver	.81		.73	
How much did this course help you to learn more about yourself?		.74		.60
How much did the theory unit give you more self confidence?		.64		.58
How much did the theory unit give you a more accurate picture of yourself as a driver?		.61		.57
How much personal attention did you get?		.54		.45
How much did the learning content appeal to you personally and "get under your skin"?		.51		.34
Possibility to take responsibility of own learning and behaviour	.74		.70	
How much did you feel jointly responsible for shaping the course content?		.65		.55
How much were emotional themes discussed?		.52		.44
Were you able to define your own learning goals?		.50		.54
Who made the most decisions regarding the next learning steps during the theory session?		.48		.36
How much did the course leaders emphasise that you yourself are responsible for the learning process?		.36		.42
Own activeness	.69		.62	
How active were you during the course?		.52		.44
During the course, were you rather lectured to or did you tend to play a more active role?		.52		.44
Interactivity of the teaching style	.76		.60	
How meaningful were the questions that the course leaders asked you?		.71		.48
How interested were the course leaders in your comments?		.57		.44
How often did the course leaders ask questions?		.54		.34
Experiences of the course leader	.79		.83	
How effective did you find the learning methods used by the course leaders?		.66		.59
I would recommend these course leaders to my friends:		.58		.74
The course leaders were:		.54		.71
How cool were the course leaders?		.54		.58
How motivated were the course leaders to work with you?		.53		.59
Contentment with the course	.68		.65	
How useful did you find the course?		.59		.45
How useful is the course content for you in the real traffic?		.56		.36
How interesting did you find the course?		.47		.53
In my opinion this course was just a money-spinner and a waste of time:		.36		.45
Separate questions:				
How was the learning atmosphere?				
Were the exact learning goals discussed for the course?				
How often did the course leaders ask you to play an active role?				
If you were a good coaching leader, would you rather let participants work out the learning phases and solutions themselves or would you tend to explain and demonstrate everything?				
Although the course leaders were nice and cool, I didn't really learn anything:				

1= first measurement

2= second measurement

The mean variables which embody the goals of coaching (*personal growth* and *responsibility*) correlated well (table 5). Also between the mean variables *Interactivity of the teaching style* and *Experiences of the course leader* was a quite strong positive correlation. The mean variable *Contentment with the course* had the weakest correlation to the other mean variables. To emphasize, the mean variable *Activeness* was more strongly correlated to the goals of coaching after the coaching seminar (second measurement) than before it (first measurement).

Table 5. The mean variable correlations (r_s)
In a right upper corner the correlations from the 1. measurement and in a left lower corner the results from the 2. measurement

Mean variables	1.	2.	3.	5.
1. Experience of own personal growth as a driver	1	.63**	.49**	.47**
2. Possibility to take responsibility of own learning and behaviour	.65**	1	.41**	.42**
3. Own activeness	.38**	.33**	1	.33**
4. Interactivity of the teaching style	.40**	.37**	.27**	.57**
5. Experiences of the course leader	.48**	.45**	.30**	1
6. Contentment with the course	.50**	.29**	.26**	.55**

** = sig. level .01

*= sig. level .05

RESULTS

DRIVING STUDENTS

Driving student's (N=158) experiences concerning normal driving school education (first measurement) were very positive (table 6). The means of all variables were at least on the level of three in the five points scale. *Interactivity of the teaching style, Experiences oft the course leader* and *Contentment with the course* got the best evaluations. Students evaluated that *Possibility to take responsibility* was the least realized thing in the driving school education.

The experiences of the driving school education following the rules of coaching were also very positive (table 6) according to the driving students (N=127). In total, the results were very similar to the first measurement but a little bit more positive. The course leaders were experienced in a positive manner by the students and the students were very content with the course. Like in the first measurement of the study, the possibility to take responsibility was the least realized thing.

Table 6. Descriptive statistics for the mean variables

					Percentage**				
Mean variables	*	N	M	SD	1-1.4	1.5-2.4	2.5-3.4	3.5-4.4	4.5-5
Experience of own personal growth as a driver	1.	158	3.65	.82	.6	7.6	33.5	38.6	19.6
	2.	127	3.82	.69		3.9	26.0	52.8	17.3
Possibility to take responsibility of own learning and behaviour	1.	158	3.28	.74	.6	14.6	45.6	34.8	4.4
	2.	127	3.37	.69		10.2	49.6	34.6	5.5
Own activeness	1.	158	3.66	.92	2.5	12.0	33.5	39.9	12.0
	2.	127	3.89	.79	1.6	4.7	36.2	40.9	16.5
Interactivity of the teaching style	1.	158	4.19	.71	1.3	.6	12.7	45.6	39.9
	2.	127	4.24	.55		.8	9.4	53.5	36.2
Experiences of the course leader	1.	158	4.61	.45			2.5	31.6	65.8
	2.	127	4.57	.48			3.9	32.3	63.8

Contentment with the course	1.	158	4.45	.57	1.9	3.8	48.7	45.6
	2.	127	4.46	.53		7.9	40.2	52.0

* 1. = first measurement
2. = second measurement

** the sum of percentage is 100.0% for every summary variable at each measurement

As shown in the figure 1, the experiences of the driving students were highly positive. In particular the results of the driving education following the rules of coaching were slightly more positive than the results of the normal driving education. It seems that the coaching had the biggest influence to the personal growth and activeness, because of their difference in the first and the second measurement. However, the only difference was found for activeness (U= 8691.00, p< .05) in the statistical tests. Thus, the coaching had influenced the course leaders teaching style which provided the students to be in a more active role.

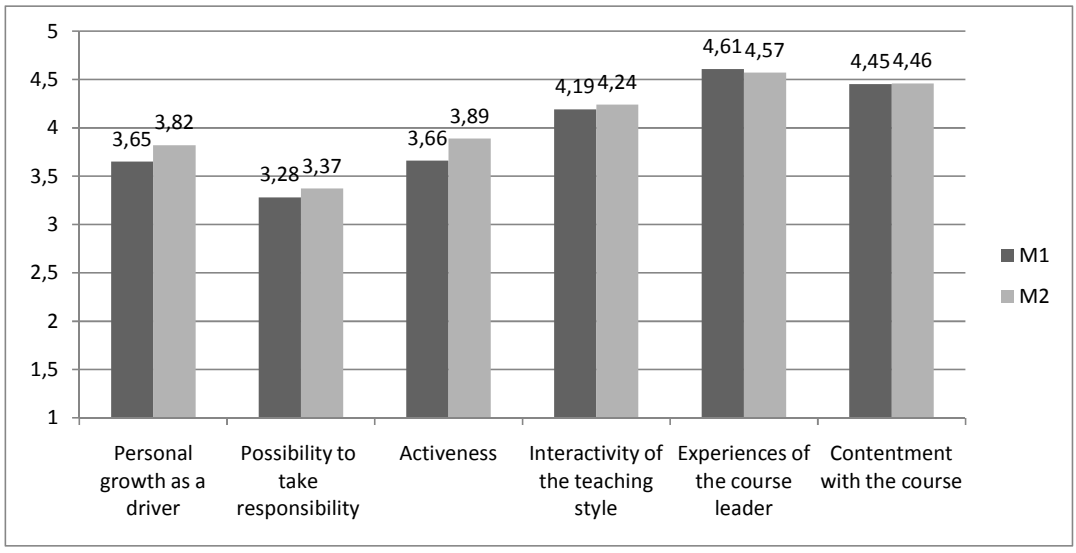


Figure 1. The means of the mean variables for driving students, M_1= first measurement and M_2= second measurement

The effects of the background variables on the mean variables

Analysis of variance (ANOVA) was used to examine how age, gender and educational background influenced the mean variables *personal growth as a driver, possibility to*

take responsibility, own activeness, interactivity of the teaching style, experiences of the course leader and *course contentment*. For the analyses the subjects were divided into two groups according to their age (20 year old or younger and over 20 years; subjects being 40 years or older were removed), and according to their educational background (working and studying). The variable *the questionnaire was completed after* was left out from the analysis, because the distribution of the subjects among the groups (theory lesson, driving lesson, safe driving course and feedback drive) was very unequal. This could have contorted the results if it had been included to the analysis.

When analysing the results it should be considered that the variances were uneven in the mean variables: *personal growth* ($F=2.14$, $p<.01$), *responsibility* ($F=1.77$, $p<.05$), *own activeness* ($F=2.30$, $p<.01$) and *experiences of the course leader* ($F=1.56$, $p<.001$). However, the sample size was big ($n=285$) and the distributions had quite similar shapes (even if positively skewed) in the first and the second measurement of the study. Thus, the unevenness of the variances did not hinder the analyses.

Experiences of the own personal growth as a driver

The means for *the experiences of own personal growth as a driver* are shown in table 7. In table 8 is shown how educational background, age, gender and time of the measurement influenced *the experiences of own personal growth as a driver*.

Table 7. The means for *the own personal growth as a driver*

		M_1	SD_1	M_2	SD_2
Time of the measurement		3.65	.82	3.82	.69
Educational background	working	3.77	.98	3.78	.71
	studying	3.58	.68	3.82	.67
Age	≤ 20	3.62	.76	3.78	.65
	> 20	3.54	.90	4.04	.73
Gender	Male	3.68	.86	3.81	.71
	Female	3.65	.79	3.83	.66

1= first measurement
2= second measurement

Table 8. Analysis of variance for *the own personal growth as a driver*

Source	df	F	η	p
Educational background (E)	1	.07	.00	.79
Age (A)	1	.17	.00	.68
Gender (G)	1	.27	.00	.60
Measurement (M)	**1**	**5.54**	**.03**	**.02**
E x A	1	.11	.00	.74
E x G	1	.01	.00	.91
E x M	1	1.36	.01	.24
A x G	1	.10	.00	.75
A x M	**1**	**4.33**	**.02**	**.04**
G x M	1	.02	.00	.88
E x A x G	1	.00	.00	.98
E x A x M	1	.01	.00	.92
E x G x M	1	.72	.00	.40
A x G x M	1	.00	.00	.97
E x A x G x M	1	.26	.00	.61
error	210			

The time of the measurement had a main effect on *the experiences of personal growth* ($F_{1,210}$=5.54, p<.05, η_p^2=.03). Thus, the driving school education following the rules of coaching offered the subjects a better possibility to experience personal growth as a driver than the normal driving school education.

The time of the measurement and the age had an interaction on *the experiences of personal growth* ($F_{1,210}$=4.33, p<.05, η_p^2=.02) (Figure 2). Over 20 years old subjects experienced the better chance to experience personal growth in the second measurement than in the first measurement (U=284.00, p<.05). 20 year old or younger subjects experienced the personal growth equally in the measurements. Therefore, the experiences of the personal growth as a driver rely on the age of the subject.

