

Recommendations on future driving instructor standards in Portugal

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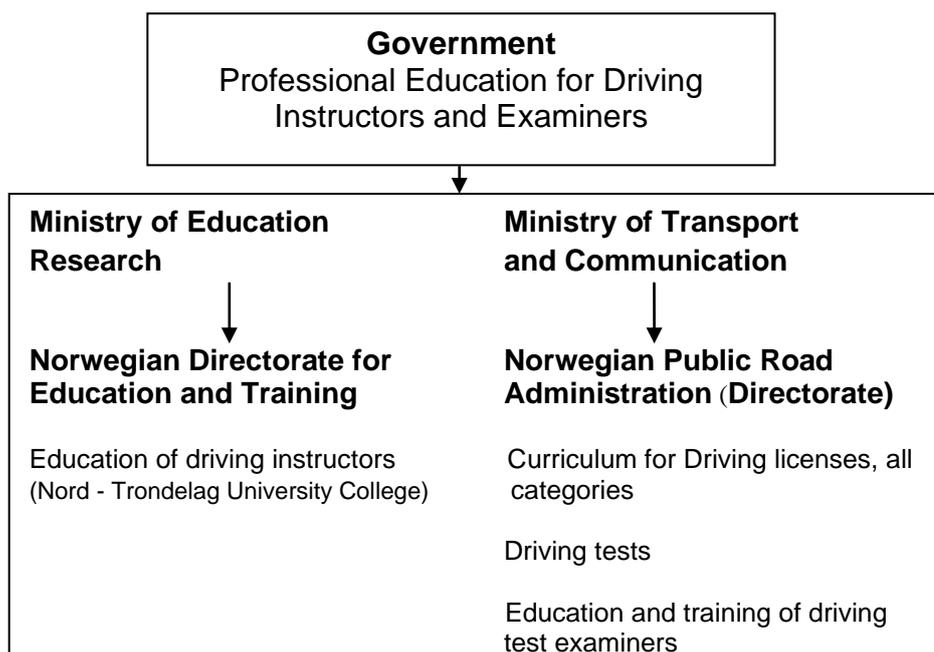
Recommendations on future driving instructor standards in Portugal

Section 1. Introduction

My recommendations on future driving instructor standards in Portugal (with some assistance from my colleagues at the Faculty) are mainly based on experiences from the Norwegian model for driving instructor education; its organisational structure, topics and objectives, taking into consideration our knowledge and information on the existing Portuguese system for driving instructor education and training. Therefore introductory a brief overview of the Norwegian Driving Instructor Education and driving licence system.

1.1 Driving Instructor Education and Training in Norway

Both driver training and driver testing are essential parts of the quality assurance system for novice driver performance. To maintain an acceptable quality in both these parts, the Norwegian authorities take responsibility for developing and maintaining a highly professional education for driving instructors and the driving - test examiners. The two most important ministries involved are the Ministry of Education and Research and the Ministry of Transport and communication.



The education of driving instructors is mainly carried out at North - Trondelag University College on behalf of the Ministry of Education and Research (North – Trondelag is a county in Norway). Nord-Trondelag University College has totally 4900 students and 550 graduating students every year. It is state run, financed by government funds, and organized into four faculties situated in Namsos, Steinkjer, Levanger and Stjørdal (small Norwegian towns).

1.2 The Driving Instructor Educational Program

The two-year Driving Instructor Program is located at our faculty in Stjørdal. Stjørdal has an international airport, is easy to reach for students and has an adequate traffic environment suitable for both our novice driver training (we also run an ordinary driving school, for some parts run by the students) and the educational program for driving instructors.

The ideas of the GDE-matrix are implemented in our program through its syllabus, the learning process and methods we use in teaching and tutoring our students. Our goal is to establish an extensive cooperation between the university college's professional staff and the students.

The program covers a comprehensive subject area, and students must take significant responsibility for their own learning through independent work. Teaching methods will vary between lectures, individual studies, working in groups, practical exercises, instruction, problem based learning, guidance and dialogue through coaching methods and techniques. The education is characterized by its cross-curricular nature and tight integration between theory and practice. All subjects are small pieces in an integrated whole.

We focus on the student's knowledge and skills both in how they drive and how they teach, particularly to be aware of the risk-increasing factors. Another important issue is self – evaluation and developing self insight in order to improve their own performance and to help the learner-driver to assess their own driving skills and behaviour. We use and teach coaching techniques in these parts, using dialogue as a tool, individually or in groups, between students and between students and learner-drivers.

