Indicator 1: **A supporting and regulating legal and organisational framework**

Legal regulations as well as the organisation of work provide the necessary framework for the implementation and, if applicable, recognition of CBT and SBT. This applies especially to the legal framework provided in the context of EC directive 2003/59 and, if necessary, further legal regulations having influence on the implementation of such training alongside regular work as a professional driver. Besides legal aspects also the work organisation provides the learner with the necessary time and framework to participate in CBT/SBT and with the necessary support to transfer newly gained abilities into practical work.

Currently situation in Finland is that there are very detailed provisions for the professional qualifications of the trainers. The trainer must have the strong practical experience of the substance and sufficient pedagogical skills. This means in practice that the training can be used a variety learning applications and simulations, but training must always be guided by the trainer who meets the eligibility requirements. E.g. self-study through a network is out of the question. The same applies to simulation training. Distance learning is possible, as long as the above will fulfilled, requirements have been met, and the trainer will be able to ensure that the students are present at all time and (for the last) the training takes place at the time indicated in advance (notification date of a training day must be made in 10 days before the training day). Thus, for example. computer based applications for students must be implemented somewhere in the computer lab or in an equivalent state and there must be administrator spot. The training shall take place in a state of physical space (i.e. training location "virtual learning environment" is not valid). Basic individual driving administration have been approved for training a certain number of hours in a simulator, but the simulator must be pre-approved to this purpose (this does not apply with practical exercises of defensive driving) and in practice the simulator is then a high-range driving simulator, which is a physically correct bus or truck look-alike / sized and it can at a time with one trainer to be one of the student. Intermediate or mid- or low-range simulators are not accepted, other than the mandatory proactive driving practice drills.

SCENARIO

National legislation is amended in such a way that computer-based training may be educational software approved for use in the training of professional drivers' qualifications without presence of instructors. Furthermore, resign the compulsory number of hours and go to the measurement of knowledge. So that when the skills are reached what have been taught – you can get the performance labelling. Furthermore, the amended guidelines for the authorities so that educational facilities do not need to be a physical space, so it can also be a virtual space (e.g. a personal computer, where the login is through the reliable strong authentication).

Simulation-based training moves in accordance with the above. The measurement of training days,

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skills, competencies and objectives adopted in skill-based learning with the most suitable simulator. Many of these exercises may also be practised in a mid or low-range simulator instead of heavy simulator. At the same time can be adopted more effective learning outcomes for simulation and to abandon the restrictive number of hours of education. Determined and approved by the authorities of the educational objectives of the event and when they have the skills, then education will be completed.

Indicator 2: **Comprehensive information and counselling**

There are information and counselling measures put in place in order to:
- *inform end-users and decision-makers objectively about CBT and SBT,*
- *enable learners, employers and competent-bodies to decide if a CBT/SBT offer meets their requirements,*
- *enable learners and employers to decide if a the training format CBT/SBT is suitable for an individual learner and/or for a certain learning need,*
- *select and adapt courses to individual training needs of a learner and/or a company and*
- *provide learners and contact persons in their company with the necessary guidance and facilitation before, during and after the course attendance/ implementation.*

Exchange of information in Finland concerning professional qualifications of training between government, educational institutions and the world of work are managed centrally through Finnish Road Safety agency TRAFI. TRAFI informs the Director of Education centre and then they inform the trainers. Education centres again inform the employers in a field of heavy traffic. Individual driver is also possible to contact TRAFI through their websites about the matters of training. It does not, however, directly provide information as to what constituted for each company / driver with the best training programs and what kind of implementation method (class / policy with the teaching / computer or simulation-based training) would be the best for their needs. Also, the information what flows to the authorities (that is, they who accept training programs) is not neutral in terms of the training event will be carried out, what goals it has and what kind of expertise is required / what kind of skills it produces

SCENARIO

Develop a own portal between Finland's educational institutions, public authorities and businesses / students which can be comprehensively assemble information of the offered training courses and to collect / provide feedback on the different educational institutions for training days and methods of their implementations. In this way it is possible to form a broader and more realistic picture of the offered training implementations and also on what kind of knowledge they produce. In addition, to the same portal can be equipped with an application that collects data from the previous know-how, as well as through the earlier received knowledge of training days and recommend any appropriate training days, which is available and suitable for the whole training plan.