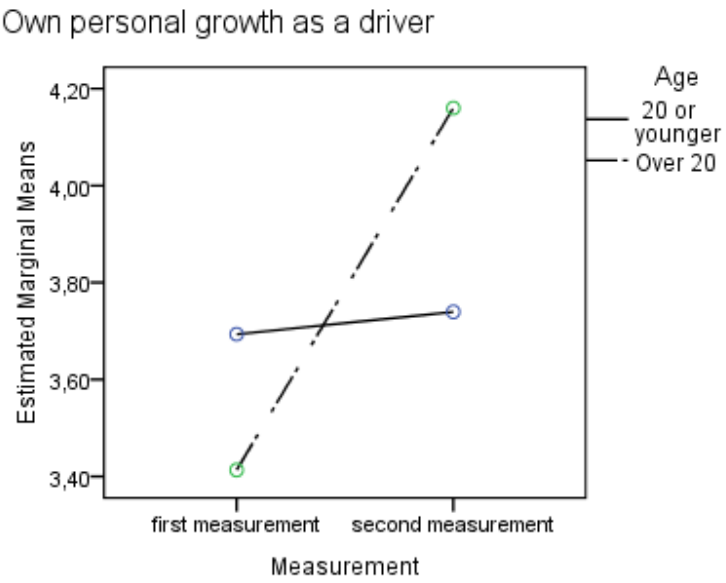


Figure 2. Measurement's and Age's interaction on *the personal growth as a driver*

Experiences of the possibility to take responsibility of own learning and behaviour

In table 9 is shown the means for *the possibility to take responsibility* and in table 10 is shown how educational background, age, gender and time of the measurement influenced *the possibility to take responsibility*.

Table 9. The means for *the possibility to take responsibility*

		M_1	SD_1	M_2	SD_2
Time of the measurement		3.28	.74	3.37	.69
Educational background	working	3.43	.79	3.33	.76
	studying	3.20	.66	3.34	.54
Age	≤ 20	3.22	.68	3.26	.66
	> 20	3.25	.88	3.64	.79
Gender	Male	3.35	.70	3.42	.74
	Female	3.22	.78	3.31	.65

1= first measurement
2= second measurement

Table 10. Analysis of variance for *the possibility to take responsibility*

Source	df	F	η	p
Educational background (E)	1	1.81	.01	.18
Age (A)	1	.30	.00	.58
Gender (G)	1	1.58	.01	.21
Measurement (M)	1	1.56	.01	.21
E x A	1	1.78	.01	.18
E x G	1	3.07	.01	.08
E x M	1	1.75	.01	.19
A x G	1	.23	.00	.63
A x M	**1**	**4.36**	**.02**	**.04**
G x M	1	.00	.00	1.00
E x A x G	1	2.59	.01	.11
E x A x M	1	.31	.00	.58
E x G x M	1	1.08	.01	.30
A x G x M	1	.23	.00	.63
E x A x G x M	1	.14	.00	.71
error	210			

The time of the measurement and the age had an interaction on *the possibility to take responsibility* ($F_{1,210}$=4.36, p<.05, η_p^2=.02) (Figure 3). Over 20 years old subjects felt more able to be responsible in the second than in first measurement of the study (U= 304.50, p<.05). On the contrary, 20 year old or younger students felt less able to take responsibility in the second measurement than in the first measurement.

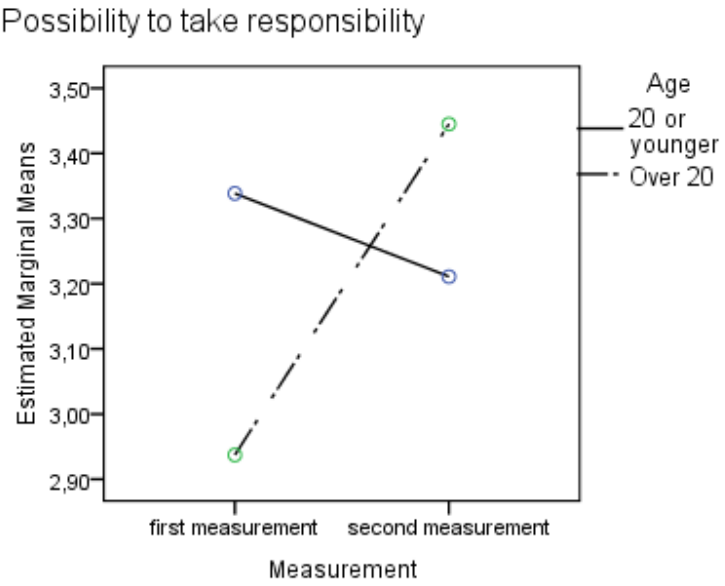


Figure 3. Measurement's and Age's interaction on *the possibility to take responsibility*

Experiences of own activeness

The means for *the own activeness* are shown in table 11 while in table 12 is shown how educational background, age, gender and time of the measurement influenced *the own activeness*.

Table 11. The means for *the own activeness*

		M_1	SD_1	M_2	SD_2
Time of the measurement		3.66	.92	3.89	.79
Educational background	working	3.78	.89	3.93	.84
	studying	3.63	.90	3.77	.70
Age	≤ 20	3.61	.99	3.93	.70
	> 20	3.69	.79	4.07	.90
Gender	Male	3.72	.82	3.95	.79
	Female	3.64	1.00	3.83	.79

1= first measurement
2= second measurement

Table 12. Analysis of variance for *the own activeness*

Source	df	F	η	p
Educational background (E)	1	1.41	.01	.24
Age (A)	1	.15	.00	.70
Gender (G)	1	.68	.00	.41
Measurement (M)	**1**	**6.01**	**.03**	**.02**
E x A	1	.32	.00	.57
E x G	1	.71	.00	.40
E x M	1	.24	.00	.62
A x G	1	.15	.00	.70
A x M	1	1.17	.01	.28
G x M	1	1.55	.01	.21
E x A x G	1	3.01	.01	.08
E x A x M	1	.98	.00	.32
E x G x M	1	.04	.00	.85
A x G x M	1	1.11	.01	.29
E x A x G x M	1	.81	.00	.37
Error	210			

The time of the measurement had a main effect on the experiences of *own activeness* ($F_{1,210}$=6.01, p<.05, η_p^2=.03). Thus, the driving school education following the rules of coaching let the subjects to be in a more active role than the normal driving school education.

Experiences of the interactivity of the teaching style

The means for *the interactivity of the teaching style* are listed in table 13. In table 14 is shown educational background, age, gender and time of the measurement were related to *the interactivity of the teaching style*.

Table 13. The means for *the interactivity of the teaching style*

		M_1	SD_1	M_2	SD_2
Time of the measurement		4.19	.71	4.24	.55
Educational background	working	4.17	.77	4.28	.54
	studying	4.17	.68	4.13	.59
Age	≤ 20	4.17	.71	4.21	.54
	> 20	4.12	.76	4.42	.48
Gender	Male	4.17	.76	4.26	.52
	Female	4.20	.67	4.23	.60

1= first measurement
2= second measurement

Table 14. Analysis of variance for *the interactivity of the teaching style*

Source	df	F	η	p
Educational background (E)	1	.22	.00	.64
Age (A)	1	.00	.00	.96
Gender (G)	1	.00	.00	.98
Measurement (M)	1	1.12	.01	.29
E x A	1	.53	.00	.47
E x G	1	.60	.00	.44
E x M	1	.20	.00	.65
A x G	1	.02	.00	.89
A x M	1	.91	.00	.34
G x M	1	.66	.00	.42
E x A x G	1	.07	.00	.79
E x A x M	1	.17	.00	.68
E x G x M	1	1.32	.01	.25
A x G x M	1	.47	.00	.50
E x A x G x M	1	.64	.00	.43
Error	210			

No effects or interactions between the experiences of *the interactivity of the teaching style* and the educational background, age, gender and time of the measurement were found. Thus, independent of the educational background, age, gender or time of the measurement, the subjects experienced the interactivity of the teaching style similarly.

Experiences of the course leader

In table 15 is shown the means for *the experiences of the course leader*, and in table 16 is shown how educational background, age, gender and time of the measurement influenced *the experiences of the course leader*.

Table 15. The means *for the experiences of the course leader*

		M_1	SD_1	M_2	SD_2
Time of the measurement		4.61	.45	4.57	.48
Educational background	working	4.62	.48	4.58	.45
	studying	4.62	.41	4.49	.55
Age	≤ 20	4.67	.39	4.54	.48
	> 20	4.41	.53	4.71	.37
Gender	Male	4.61	.46	4.53	.48
	Female	4.61	.44	4.60	.49

1= first measurement
2= second measurement

Table 16. Analysis of variance for *the experiences of the course leader*

Source	df	F	η	p
Educational background (E)	1	.48	.00	.49
Age (A)	1	1.9	.01	.17
Gender (G)	1	.17	.00	.68
Measurement (M)	1	.36	.00	.55
E x A	1	.10	.00	.75
E x G	1	3.18	.01	.08
E x M	1	.27	.00	.60
A x G	1	.74	.00	.39
A x M	**1**	**7.47**	**.03**	**.01**
G x M	1	.08	.00	.77
E x A x G	1	3.28	.02	.07
E x A x M	1	.28	.00	.60
E x G x M	1	.52	.00	.47
A x G x M	1	.00	.00	.96
E x A x G x M	1	.04	.00	.84
Error	210			

The age and the time of the measurement had also an interaction on *the experiences of the course leader* ($F_{1,210}$=7.47, p<.05, η_p^2=.03) (figure 4). Under 20 years old students experienced the course leader in a more positive way in the second than in the first measurement of the study (U=323.00, p<.05). 20 year old and younger students experienced the course leader conversely. The experiences were a bit more positive in the first measurement than in the second measurement of the study.

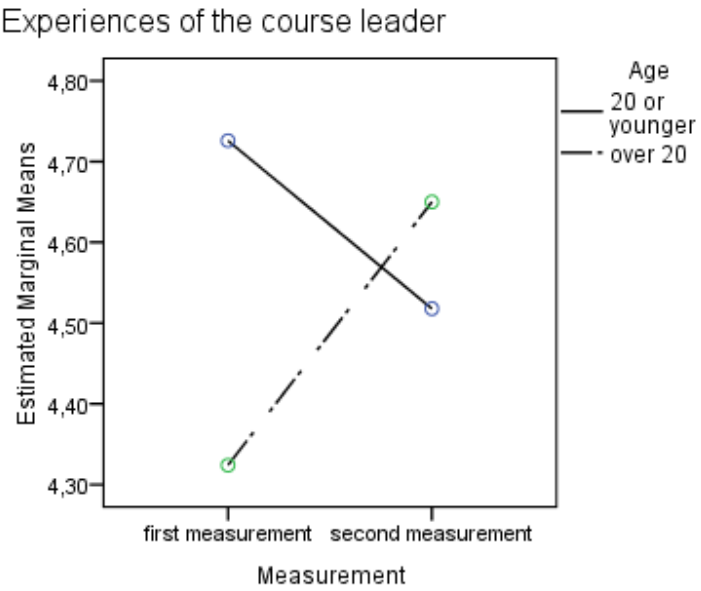


Figure 4. Measurement's and Age's interaction on *the experiences of the course leader*

Contentment with the course

The means for *the contentment with the course* are listed in table 17. In table 18 is shown how educational background, age, gender and time of the measurement influenced *the contentment with the course*.