The subject profile is characterized by a pedagogical approach which hopefully gives our students the necessary theoretical foundation for a professional teaching performance.

The program shall bring about a consciousness on the fact that driving instructors have to focus on the individual driver and at the same time take into consideration the environmental and safety – aspects and needs in our society.

We also think that our practical training program increases the student's ability to analyze traffic situations and to be conscious of his own choices of actions in evaluating the risk level in traffic. The

subject “Traffic and psychology” as well as pedagogical and vocational items also play an important role here.

The content of the education and the structure is shown in the following model:

SUBJECTS	ECTS	SEMESTER			
		1	2	3	4
Technical subjects: Auto mobile engineering and physics	10				
Traffic and Law	10				
ICT in teaching	5				
Traffic and Psychology	10				
Educational Theory/Vocational didactics	30				
Practice	30				
Traffic in society	10				
Candidate Theses	15				

Figure 1. Subjects and credits in the Norwegian educational model.

The Norwegian Public Roads Administration (NPRA) approves or disapproves persons who apply for a certificate as a driving instructor on basis of their certificate from the University College, their criminal records, category of driving licence and health report.

From the basis of the two-year syllabus further advanced training programs for driving instructors and examiners can be developed for different target groups. The Advanced training Programs are financed by the students (instructors) themselves (or most common, by their employers).

The majority of driving test examiners in Norway have the same basic education from the University College as driving instructors. In addition to this, examiners go through an internal training program designed by NPRA to qualify. The University College collaborates with NPRA in some of these programs, and offers additional educational programs at a college level to the “test examiner trainees”.

1.3 Qualifications of those who provide training to driving instructors

Generally, the minimum requirements for being a permanent employee (teacher/tutor/ instructor etc) at a University College level, are a master's degree or higher (minimum 5 years of studies at a University or University College level). However, temporary employees may have lower degrees or another adequate education. For those who are employed as tutors in practical driver training and classroom management and teaching, education and experience as a driving instructor is required in addition to the minimum qualification.

Section 2. Entrance and competence requirements

2.1 Introduction

These recommendations are partly built on my “insufficient” knowledge of the present Portuguese model, and as mentioned in the introduction, the Norwegian educational model for driving instructor training. I recommend a moderate extension of the present educational model regarding its content, duration and organisational structure. In other words, I recommend an “evolution” in preference to a “revolution”.

The GDE matrix is or should be the basis for both novice driver training and instructor training. I therefore suggest working out a National Curriculum for driver training, in addition to the development of a national educational program (and curriculum) for driving instructors. A Curriculum for driver training with its didactical recommendations and content will from my point of view form most of the basis of the educational program and the driver training and testing.

2.2 Requirements for persons wishing to become driving instructors

The present educational entrance requirements for the driver instructor training program in Portugal are as I understand a full secondary education or equivalent. This is as far as I know similar to the requirements in the rest of Europe. The requirement - question is not easy to answer, because it depends on what kind of persons one wants to recruit. Traditionally (in Norway as well), instructors have been recruited from transport or car – related professions such as taxi drivers, bus drivers, truck drivers and persons working in a garage. In one way or another, these persons tend to have a car - interest as their main motivation for entering the driving instructor profession (not scientifically proved, just based on experience). This has both advantages and disadvantages. The advantages are that many of these persons have a lot of driving experience that will benefit the learner drivers. A disadvantage could be its impact on the balance between male and female instructors. In the late eighties there were only 10% female instructors in Norway, increased till about 25 - 30% in 2009

(based on figures of applicants to the University College Driving Instructor Education). A part of this development is probably connected with our raising of the entrance requirements from a secondary educational level to a college level. This is a wanted development for many reasons, primarily because of the female's potential positive influence on driver behaviour amongst young male drivers. Other effects of the increased entrance level we have seen in Norway are an elevation in social status for the driving instructor profession in general, and a salary increase in some parts of the country. This might also have something to do with the shortage of driving instructors we have seen in Norway the last 3 – 4 years.

I am neither familiar with the educational system in Portugal, nor their need for driving instructors. How will an increased educational entrance level influence the profession, amount of applicants and so on. These are critical issues to discuss.