Indicator 3: **Specifically trained trainers and tutors**

Trainers/ tutors facilitating technology-based training are – besides regular training for trainers and in professional topics – trained in a number of additional abilities that are based on the characteristics of the technology they are working with in its learning context. This includes among others specialised training:
- *for simulator trainers in the characteristics of learning with the simulator/ simulation, individual and group coaching and debriefing, the design and selection of scenarios and the operation and application of the simulator, its various*

features and additional tools and

- *for e-learning tutors in the characteristics of distance learning, e-tutoring, learner motivation and instruction, e-communication and coaching as well as interviewing and feedback techniques.*

Finland has not yet got a compulsory specific training for e-tutors or simulator trainers. A variety of optional training packages are often available and, for example simulator developers and manufacturers provide these trainings. Many trainer designs and develops their own training scenarios what to practice, so in many cases they doesn't see the need for any additional training. However, simulation pedagogic and e-tutoring requires specific skills from trainers - as well as build the exercises and techniques of exploitation of the properties. All training sessions do not reach the target group, i.e. they cannot be marketed to the proper authorities (Computer- and simulator based training in Finland is not very widely used in driver training).

SCENARIO

Creating a single portal for simulation- and computer-based training methods for users of professional driver trainers, which would gather in the future cooperation between the authorities, equipment manufacturers and institutions of appropriate industry training event details and registration. In addition, defines the simulation or a computer-based training applications to users (trainers) a specific qualification and periodic training requirement. Simulator trainer it could be a specific simulator trainer qualification instead of the driving instructor competency. Developers of computer-based learning applications and trainers who use them it could be responsible for the e-tutor qualification.

Indicator 4: **Application of the learning outcomes approach**

*The learn*ing outcomes approach with its implications on the quality of training is applied on SBT and CBT. SBT and CBT courses are described in terms of learning outcomes (knowledge, skills and competences) associated with a course, learning environments are adequate to achieve those learning outcomes and, if applicable, assessment takes all kinds of learning outcomes into account and applies appropriate assessment measures.

Furthermore the application of the learning outcomes approach allows the recognition of prior/ non- and informal learning and the recognition of learning outcomes acquired within those CBT/SBT courses in the framework of other (formal) learning outco*mes based vocational education and training courses/ certificates.*

In professional drivers training the Finland hasn't got currently a comprehensive information of what kind of learning results we have obtained. We have some data of the eco-driving training. Computer-based training is also used, for example training of customer service and the use of sales machine. These learning outcomes can be monitored in partially through the feedback, but cannot distinguish between learning outcomes accurately a) practised by computer-based applications or b) practised by something else. About the training days in the simulator, the biggest concern for employers is that is the driver able to transfer the learned skills in to their work (i.e. whether the learning environment sufficiently so realistic that the transmission effect is to be obtained).

SCENARIO

Elaborate precise gauges and feedback channels into connection of driver training, which can be monitored competence of drivers vs. studied subject. In addition, the specific objectives, what they are meant to learn and what skills the driver then controls needed for each training day. Simulation training needs clear objectives that the driver is able to comprehend and therefore the know-how can also be measured. In this case, the driver does not pay attention to whether the device is

feeling realistic but the method itself, which is simulated in simulator (such as an economic and defensive driving). The effectiveness of computer-based learning applications can be measured by tests immediately after completion of the training program and afterwards, when a certain time has elapsed since the time of the training. Through the feedback system is possible to provide information on what is the image of the drivers after the training day as to whether was it useful in their work and whether they can transfer what they have learned to directly their own work. In this case, the training days are selected further to respond to their own work.

Indicator 5: **Provision of an added value to the learning process**

The application of computer- and simulator-based training has a clear added value for the learning process and/or the achievement of the aspired learning outcomes. Technology-based courses are therefore exclusively offered for the achievement of learning outcomes that can clearly benefit from the application of such learning approaches and/or that can be equally be achieved through classical as well as through technology-based training approaches.