Table 17. The means for *the contentment with the course*

		M_1	SD_1	M_2	SD_2
Time of the measurement		4.45	.57	4.46	.53
Educational background	working	4.45	.62	4.53	.52
	studying	4.45	.53	4.35	.54
Age	≤ 20	4.43	.56	4.41	.56
	> 20	4.40	.61	4.62	.43
Gender	Male	4.37	.69	4.43	.56
	Female	4.53	.41	4.50	.48

1= first measurement
2= second measurement

Table 18. Analysis of variance for *the contentment with the course*

Source	df	F	η	p
Educational background (E)	1	.01	.00	.91
Age (A)	1	.52	.00	.47
Gender (G)	1	.69	.00	.41
Measurement (M)	1	1.36	.01	.25
E x A	1	.05	.00	.82
E x G	1	.07	.00	.80
E x M	1	.03	.00	.87
A x G	1	.08	.00	.78
A x M	1	1.39	.01	.24
G x M	1	.15	.00	.70
E x A x G	1	.13	.00	.72
E x A x M	1	.96	.00	.33
E x G x M	1	.57	.00	.45
A x G x M	1	.02	.00	.89
E x A x G x M	1	.07	.00	.80
Error	210			

No effects or interactions between the contentment with the course and the educational background, age, gender and time of the measurement were found. So, independent of the educational background, age, gender or time of the measurement the subjects were *equally content* with the course.

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EU-Coaching-Project HERMES

Hermes project – Results from a questionnaire study: students and instructors

Esko Keskinen
Ari Katila
Niina Laaksonen
University of Turku,
Department of Psychology

Hermes WP 6 Evaluation 1

Research questions

The aim of the study was to find out how effective was a three day coaching seminar for driving teachers as evaluated by students and teachers.

1. How students evaluate driving teachers' style of teaching before and after the teachers have been learning coaching style method in teaching in the three day seminar?

2. How teachers evaluate the three day coaching seminar?

3. How teachers evaluate their own teaching style after the three day seminar?

4. How was the teaching style of driving teachers before and after the three day coaching seminar as evaluated by independent observers/auditors?

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SUBJECTS

The amount of the subjects

	Measurement	
	1.	2.
Driving students	158	127
Driving instructors	17	14

Hermes WP 6 Evaluation 3

UNIVERSITY OF TURKU

SUBJECTS
Driving students

Measurement and the amount of subjects, age & gender

		Age*				Gender**	
Measurement	N	M	SD	Mo	Md	Male	Female
1.	158	21.31	7.14	18	19	76	80
2.	127	20.23	4.86	18	19	70	56

* 17 subjects did not give information about their age in both 1. and 2. measurement

** 2 subjects from the 1. measurement and 1 subject from the 2. measurement did not answer the question about their gender

Hermes WP 6 Evaluation 1

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SUBJECTS
Driving students

Measurement and the amount of subjects, age & gender

		Age*				Gender**	
Measurement	N	M	SD	Mo	Md	Male	Female
1.	158	21.31	7.14	18	19	76	80
2.	127	20.23	4.86	18	19	70	56

* 17 subjects did not give information about their age in both 1. and 2. measurement

** 2 subjects from the 1. measurement and 1 subject from the 2. measurement did not answer the question about their gender

Hermes WP 6 Evaluation 1

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SUBJECTS
Driving students

Students' educational background and gender (%)

	Gender			
	Male		Female	
Subjects educational background*	1.	2.	1.	2.
employee	36.1	38.1	38.7	47.3
student in a school with a matura exam	31.9	25.4	38.7	25.5
apprentice	11.1	25.4	8.0	16.4
student	13.9	7.9	8.0	7.3
student in a vocational school without a matura exam	6.9	3.2	6.7	3.6
Total (n)	100 (72)	100 (63)	100 (75)	100 (55)

* 11 subjects in the 1. measurement and 9 subjects in the 2. measurement did not give information about their educational background

1. = first measurement

2. = second measurement

Hermes WP 6 Evaluation 5

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SUBJECTS
Driving students

When the questionnaire was completed (%)

	Measurement	
Questionnaire was completed after	1.	2.
Theory lesson	60.8	41.7
Safe driving course	31.6	33.1
Feedback from driving	4.4	12.6
Driving lesson	3.2	12.6
Total (n)	100 (158)	100 (127)

Hermes WP 6 Evaluation 6

UNIVERSITY OF TURKU

SUBJECTS
Driving instructors

When the questionnaire was completed (n)

	Measurement	
Questionnaire was completed after	1.	2.
Safe driving course	4	9
Feedback from driving	5	2
Driving lesson	4	3
Theory lesson	4	
Total	17	14

Hermes WP 6 Evaluation 7

Before reading the results

Evaluation design and data collection method

1. Design was before after between subjects design: students could experience only a teaching situation before or after

2. Data collection methods was based on "absolute" (amount evaluation) evaluation of own experience on a scale 1 – 5, where 5 means high amount and 1 low amount of certain component of experience

3. Ceiling effect: high values already before, difficult to be better!

4. The after seminar evaluation happened ?? month after seminar – reacency effect was not any more valid

If there are now positive result, then they are reliable.

Before reading the results

Validity of results

The measurement concerns students' and teachers' evaluations concerning experiences of teaching style.

The questions are designed to measure two of the most important goals of coaching style teaching and four variables which mainly describe methods used in coaching style teaching.

The aim was to measure how coaching style teaching was realized in driving teachers' teaching and not how effective (concerning knowledge and skills) it was as a method for increasing learning.

The next question concerns learning of knowledge and skill contents.

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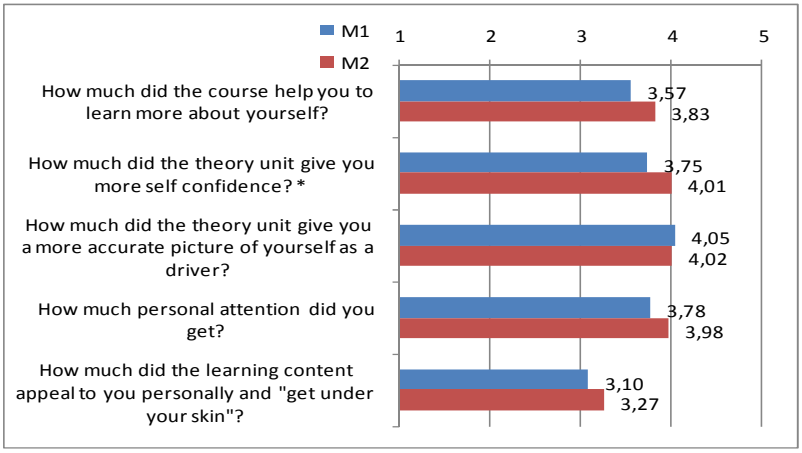
RESULTS
Driving students
The means for the single items of
Experience of own personal growth as a driver



M1= Means in the first measurement, M2= Means in the second measurement

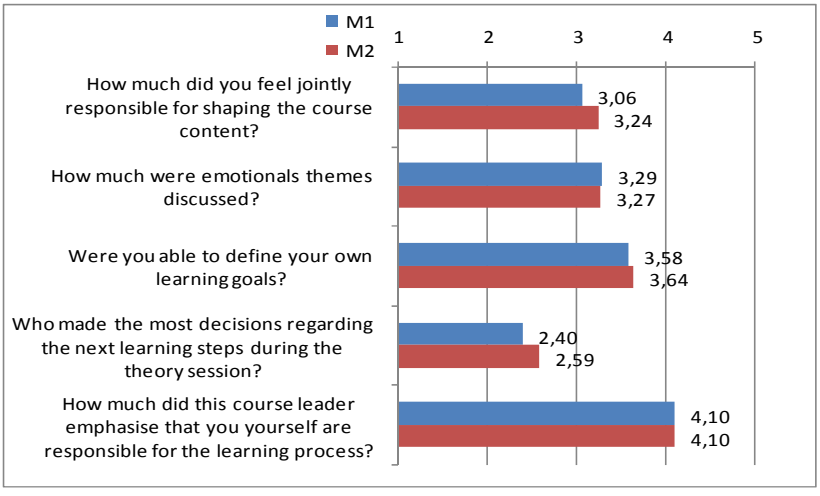
*Significant difference (U= 8624.50, p<.05)

10

Hermes WP 6 Evaluation

UNIVERSITY OF TURKU

RESULTS
Driving students
The means for the single items of
Possibility to take responsibility



M1= Means in the first measurement, M2= Means in the second measurement

11

Hermes WP 6 Evaluation

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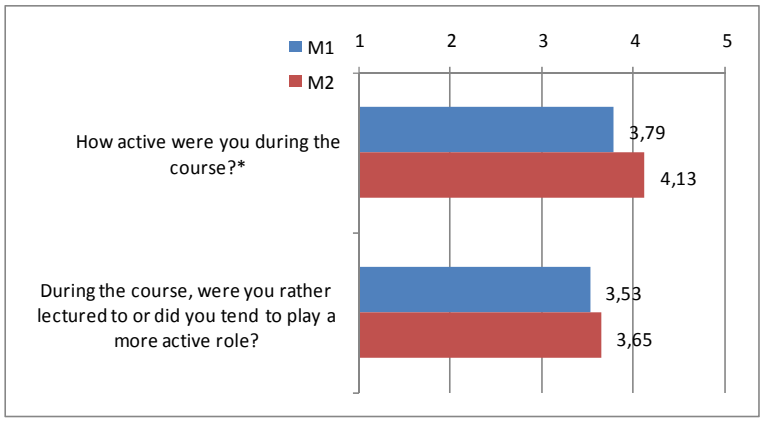
RESULTS
Driving students
The means for the single items of
Own activeness



M1= Means in the first measurement, M2= Means in the second measurement

* Significant difference (U=8027.50, p<.01)

12

Hermes WP 6 Evaluation

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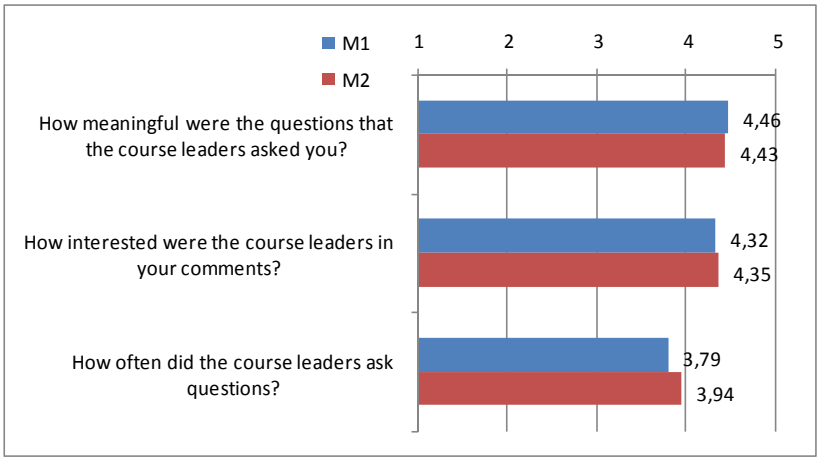
RESULTS
Driving students
The means for the single items of
Interactivity of the teaching style