Therefore I recommend maintaining all the current requirements mentioned in the project description. I cannot see that there are any age – limitations (upper and lower), I would recommend adding those to the list of requirements.

2.3 The competencies required for driving instructors

The competencies to be developed during a teacher, instructor or tutor education are being discussed among educationists and experts. These are important discussions that enable us to focus on the meaning of the word competence, how it manifests itself and how it can be assessed. “Developing a professional competence” is an expression frequently used in the Norwegian educational debate (and in other countries as well I think), meaning in this context that driving instructor students or trainees during their studies, collaboration with other students and practice gradually will develop their competence and “grow” into the driving instructor profession.

A common way of describing competence requirements in teacher education in Norway, are as follows, using “professional competence” as a superior term and the others as underlying concepts: Educational competence, Social competence, Professional ethical competence and Change and development competence.

Educational competence

This refers to a frame of educational references for their instructional and tutorial activities, meaning their ability to make plans, carry them out and evaluate them, focusing on the most suitable way of training learner-drivers within the authorities' strategy for better road safety. Pedagogical or didactical competence is a part of this, made visible by combining modern pedagogical/didactical theories, analysis of the National curricula, laws and regulations into a whole. It also covers their ability to

create a constructive and inclusive learning environment.

Social competence

To develop social competence is of vital importance for driving instructors. It has an impact on their ability to cooperate with learner-drivers and meet them with their individual and cultural assumptions and develop their joint responsibility in the work of teaching and learning. A well - developed social competence is also of vital importance for cooperating with colleagues, management and other participants within the national strategy for road safety.

Professional ethics competence

This is also an important competence, in accordance with the basic values which training and work is built upon. A consciousness of professional ethical behaviour is from my point of view a crucial competence for working as a driving instructor; in tutoring, teaching or training situations and in the local society and other arenas.

Change and development competence

This competence describes our ability and willingness to adapt to the continually change and development in teaching methods, new technology, learning theories, science and research. To face new ideas, theories and products (for tutoring/teaching purposes) with an open but critical mind is essential for all teachers and instructors, driving instructors included.

2.4 A competence model

This model from a Norwegian Governmental Research Work from 1991 (The Blegen Committee of inquiry, Norwegian Public Work, 1991) represents another way of presenting competencies required for teachers, students and driving instructors as well. I would recommend taking this model into consideration in your further work on a Portuguese educational model for driving instructors. You can even use a car with four wheels as a metaphor for this model, each wheel represents a competence that has to be well developed and maintained to keep the car going and in balance.

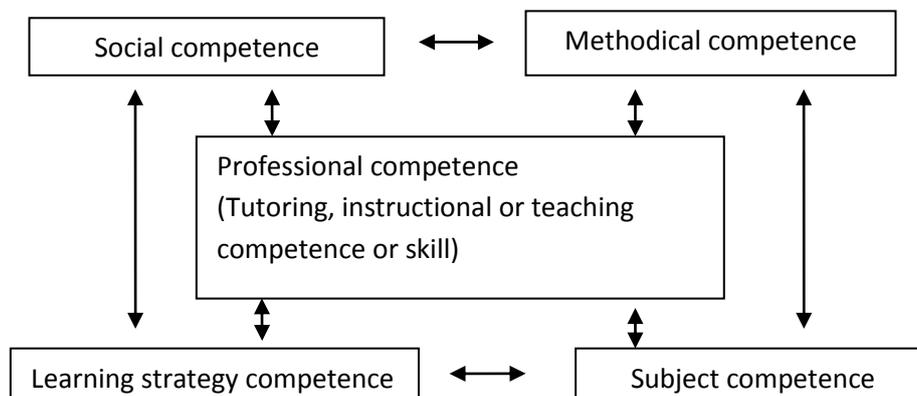


Figure 2. A competence model for driving instructor education and training

The arrows indicate the connection between the various competencies; they are to be understood as dependent of each other, a deficit in one part will lead to an insufficient professional competence. *Professional competence* is the main objective in this model. This category summarizes the four sub competence categories, and the standard and instructor professional competence depends on them.

Social competence in this model can be explained as above. It includes our abilities in handling inter-human relations and conflicts, to see a problem from another person's perspective and our willingness to postpone your own needs if that benefit other persons. Driving is often referred to as a social skill (Moe.D, 1989. Kjøreprosessen, Eng: The process of driving). Social competence often develops as a result of being a participant in for instance group activities during the education period, sometimes even unintended (not planned).