Computer based- and simulator based training have been used and are used to support traditional education often because the training programs does not need to accurately describe the teaching methods what to be used. This, however, leads to the degree programs in the same way described and it is possible to implement various training days and therefore also have different learning outcomes. This means that the final results of training days are not always consistent quality.

SCENARIO

Training programs (to be approved by the authorities) must have written in a recognized training methods or, alternatively, advance notification, if trainer is using a simulator or some computer-based applications in the training. By improving the dissemination of training days and learning outcomes student feedback to other trainers, to enhance technology supported learning of popularity. Also, different software and simulator manufacturer collaborate with educational institutions to increase e.g. Through common platforms and portals, so the trainers become clear what kind of supporting technologies are available and where the training days they could be the best benefit.

Indicator 6: **Sound and thorough instructional and technological interface design**

The design of CBT and SBT is based on instructional design considerations taking into account the aspired learning outcomes and the needs and characteristics of the learner. This leads to the development of learning environments providing best conditions to stimulate and facilitate learning. Pedagogy drives the choice of instructional technology, not the other way around.

This point is more theoretical and in case of a functional thing - not so much in the control of the authorities, but the authorities has a big role because it depends on what kind of technology will be approved to use in trainings (e.g. which kind of simulations or what kind of learning applications are allowed). All depends a lot on how to cooperate with the field of employers (which kind of training is needed) and hardware- as well as software- developers (= what kind of technology can be used to support dealing with the target group) and is the training modules built enough high-quality and modern format.

SCENARIO

To implement a web portal, where on the basis of various meetings, as well as quality recommendations is an ongoing debate on the introduction of technology innovations in teaching, as well as the changing demands of working life (employers). This portal also connect authorities as well as representatives of educational institutions. When the new training programs approved by the authorities, they will be evaluated through this portal and will be corrected as far as any point it makes sense to take the computer or simulation-based applications, or their combinations to support.

Indicator 7: **Continuous evaluation and further development of CBT/SBT courses**

CBT/SBT courses are continuous subject for review, change, improvement and further development in order to adapt to changing needs and requirements and to the state-of-the-art of educational technology. Learning is the leading factor within all evaluation and development efforts.

Finnish professional qualification trainings are supervised by Finnish road safety agency TRAFI. TRAFI has outlined a five-year period for the validity of the program. After that, the training program will expire. The old training program cannot be approved directly again - it should be first developed further. This opportunity must be seized by the analysis of different implementations of technology-enhanced learning solutions. Defensive- and economic driving training program was changed to simulator based training, when the previous training program has expired.

Another aspect of this is the fact that the EU directive requires after the basic training a further (continuous) training days for every five years period. If every five years the trainers always use the same training programs – there will not occur continuous learning and development.

SCENARIO

Computer- and simulation-based learning applications are always accompanied by an alternative implementation for the training day and the assessment of new training programs. By following closely the learning outcomes and dealing with them in industry forums, to develop and to convince the authorities and professional life to the fact that simulation and computer-based training applications are also very effective in the training of professional drivers. The more technology-supported training is carried out, the better they also qualitative reached to develop.

Indicator 8: **Research, sharing and networking on the realisation of SBT and CBT**

The implementation of SBT and CBT requires a continuous dialogue and close cooperation between education providers, developers of CBT and simulators as well as researchers, therefore, continuous sharing, networking and joined research activities are taking place in order to further work on the improvement of SBT and CBT.

The content of this indicator has come up in previous indicators, i.e. it is very important to connect with the partners as widely as possible. Finland is among the currently quite a good network of professional drivers training institutes, which carry out computer and simulation-based training, as well as between public authorities. For employers, the network is not yet very familiar and many employer fear that technology supported trainings would be more expensive than the training carried out in the traditional way. In part, this is true, because this current government regulations do not permit e.g. the simulation training in large groups (or many simulators for one trainer) such as do not allow independent functional training applications (always require trainer).

SCENARIO

Create the computing- and simulation-based training model familiar to employers and public authorities, for example, through a variety of seminars and marketing events. Elsewhere in Europe is already good working models capable of solving technology-based training problems with regard to price as well as provide more effective learning outcomes in training events themselves. In addition, the subject of a continuous improvement in networks with educational models is to find the best ways to learn / teach the skills.