M1= Means in the first measurement, M2= Means in the second measurement

13

Hermes WP 6 Evaluation

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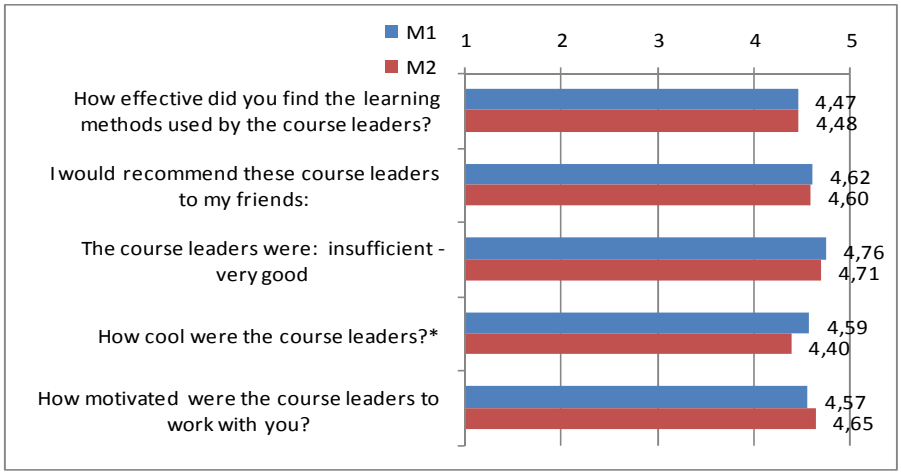
RESULTS
Driving students
The means for the single items of
Experiences of the course leader



M1= Means in the first measurement, M2= Means in the second measurement

* Significant difference (U=8247.00, p<.05)

14

Hermes WP 6 Evaluation

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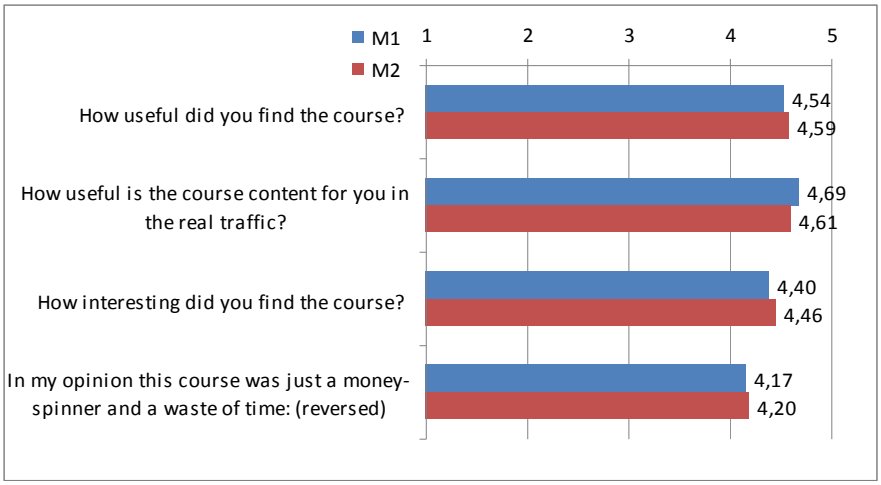
RESULTS
Driving students
The means for the single items of
Contentment with the course



M1= Means in the first measurement, M2= Means in the second measurement

15

Hermes WP 6 Evaluation

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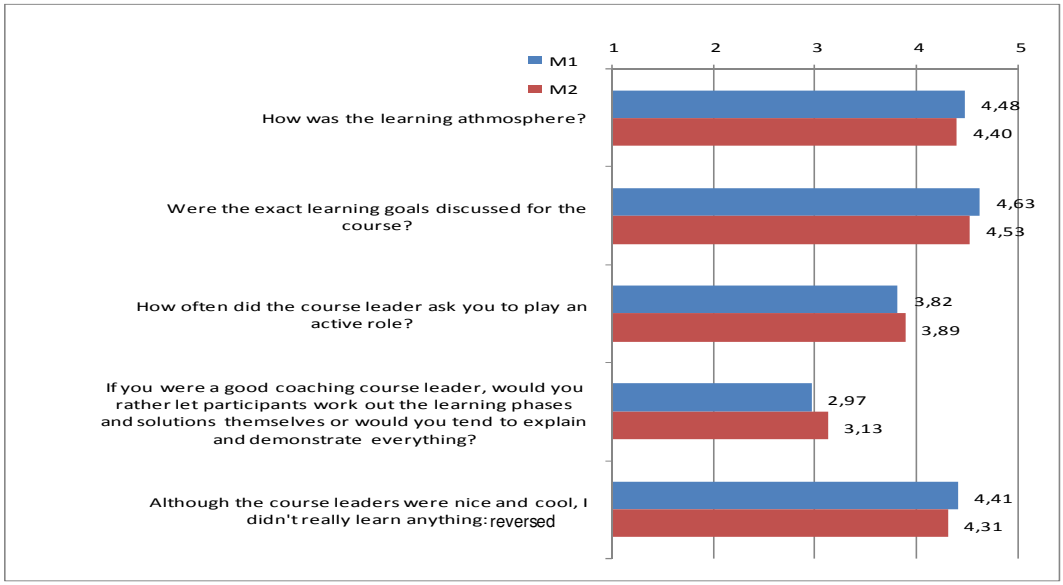
RESULTS
Driving students
The means for the separate questions



M1= Means in the first measurement, M2= Means in the second measurement

Hermes WP 6 Evaluation

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RESULTS
Driving students
Mean variables & reliability analysis 1

Driver's experience of his personal growth as a driver, α_1=.81, α_2=.73
How much did this course help you to learn more about yourself?
How much did the theory unit give you more self confidence?
How much did the theory unit give you a more accurate picture of yourself as a driver?
How much personal attention did you get?
How much did the learning content appeal to you personally and "get under your skin".

Hermes WP 6 Evaluation 17

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RESULTS
Driving students
Mean variables & reliability analysis 2

Driver's possibility to take responsibility of his own learning and behaviour, α_1=.74, α_2=.70

- How much did you feel jointly responsible for shaping the course content?
- How much were emotional themes discussed?
- Were you able to define your own learning goals?
- Who made the most decisions regarding the next learning steps during the theory session?
- How much did the course leader emphasize that you yourself are responsible for the learning process?

Hermes WP 6 Evaluation 18

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RESULTS
Driving students
Mean variables & reliability analysis 3

Driver's activeness, α_1=.69, α_2=.62

- How active were you during the course?
- During the course were you rather lectured to or did you tend to play a more active role?

Interactivity of the teaching style, α_1=.76, α_2=.60

- How meaningful were the questions that course leaders asked you?
- How interested were the course leaders in your comments?
- How often did the course leaders ask questions?

Hermes WP 6 Evaluation 19

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RESULTS
Driving students
Mean variables & reliability analysis 4

Driver's experiences of the course leader, α_1=.79, α_2=.83

- How effective did you find the learning methods used by the course leaders?
- I would recommend these course leaders to my friends?
- The course leaders were: insufficient – very good
- How cool were the course leaders?
- How motivated were the course leaders to work with you?

Driver's contentment with the course, α_1=.68, α_2=.65

- How useful did you find the course?
- How useful is the course content for you in the real traffic?
- How interesting you find the course?
- In my opinion this course was just a money spinner and waste of time.

Hermes WP 6 Evaluation 20

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RESULTS
Driving students

Separate questions:

- How was the learning atmosphere?
- Were the exact learning goals discussed for the course?
- How often did the course leaders ask you to play an active role?
- If you were a good coaching leader, would you rather let participants work out the learning phases and solutions themselves or would you tend to explain and demonstrate?
- Although the course leaders were nice and cool, I didn't really learn anything

Hermes WP 6 Evaluation 21

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RESULTS
Driving students

The mean variable correlations (r_s)

Mean variables	1.	2.	3.	5.
1. Experience of own personal growth as a driver	1	.63**	.49**	.47**
2. Possibility to take responsibility of own learning and behaviour	.65**	1	.41**	.42**
3. Own activeness	.38**	.33**	1	.33**
4. Interactivity of the teaching style	.40**	.37**	.27**	.57**
5. Experiences of the course leader	.48**	.45**	.30**	1
6. Contentment with the course	.50**	.29**	.26**	.55**

** = sig. level .01

*= sig. level .05

In a right upper corner the correlations from the 1. measurement and in a left lower corner the results from the 2. measurement

Hermes WP 6 Evaluation 22

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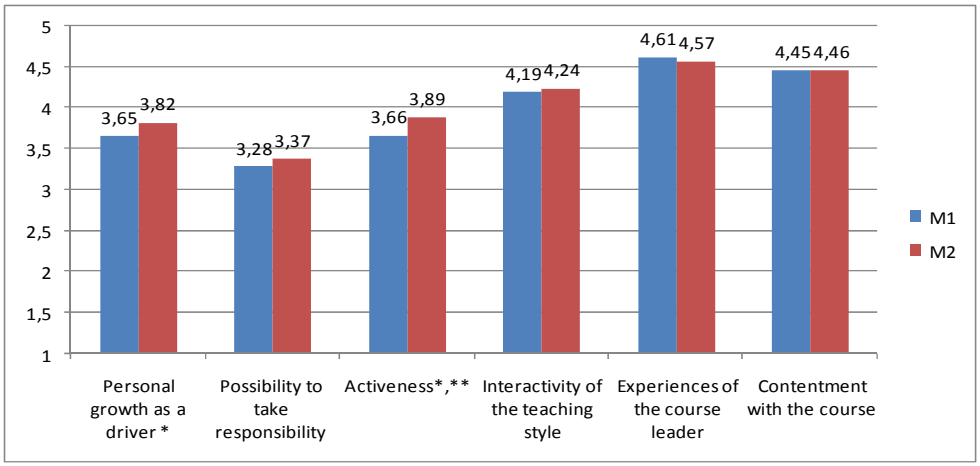
RESULTS
Driving students



The means for the mean variables (M1 = first measuremet, M2= second measurement)

*The main effects on *Personal growth as a driver* ($F_{1,210}$=5.54, p<.05, η_p^2=.03) and on *Activeness* ($F_{1,210}$=6.01, p<.05, η_p^2=.03)

** Significant difference for *Activeness* (U= 8691.00, p<.05)

Hermes WP 6 Evaluation 23

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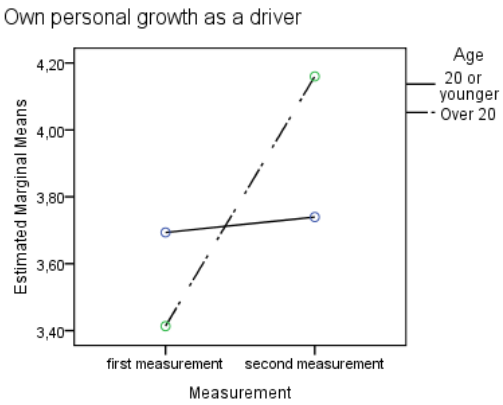
RESULTS
Driving students

The time of the measurement and the age had an interaction on the experiences of *the personal growth* ($F_{1,210}$=4.33, p<.05, η_p^2=.02).