Learning strategy competence refers to knowledge on how we learn and develop skills and knowledge (learn to learn). The term "lifelong study" is a part of this. This is an essential competence for personal development and ability to adapt to new ideas and theories (similar to the competence *Change and development competence* mentioned above). This competence does not deal so much with learning theories, more on individual strategies on learning.

Subject competence includes a number of theoretical and practical sub – competencies needed to understand and enable us to explain the different elements in the traffic system and the interaction between them. The elements are the road-user, the vehicle, the laws and prescriptions and the road and the road system. Described as a model:

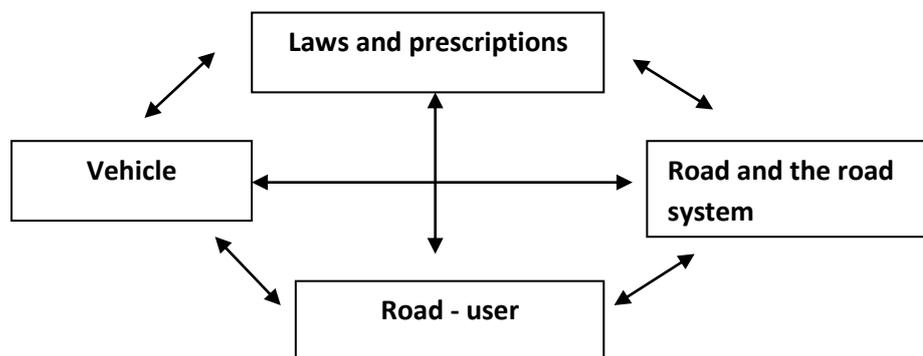


Figure 3. The Traffic System

The arrows indicate the interaction between the elements. In accident analysis experts (and others) often use a system model like this in their work. Information, knowledge and insight in these different elements and the interaction between them should form the core syllabus in the driver instructor

education. Topics like vehicle knowledge, developmental- learning- and behavioural psychology, law, accident rates and statistics, road systems and regulations and so on, are essential topics.

Driving skills or “driving competencies” are other important topics within the category *subject competence*. Driving instructors shall possess a high driving standard, meaning a safe, economic and environment - friendly way of driving. The content of this competence category is further described in the next chapter.

Methodical competence refers to teaching or instructional skills. A driving instructor has to master various teaching or tutoring methods; from classic instruction to coaching in in-car lessons and dialogue – based teaching and classroom management skills in theory lessons.

Topics from educational psychology will form a platform for the didactical approach, and is a central part of developing methodical competence. Lesson planning and evaluation, curriculum and objective analysis, questioning and feedback techniques and so on, are further examples of competence areas to be developed within this category. These elements will be more detailed lined-up in the next chapter.

Section 3. A module – based educational model

The recommended content is adapted to some of the main requirements for training of driving instructor candidates stated in the EU MERIT project of 2005, and related to the basic ideas of the GDE matrix (Goals for Driver Education).

I recommend a module based educational program consisting of 7 “independent” modules to make it more flexible. The modules are:

1. Traffic in society
2. Traffic and psychology
3. Traffic and law
4. Technology subjects
5. Educational psychology and professional didactics
6. Practice
7. Apprenticeship period in a driving school

The order of the modules can vary, but I recommend module 5 to be closely integrated with the practical instructional training in module 6. This means that these two modules must be carried out simultaneously. I highly recommend that the trainees have finished module 5 and 6 before they start their apprenticeship period.

A written test (or paper) at the end of each theoretical module (1 – 5).

The module programme as it is described here covers the required competences mentioned in the model in section 2.4.

I recommend a 300 hours educational period, including practical driving (developing your own driving skills) and instruction. I may seem ambitious to cover all these topics within the limit of 300 hours, but it is a starting point as I see it. The listing of topics below is not meant to be the complete content. I have listed the topics I find most important to implement in the model.

The recommended content and amount of lessons in each module are described below.