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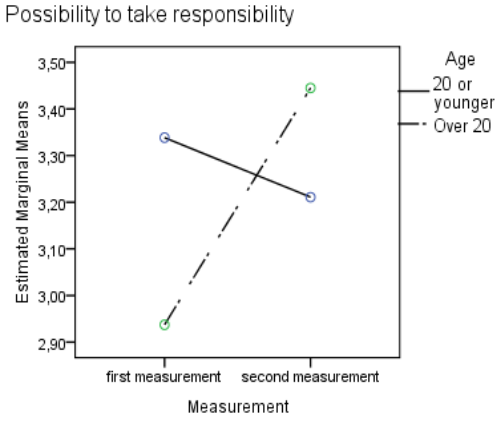
RESULTS
Driving students

The time of the measurement and the age had an interaction on *the possibility to take responsibility* ($F_{1,210}$=4.36, p<.05, η_p^2=.02)



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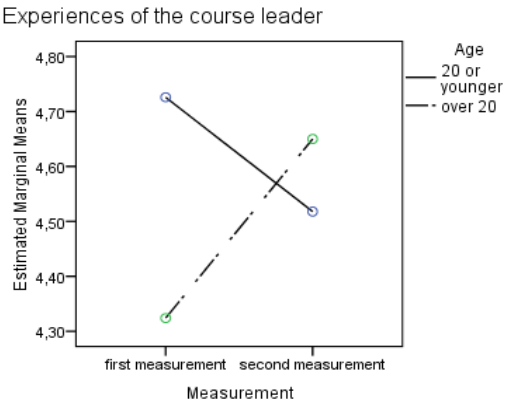
RESULTS
Driving students

The time of the measurement and the age had an interaction on *the experiences of the course leader* ($F_{1,210}$=7.47, p<.05, η_p^2=.03)



Hermes WP 6 Evaluation 26

2. Instructors' feedback after HERMES Coaching-Seminar

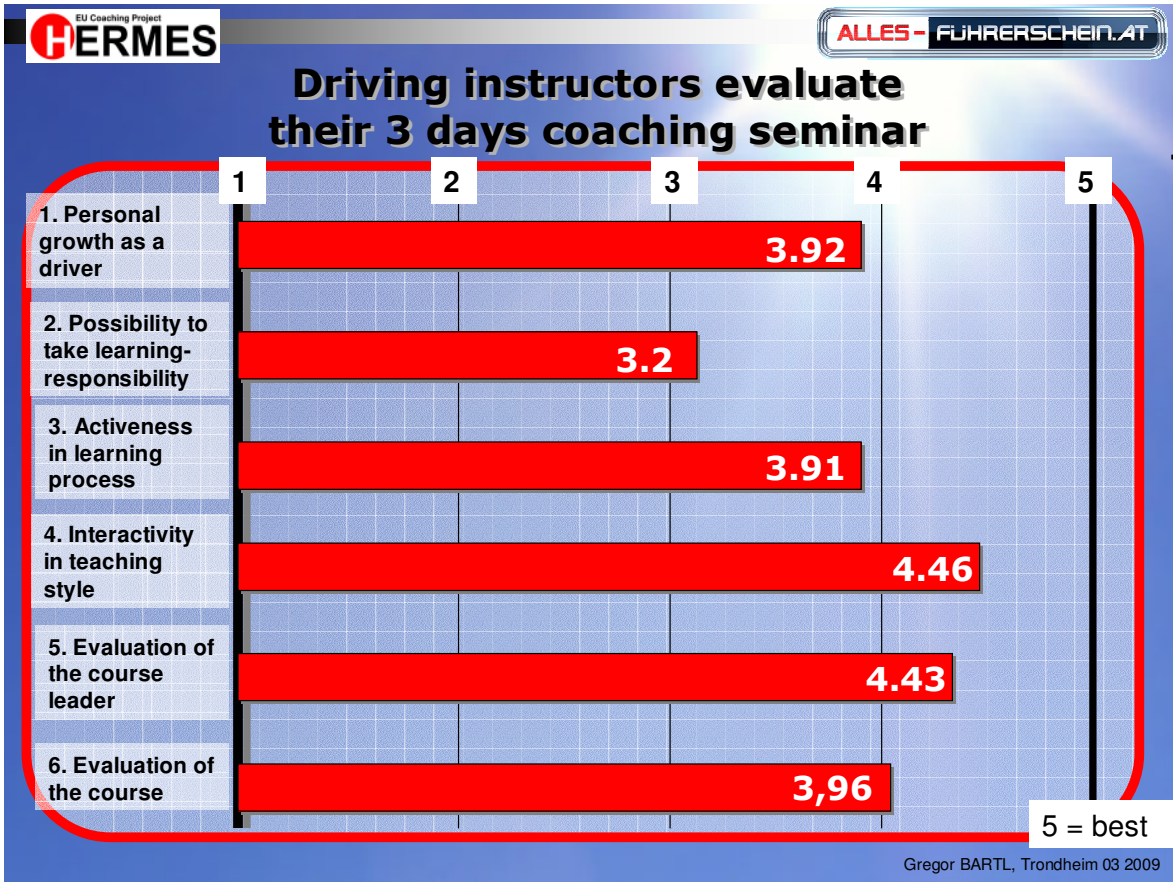
(G. Bartl & K. Urbanek)

In June 2008 17 driving instructors participated in a three days Coaching seminar at the driving camp Pachfurth close to Vienna / Austria lead by Kay Schulte and Gregor Bartl from the HERMES project team following the coaching handbook which has been elaborated so far – and will be further developed after during the remaining period of the HERMES project until begin of 2010 – also based on the experiences of this trial. After this three days coaching seminar they started to practice and two months later a one day supervision-seminar was carried out and then the after audits were conducted.

The selection of the driving instructors was rather random. They have been audited before and were informed that they shall participate in a seminar where an exchange of experience shall take place. They have been sent by their bosses rather randomly and summarized they can be seen as an average sample of typical Austrian driving instructors for executing the basic practical ant theory training, the feedback drives and the track training. It is compulsory in Austria to attend a driving school in Austria with theory in classroom an practice in car before the test. After the test novice drivers have to participate feedback drives and a track training (multiphase or second phase training).

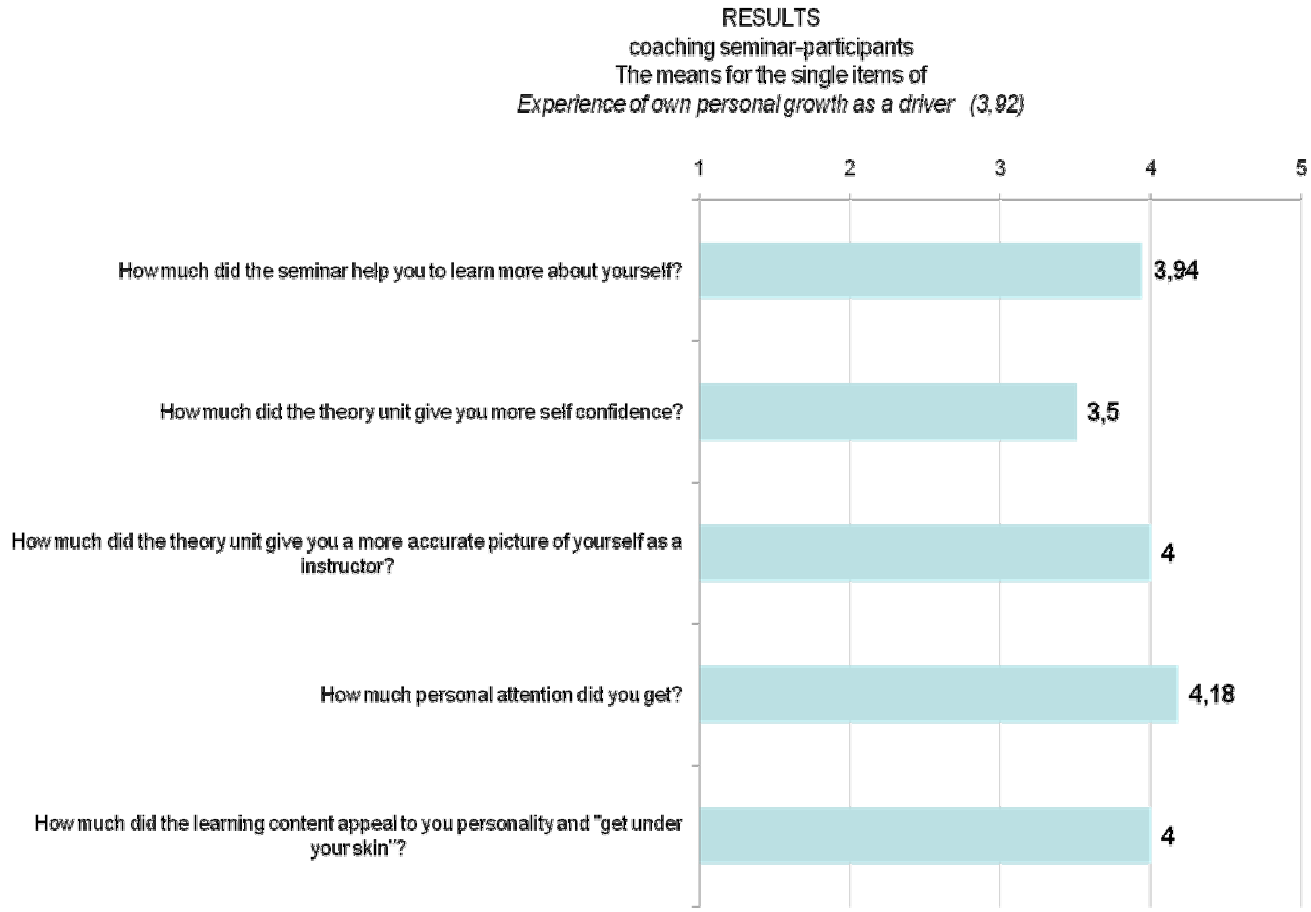
The seminar followed the coaching handbook, no relevant problems occurred.
First the feedback of the driving instructors on how they evaluated their three days seminar will be highlighted, and then the results of the audits will be described.
The instructors had to fill in about the same questions as their students had to fill in when evaluating their training. The data processing therefore follows the same structure.

The results were above average as it can be seen in the following graph which illustrates the factors, which resulted from the factor analysis based on the questionnaire. The participants could evaluate with a five scale ranking scheme – 5 was best:

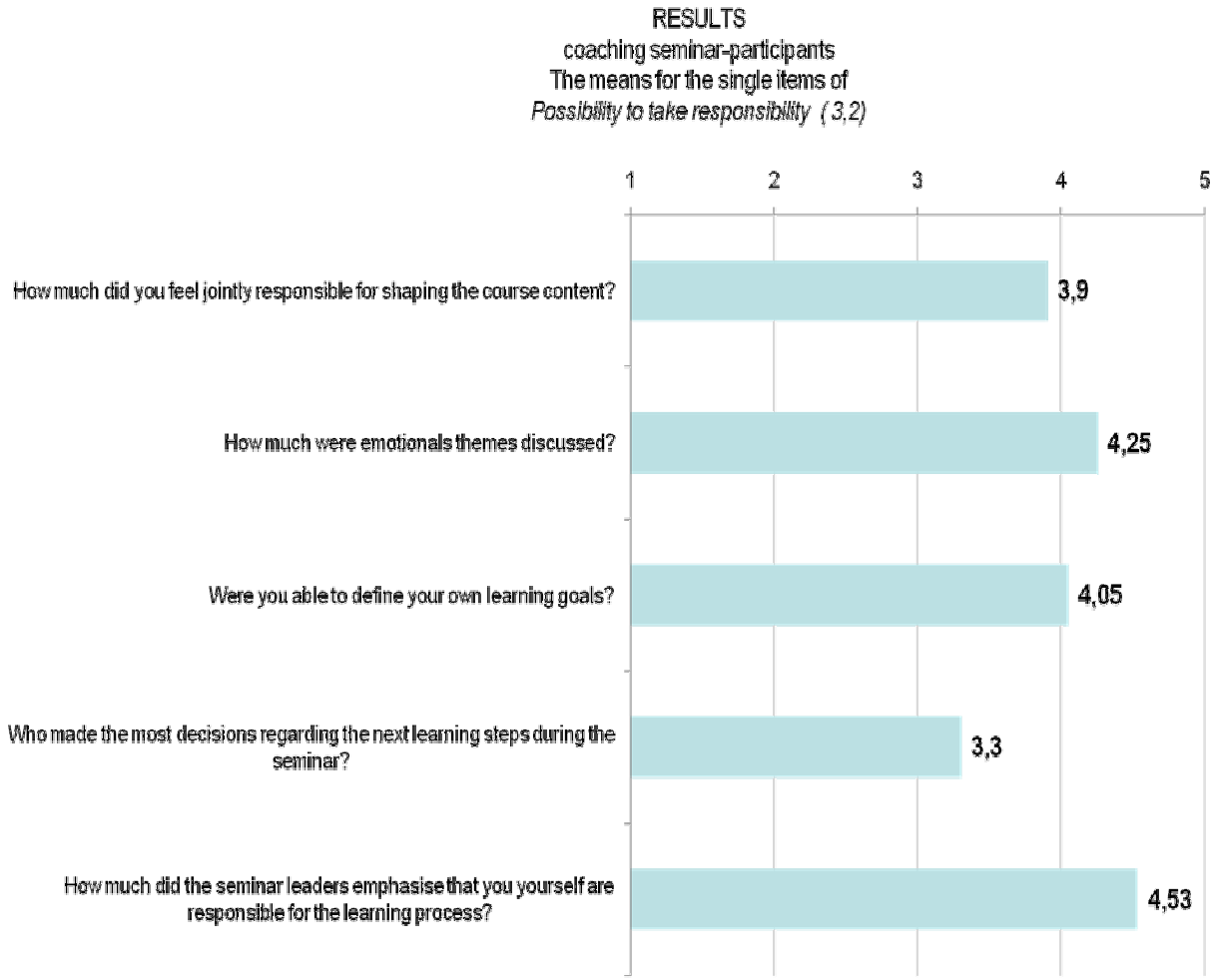


In the following the results of the separate Items (questions) are shown which form the six factors:

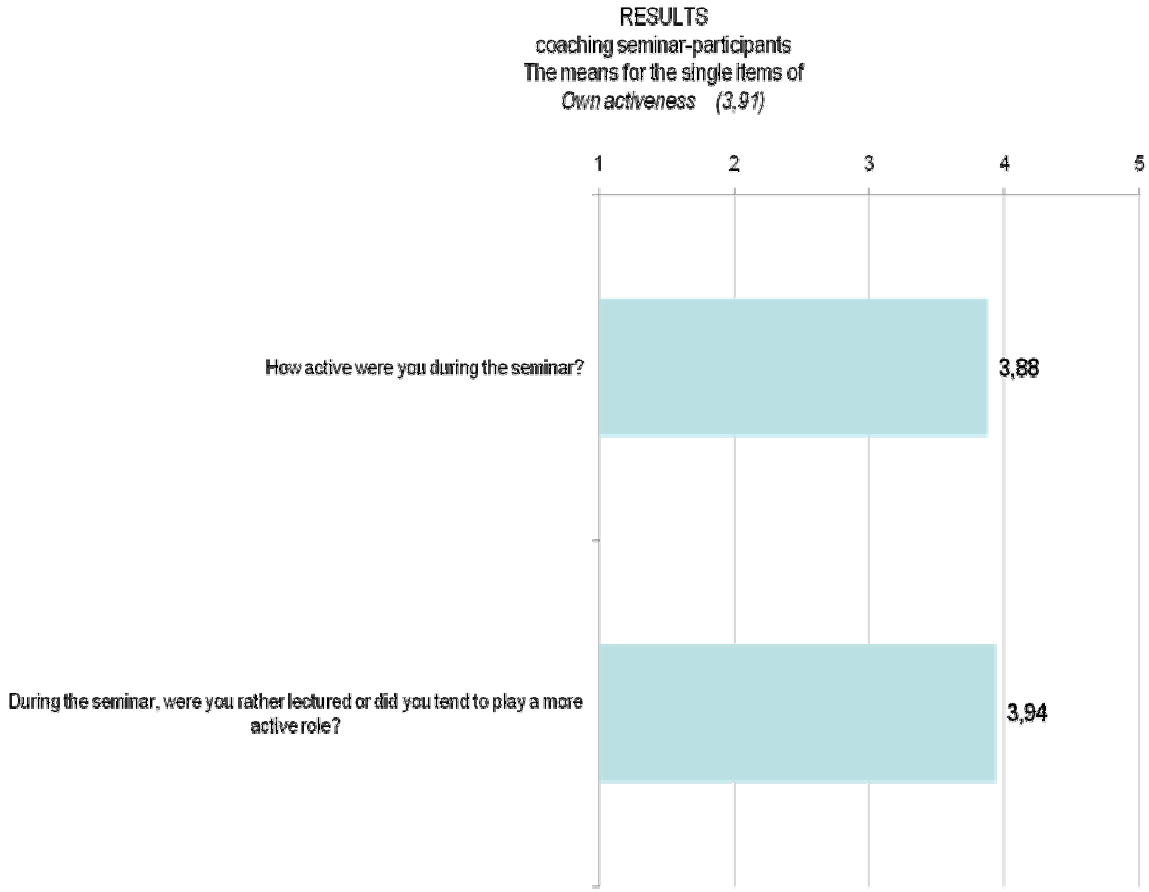
1. Personal growths as a driver:



2. Possibility to take learning responsibility (during the three days seminar):

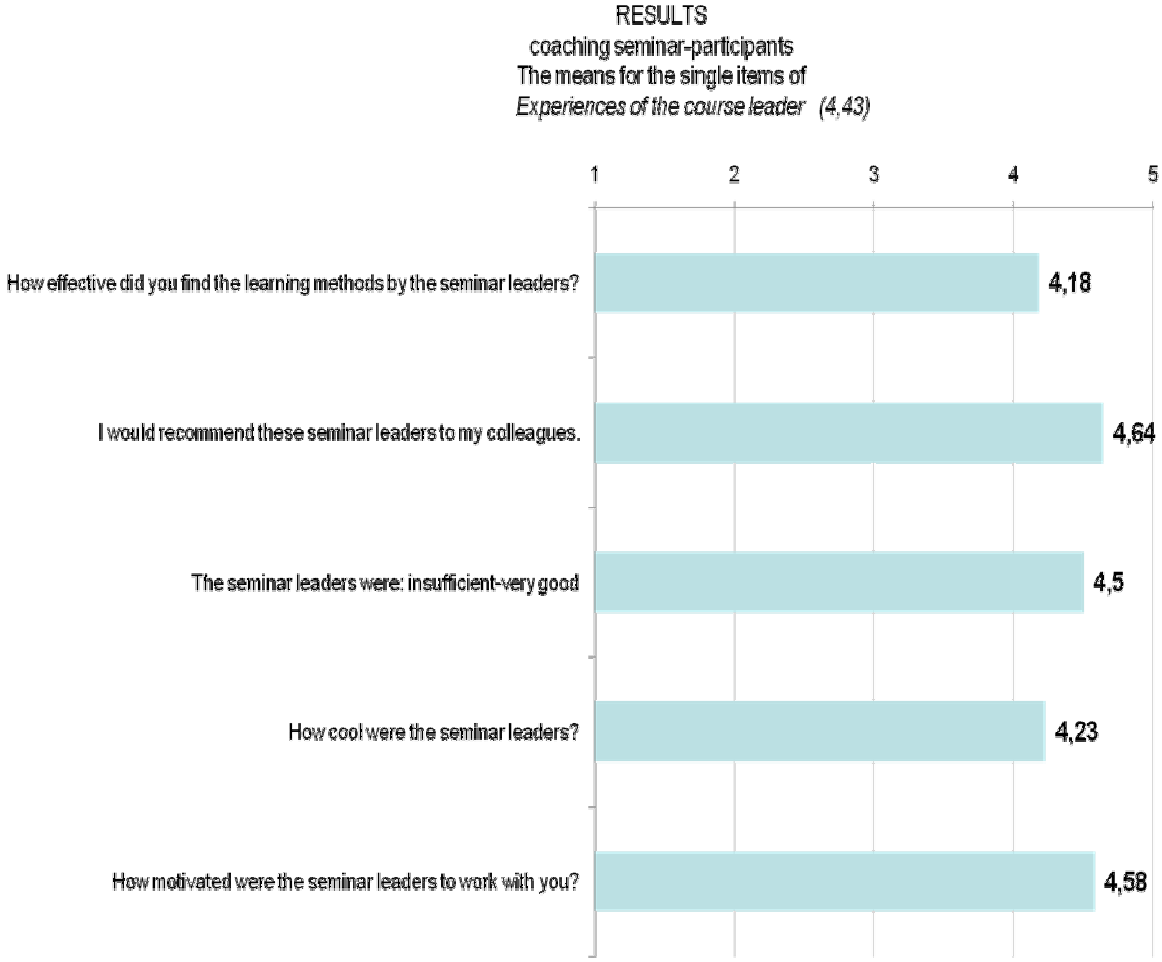


3. Activeness in learning process (during the three days coaching seminar):

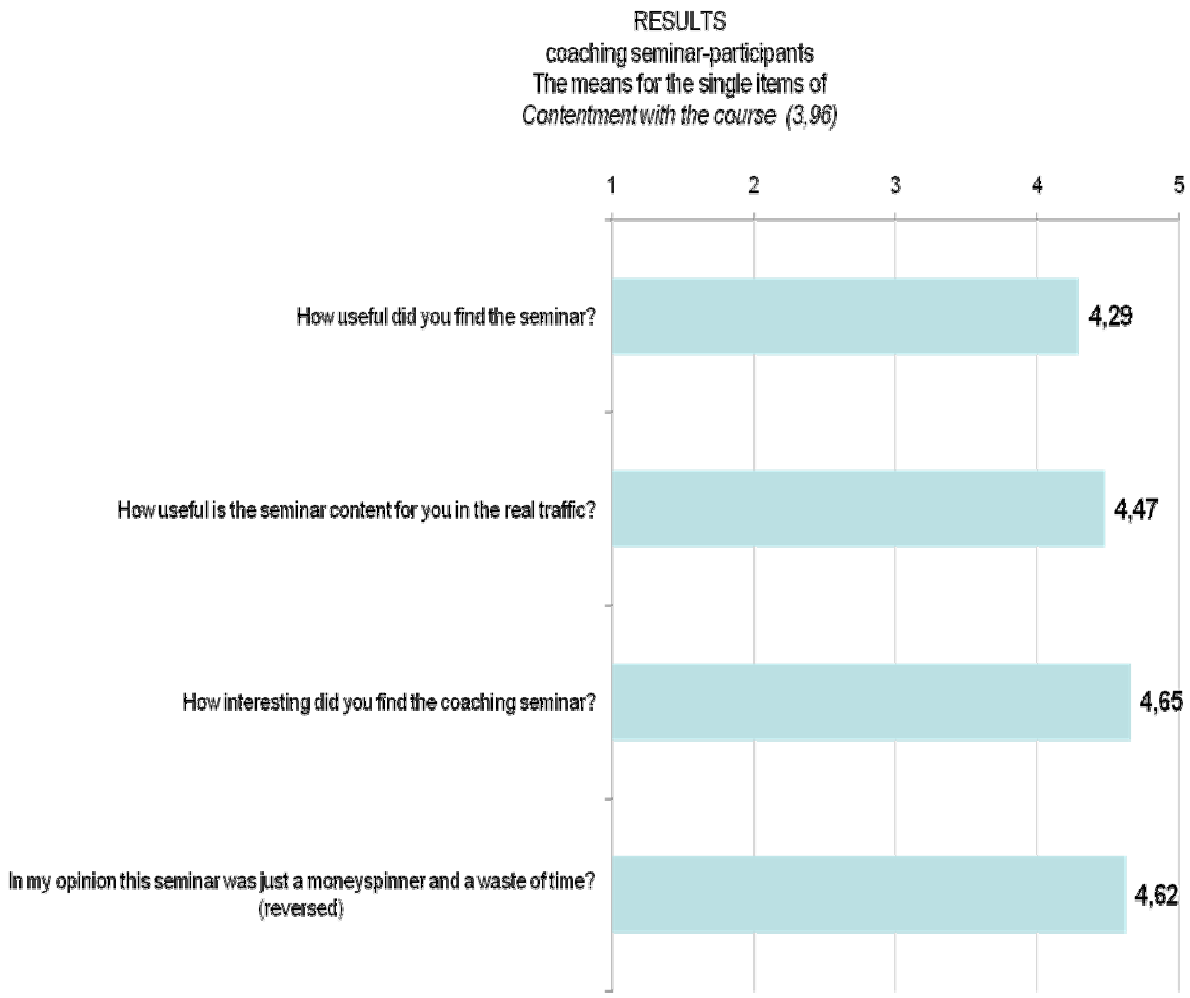


4. Interactivity in teaching style

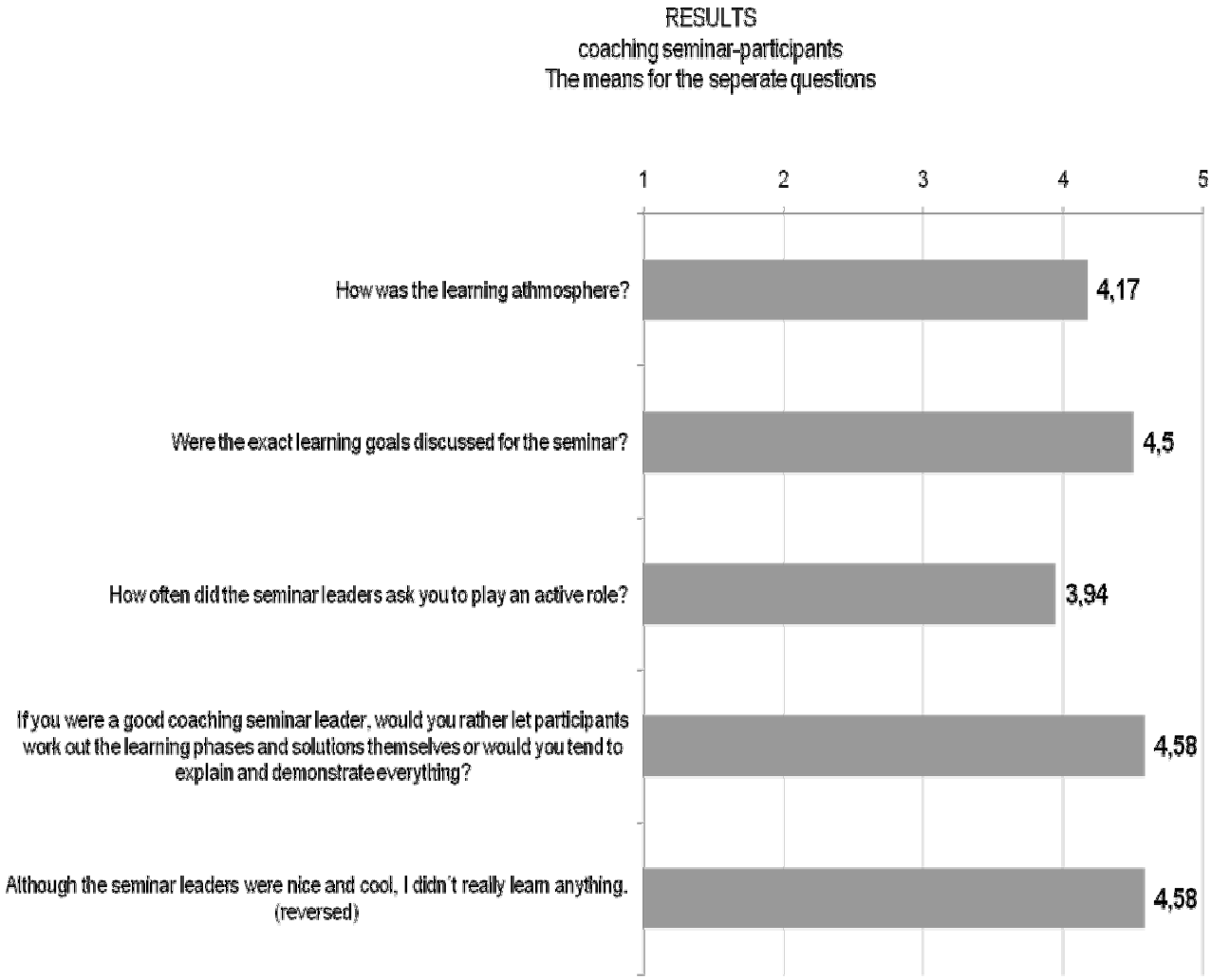
5. Evaluation of the two coaching course leaders



6. Evaluation of the three days coaching course



7. Results of separate further questions which were not included in the factors above:
(explanation of last but one question: they would rather let the participants work out... and explanation of last question: this question strongly was not agreed by the participants)



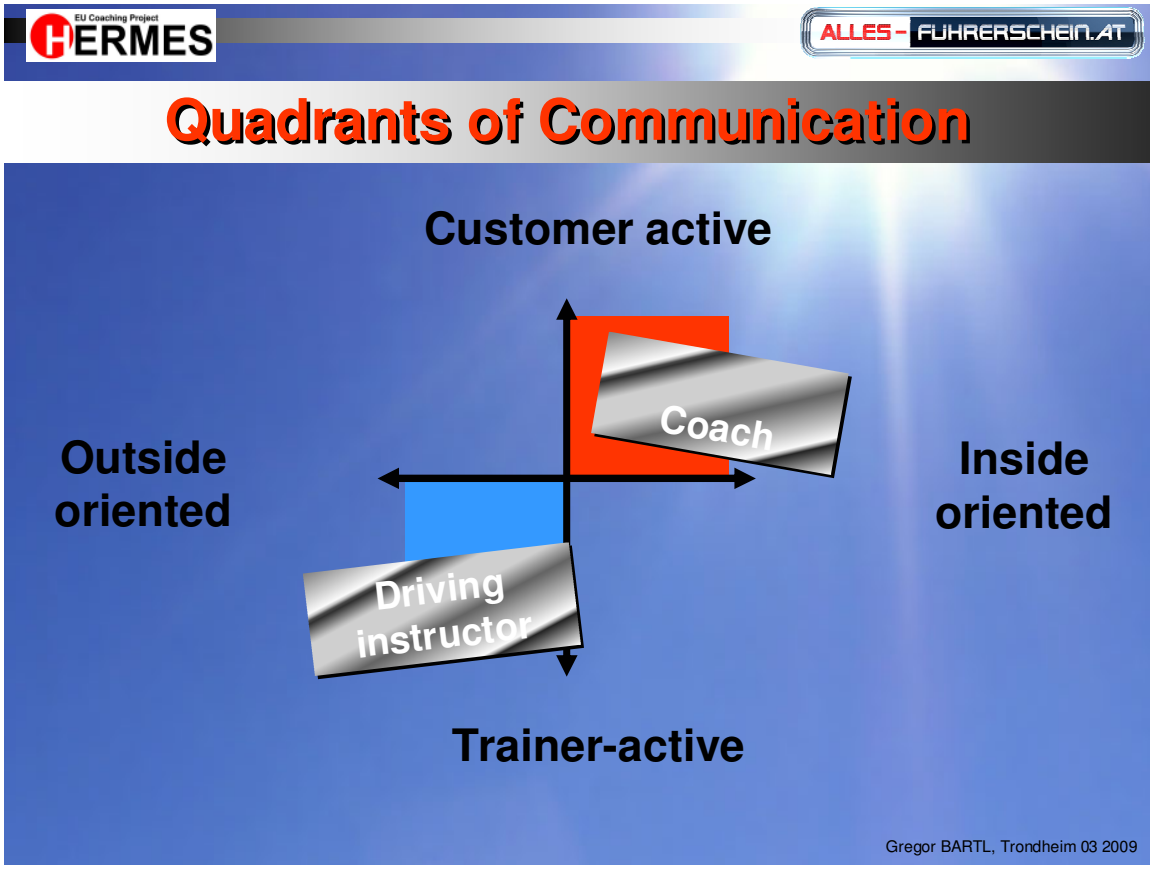
3. Results of audits

(G. Bartl, K. Urbanek & E. Keskinen)

20 audits were carried out during the months before and after the coaching seminar for the instructors. During the theory classroom lessons, during basic driving lessons, during feedback drives of the second phase and during the one day track training seminars of the second phase training the instructor's communication has been observed and categorizes by psychological and especially introduces auditor. As the instructors were the same persons in the before and the after phases the results can be compared.

The number of communications was counted and the average results are shown.

Type of communication:
One essential approach was to detect if the contents of the communication was rather outside oriented (lower levels of GDE-matrix or inside oriented (higher levels of GDE-matrix and if the communication was rather trainer or customer active. A detailed description of this approach can be seen in the HERMES state of the art report. In the following diagram this approach is illustrated:



Results for theory in classroom, in car basic training and in car feedback drives for second phase training:

As illustrated in the following two grids the average numbers of communications is described, separately for theory (in green), in car basic training (blue) and feedback drives (red), divided into the parts introduction, lesson and final discussion:

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Instructors' audition data summary
The percentages of the communication type means – audits before coaching seminar

Introduction

Co	2,4	0,8	Ci
0	3,50	0,25	0
To	95,50	0,75	Ti
100	96,4	0,4	0

Lesson

Co	8,00	1,71	Ci
20	3,25	0,75	0
To	93,25	2,75	Ti
80	88,71	1,57	0

Final discussion

Co	1,5	1,25	Ci
0	1,50	0,25	0
To	97,00	1,25	Ti
100	91,75	5,5	0

Feedback drive

Driving lesson

Theory lesson

Co+Ci+To+Ti=100%

Co= Customer active outside communication (facts...)
Ci= Customer active inside oriented communication (believes, attitudes...)
To= trainer active outside communication
Ti= trainer active inside communication

31

Hermes WP 6 Evaluation

Instructors' audition data summary
The percentages of the communication type means
In car and theory – audits after coaching seminar

Introduction

Co	5,22	1,77	Ci
7,50	16,33	1,16	0
To	81,33	0,83	Ti
92,50	91,88	0,55	0

Lesson

Co	9,55	4,00	Ci
32,50	21,66	3,33	0
To	69,33	5,66	Ti
67,50	83,55	2,88	0

Final discussion

Co	7,77	0,55	Ci
4,00	13,00	2,16	1,00
To	83,66	1,16	Ti
95,00	90,88	0,77	0

Feedback drive
Driving lesson
Theory lesson

Co+Ci+To+Ti=100%

Co= Customer active outside communication (facts...)
Ci= Customer active inside oriented communication (believes, attitudes...)
To= trainer active outside communication
Ti= trainer active inside communication

(data: alles-fuehrerschein.at) 14

The results of the before as well as the after audits indicate that the main communication was focussing on the lower levels of the GDE-matrix and it was mostly trainer active. Especially in theory lessons no communication at all about inside oriented subjects – such as personal beliefs and attitudes – took place, neither before nor after. But a general trend can be seen in all aspects that customer activity was improved in a clear tendency, which follows one of the coaching principles: asking not telling.