MODULE 1: TRAFFIC IN SOCIETY (10 hours)

- Road safety-related statistics, accident rates national and international for different subgroups of road users
- Transport, environment and road safety
 - Systems approach to traffic safety
 - Man-, vehicle- and road perspective in driver training
 - Costs of traffic accidents, estimates of human costs, society cost, and health cost etc.
 - Effects of traffic on health, mobility, economy and environment
 - Available travel modes, public transport
 - Journey planning
 - Models for traffic flow, density, rush hours,
 - Time of day, darkness, dusk and dawn
 - Seasonal and weather differences, snow and ice, fog, rain
 - Time management
- Road accident procedures
 - Basic procedures at a scene of an accident
 - Practical skills in basic life-saving first aid at road accidents

MODULE 2: TRAFFIC AND PSYCHOLOGY (50 hours)

- Cognitive psychology
 - The driving process model
 - Perception and visual attention
 - Mental workload
 - Routine in traffic and automation of driving skills
 - Overconfidence and calibration of subjective driving abilities in traffic

- Risk compensation theory
- Individual aspects related to safe driving
 - Age and gender
 - Personality factors
 - General values and attitudes
 - Intelligence, education and learning style
 - Disabilities, special needs, vehicle adjustment
 - Diseases and impairments (including alcohol and drug use)
 - Feeling of invulnerability (zero-risk theory)
- Social aspects related to safe driving
 - Group norms and peer pressure
 - Cross-cultural issues
 - The socialization process
 - Lifestyle
 - Socio-economic position
- Decision making and behaviour in trip-related choices
 - Health status and driving choices
 - Alcohol and drugs, fatigue and emotional state
 - Distractions (e.g. mobile phones) and inattentiveness
 - Single vehicle accidents amongst novice drivers (a major problem in Norway)
 - Peer pressure in the car, passengers, reason and motives for driving, influence on
 - Accidents and driving style
- Driver behaviour
 - Behaviour in different traffic situations (junctions, motorways, overtaking etc.)
 - Speed adjustment, general and in different road environments and situations
 - Cooperation with other road users and clearness about own intentions
 - Hazard perception and dangerous situations, (animals, vulnerable road users, icy spots etc.)

MODULE 3: TRAFFIC AND LAW (30 hours)

- Traffic rules and regulations
 - Existing traffic rules and their applications
 - Increased internationalisation and travelling between countries
 - Road users who are not obeying traffic rules, and driver's ability to cope with them

MODULE 4: TECHNOLOGY SUBJECTS (40 hours)

- Vehicle functioning
 - The functioning of the vehicle and its different subsystems related to safety (airbag,
 - Seat belts, brakes, anti skid systems, tires, chairs, child restraints, neck support etc,
 - Benefits of different safety systems
 - Fuel consumption and environment
 - Legislation concerning vehicles and their subsystems
 - Basic maintenance of vehicle and vehicle subsystems, particularly in relation to
 - Road safety and environment
 - Principles of EuroNCAP (including pedestrian-friendly ratings)
 - Crashworthiness of vehicles
 - Crash types, crash violence and injuries
- Vehicle control
 - Safety check of the vehicle

MODULE 5: EDUCATIONAL PSYCHOLOGY AND PROFESSIONAL DIDACTICS (100 hours)

The instructor shall have knowledge and skills relating to the following educational tasks:

- Communication, teaching and motivational skills
 - Educational psychology, relevant learning theories
 - Lesson planning, forming objectives and lesson evaluation
 - Professional communication, (establishing the appropriate relationship for learning), questioning techniques and dialogue techniques
 - Basic teaching methods (demonstration, informing, setting tasks, checking)
 - Advanced teaching methods (active learning methods such as coaching,
 - Moderating group activities, developing and giving feedback, etc
 - Selection of specific teaching methods according to specific educational objectives and driver's needs
 - The need to adapt to different learning styles
 - Motivational techniques
- Assessment skills
 - Assess driving skills of learner drivers, identify shortcomings and address them
 - Effects of the personal characteristics of the learner driver on safe driving
 - Self-assessment and self awareness

- Knowledge of curriculum and test requirements
 - The objectives of the national curriculum (or law) for learner drivers
 - The requirements and procedures of the driving test for driving license candidates

MODULE 6: PRACTICE (70 hours)

- Commentary driving and developing one`s own driving style and driving techniques
 - Manoeuvring skills
 - Driving in traffic skills
 - Commentary skills
 - Vehicle control on low friction
 - Vehicle control in high speed
 - Influence of the laws of nature on vehicle dynamics and movement
 - Sitting posture
 - Develop a social, defensive and environmentally friendly driving style
 - Ability to intervene safely while a learner driver is at the wheel
- Supervised instructional and tutoring training (of learner drivers)
 - Initial instructional and teaching (classroom) training with an experienced and trained supervisor present