Detailed types of communication:
The auditors also observed the number of the following communications from the instructors:

- Closed versus open questions
- Laud versus blame (critics)
- Positive versus negative humour
- Communication which decreases versus increases the learning responsibility of the customers
- Showmanship
- Communication which underlines the transfer of the elaborated knowledge into real life
- Finally the duration was checked in minutes.

There was no change from before to after, neither concerning the number of open nor the number of closed questions.

No change could have been observed concerning laud – only in theory lessons less laud took place.

A decrease in blame (critics) was found in the after phase.

Generally a little bit less of positive as well as negative humour was observed in the after phase.

Especially during the basic driving lessons and the feedback drives more communication was observed, which decreases the responsibility of the customer – which is a clear negative result. But at the same time communications which increase the customers' responsibility increased during the driving lessons and the feedback drives a little which compensates partly for the negative changes mentioned before.

Less showmanship was observed which is positive.

There was not change in the number of communications to transfer elaborated knowledge and skills into real life.

The total time spent increased during the after phase – primarily caused by a longer introduction and final discussion whereas the lessons remained about the same time span.

The detailed results are illustrated in the two following charts:

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Instructors' audition data summary part 1 before

	Introduction			Lesson			Final Discussion		
	FD	DL	TL	FD	DL	TL	FD	DL	TL
Closed questions	0,60	7,75	0,25	5,29	11,25	29,25	0,83	0,75	3,00
Open questions	1,60	1,25		1,86	3,75	1,75	2,83	1,00	
Laud		0,75		6,43	6,25	13,50	1,67	1,50	
Blame (/critic)		1,25		5,00	5,00	0,75	1,83	1,00	
Humor positive	1,00	5,50	0,25	6,00	5,50	5,50	1,17	1,50	1,00
Humor negative	0,20	0,75		2,00	1,00		0,17		
Responsibility trainer	0,80	3,25	1,00	6,86	11,75	11,75	1,33	1,00	
Responsibility customer	0,80	0,50		4,86	2,00	1,25	0,33		
Showmanship			0,25	0,43	1,75	1,75			1,00
Private small talk (+)	0,40	1,50	0,25	9,43	0,75	2,50			
Transfer n				0,43					
Transfer y	1,20	2,00		3,86	2,25	6,25	2,17	0,50	1
Duration (min)	5,80	7,75	2,25	80,71	76,67	74,33	10,50	3,50	5,00
Auditor (n)	5	4	4	7	4	4	6	4	1

FD= Feedback drive

DL= Driving lesson

TL= Theory lesson

Values are means (sum of values/n) of the action

30

Hermes WP 6 Evaluation

Instructors' audition data summary

Part 2

	Introduction			Lesson			Final Discussion		
	FD	DL	TL	FD	DL	TL	FD	DL	TL
Closed questions	2,00	3,00	1,33	7,88	10,33	25,00	2,11	1,66	5,00
Open questions	1,00	0,83	0,33	3,11	3,00	1,75	1,44	1,00	2,00
Laud	0,11	0,50		4,33	8,83	5,25	0,88	1,50	
Blame (/critic)	0,11	0,33		2,33	2,50	0,75	0,44	0,33	
Humor positive	1,00	2,00	0,33	6,00	3,33	7,75	0,55	0,33	1,50
Humor negative	0,11	0,16		0,88		1,50			
Responsibility trainer	0,88	3,00	1,66	9,11	17,33	10,25	0,33	1,33	
Responsibility customer	0,77	1,16		5,22	8,33	3,00	0,11	0,66	
Showmanship				0,11	0,50	0,50			
Transfer y	0,33	2,00	0,33	4,00	2,83	9,50	1,22	2,00	1,50
Transfer n	0,77						0,11	0,16	
Duration (min)	4,55	12,5	6,00	82,77	76,50	88,75	6,55	8,50	7,50
Auditor (n)	9	6	3	9	6	4	9	6	2

FD= Feedback drive

DL= Driving lesson

TL= Theory lesson

Values are means (sum of values/n) of the action

data by alles-fuehrerschein.at

8

Results for track training:

During the track training the type of communication was observed during those parts where most of the communication took place: the introduction and the final discussion. The 4 before audits are shown in red letters as part 1, the two after audits in blue letters as part 2:

Instructors' audition data summary
The percentages of the communication type means
Save driving course

Introduction

Co	5,50 25	0 2,50	Ci
To	60,00 93,25	12,50 1,25	Ti

Part 1 (n=4)

Part 2 (n=2)

Final discussion

Co	10,00 25,00	0,25 27,50	Ci
To	40,00 89,75	7,50 0	Ti

Co+Ci+To+Ti=100%

Co= Customer active outside communication (facts...)
Ci= Customer active inside oriented communication (believes, attitudes...)
To= trainer active outside communication
Ti= trainer active inside communication

12

Especially in the final discussion a significant shift from trainer active communication about outside oriented subjects (lower GDE-levels) to customer active communication concerning inside oriented subject (higher GDE-levels) took place. Summarised these single case studies demonstrate that much more of customer active communication and much more of higher GDE-level themes can be subject of the final discussion of a track training.

Already during the introductory discussion an increase of more customer activity could have been observed and a slight shift toward more communication about the higher GDE-levels was also observed.

Detailed types of communication:

The auditors also observed the number of the following communications from the instructors:

- Closed versus open questions
- Laud versus blame (critics)
- Positive versus negative humour
- Communication which decreases versus increases the learning responsibility of the customers
- Showmanship
- Communication which underlines the transfer of the elaborated knowledge into real life
- Finally the duration was checked in minutes.

There was a trend that more questions have been asked in the after phase and this increase primarily came up from the open questions - which is positive.

There was a clear decrease in laud in the after phase and at the same time a dramatic increase in communication which increases learning responsibility of the student (laud is seen as decrease of own learning responsibility – power can be defined as the possibility to give positive or negative feedback). At the same time communications which decrease the responsibility of the learner declined significant. And also blame decreased considerably.

Negative humour decreased slightly and positive humour stayed about the same.

There was also a decreased in showmanship, but this communication element was also not overrepresented in the before phase of these single case studies.

The transfer to reality did not show a major change.

The total time spend for the trainings observed increase in the after phase concerning the communication modules (introduction, briefings and debriefings and final discussion) significantly and slightly for the practice.

Summarised, significantly more of coaching-style has been executed in the after phase during those single case studies of communication styles of second phase track trainings for novice drivers. It can be concluded that coaching style has a high potential to especially change the communication in track based safety training. The details are illustrated in the following two charts:

Instructors' audition data summary

Save driving course PART 1

	Intro-duction	Br. I	Ex. I	Debr. I	Br. II	Ex. II	Debr. II	Br. III	Ex. III	Debr. III	Br. IV	Ex. IV	Debr. IV	Br. V	Ex. V	Debr. V	Final Discussion
Closed questions	2,25	3,33	3,75	5,33	7,25	1,25	3,66	5,00	0,75	1,50	3,25	1,50	2,33	3,00		1,50	2,25
Open questions	1,50	0,33	1,00	4,00	0,75		2,33	1,00		1,00	1,75		0,66	1,00		2,00	1,25
Laud			14,50	2,00	1,50	13,75			11,5	0,75		16,00	1,00	0,25	23,75	1,25	1,50
Blame (/critic)			2,00		0,25	6,25			5,00	0,25		3,00		0,75	2,00		
Humor positive	4,50	1,66	2,50	2,33	2,25	1,50		1,00	1,50	0,50	1,50	1,50	1,33	1,00	4,75	1,50	1,00
Humor negative			2,50	0,33	0,25	0,25		0,50	1,00			0,25			0,75		
Responsibility trainer	6,50	2,33	47,50	1,33	3,00	36,50		2,25	34,50	1,00	2,50	36,25	0,33	2,00	40,75	1,00	1,25
Responsibility customer	0,50	0,33	7,50		1,25	2,75		0,25	0,25	0,25	0,25	8,50		0,75	0,50		
Showmanship	0,50	0,33	0,25			0,25	0,33		0,25								
Transfer y	1,25	1,00	1,50	2,33	3,00	2,75	2,33	2,510	2,75	2,50	2,00	3,50		1,50		2,75	0,75
Transfer n	0,25	0,66	0,50			0,25				0,25			1,00	0,50	1,00	0,25	0,75
Duration (min)	12,50	4,33	38,75	7,66	10,20	38,75	7,66	8,75	37,50	5,50	6,25	37,50	4,33	6,75	44,00	7,50	8,50
Auditor (n)	4	3	4	3	4	4	3	4	4	4	4	4	3	4	4	4	4

Br. = Briefing
Ex. = Exercise
Debr. = Debriefing

Values are means (sum of values/n) of the action

10

Instructors' audition data summary

Save driving course PART 2

	Intro-duction	Br. I	Ex. I	Debr. I	Br. II	Ex. II	Debr. II	Br. III	Ex. III	Debr. III	Br. IV	Ex. IV	Debr. IV	Br. V	Ex. V	Debr. V	Final Discussion
Closed questions	2,50	5,00		2,50	7,00	2,00	3,50	3,50	2,50	1,00	3,50	1,50	3,50	4,00		4,00	1,00
Open questions	3,00	3,00		3,00	3,00		2,50	0,50		1,50	1,00		1,00			3,00	1,00
Laud		2,00	6,00	1,00	0,50	5,50	0,50	0,50	12,50	1,00		11,00			5,00		0,50
Blame (/critic)		0,50	1,00						1,50			5,00			0,50		
Humor positive	2,00	2,50	1,00	1,00	1,00	2,00		1,50	0,50	0,50	1,00	1,50	1,00	1,00	2,00	1,00	1,50
Humor negative			0,50			1,00			1,00						0,50		
Responsibility trainer	2,00	6,00	8,50	1,00	1,50	26,00	1,50	0,50	4,50		1,50	30,00	2,5,	2,50	8,50	2,00	1,50
Responsibility customer	1,00	2,00	18,50		5,00	3,50	3,00	3,00	5,50	0,50	2,00	13,00	2,00	3,00	23,50	5,00	8,00
Showmanship	1,00										0,50						
Transfer y	2,00	1,00	1,50		2,50	2,00		1,00		1,00	2,00		1,00	1,00	1,00	2,00	1,00
Transfer n	0,50	0,50	0,50	1,00	0,50	0,50	1,00	0,50	1,00	0,50	0,50	1,00	0,50	0,50	0,50	0,50	0,50
Duration (min)	28,00	15,00	45,00	6,00	17,50	40,00	7,50	10,00	47,50	4,00	7,50	45,00	10,00	12,50	45,00	10,00	10
Auditor (n)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Br. = Briefing
Ex. = Exercise
Debr. = Debriefing

Values are means (sum of values/n) of the action

11

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