MODULE 7: APPRENTICESHIP PERIOD IN A DRIVING SCHOOL (3 months)

- Instructional and teaching training (on – road and classroom, some lessons supervised by an experienced driving instructor and some of them of on their own)
 - A log or “diary” used as documentation
- Practical tests at the end of the period
 - Assessment of practical driving skills (with comments) – similar to the present test conducted by a supervisor or others appointed by IMTT
 - Assessment of instructional and teaching skills both in classroom and in car, teaching ordinary learner drivers conducted by a supervisor or others appointed by IMTT
- Licensed as driving instructor

Section 4. Organisation, methods and quality assurance

There are of course several ways of organising and implementing this module – based driving instructor education. The module structure is meant to be very flexible both for students/driving instructor candidates and the persons or organisation that conduct it. My recommendation is to moderately extend the existing model of 280 hours of basic education plus a six month apprenticeship period, without a considerable prolonged educational period. If you are a “full time student”, you would be able to finish your education and being approved as a full licensed driving instructor in approximately 8 – 12 months, which also should be possible as a full time student according to the module – structured model. As a part time student, you should be able to finish within 24 months, depending of course on the number of modules you attend to.

I will recommend module 6 and 7 to be organised similarly to the previous (present) instructor training model. The IMTT - accredited centres are responsible for the initial, supervised driving, instructional and teaching training. I presuppose that the centres have experienced and qualified personnel to provide such training with satisfactory quality.

Teaching of the theoretical modules (1 – 5) should be located to just one (or very few) centre. This is because I think that competent personnel will be a critical factor (which I don` t know). So this part must be further discussed. Each module can be organised as concentrative – based lectures, lasting from 3 – 5 days (or more).

The competence of the practical tutors/instructors and lecturers is the most critical part of the training program as I see it. If this competence not is available within the present system, step one must be to educate supervisors for the practical training, and look for (and recruit) qualified persons to lecture other parts of the program.

Module 7 will be provided by ordinary driving schools, where students alternate between tutoring and teaching observation and practicing themselves.

4.1. Methods to be used in driver instructor training

For theoretical or knowledge-based module subjects, there are several methods to be used. Ordinary lectures of course when students are gathered at the campus (centre), problem – based or problem - oriented methods which start with a question or forming a problem described and discussed in a paper or a project assignment (individually or in groups). A digital learning platforms like “It`s Learning” and “Classfrontier” (commonly used for educational purposes in Universities and University Colleges in Norway) can be used for a computer based approach between the lectures given at campus. This can be used for group discussions, task solution and so on. A personal day to day (or weekly) log can be

written and stored in the students own digital storage room.

The methods used in teaching and instructional training, must reflect the various teaching techniques to be used in practical teaching and instruction. This means a wide range of methods from basic instruction to coaching techniques.

4.2. Developing necessary teaching skills

There are two factors to be considered when discussing this topic; 1) as a driving instructor (or teacher in any subject) you must be an expert on the various topics you are teaching and 2) you must be an “expert” in tutoring, teaching or instructing these topics in a classroom or in “on – road” lessons. In my opinion cover the recommended module – based model the necessary skills in both areas.

4.3 Quality assurance and control

The most critical part in the model, is as mentioned before, the competence of the practical coaches and lecturers. Establishing a system (if it`s not already there) with a professional and experienced supervisor (or several) approved by a public organisation (IMMT?) in each training centre must have first priority.

Further on, I recommend a system where trainees and tutors report their activities and achievements, enabling supervisors or others to continuously monitor (if necessary) each students work and progress. Developing a digital system (if it is not already available) is perhaps needed for this purpose.

I also recommend that driving schools offering a 3 months apprenticeship period for students are monitored by a supervisor during the training period. I would also prefer that these driving schools document that they fulfil the minimum required standard both in administration and teaching skills.

4.4. Training for existing instructors

This topic is rather difficult for me to give any recommendations for. We have no periodic training for existing instructors in Norway (except from some voluntary courses that`s being offered). If you are a licensed instructor, you have your license until the age of 70 if you don`t have you license withdrawn for some reason.

I will, however, point out that if the educational system is to be changed, there should be offered a post-qualifying education to existing instructors (perhaps mandatory if found necessary). In that case, I would recommend module 5. Other modules as well, but I consider this to be the most important and critical regarding teaching and coaching skills.