



LEONARDO DA VINCI PROGRAMME

Second phase: 2000-2006

Project:  
Qualification and certification for  
European train drivers

**Guideline:**  
**Evaluation of the  
developed training materials**

Project start date:	01.10.2005
Project duration:	24 months
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Status (F: final; D: draft, RD: revised draft):	D
Due date of deliverable:	14.04.2007
Issuing date:	
Partner responsible for this deliverable:	University of Wuerzburg, Centre for Traffic Sciences (IZVW)



Rev.	Issuing date	Pages	Written by	File name
A	2007-03-12		Christian Maag (IZVW), Marcus Schmitz (IZVW)	LEONARDO - Evaluation of training material.doc
Modifications: Creation of the document				
Modifications:				
Modifications:				

**In order to get reliable and valid data that allow a meaningful interpretation of the results, it is necessary to conduct the evaluation procedure in a common, consistent, and standardised manner. This is the reason why every partner is obliged to stick to the evaluation procedure outlined in this report.**

**Therefore, if any questions will arise during the evaluation process please do not hesitate to contact the Centre for Traffic Sciences (IZVW) at the University of Wuerzburg:**

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# 1 INTRODUCTION

The European project “Qualification and certification for European train drivers” is part of the Leonardo da Vinci Programme that supports transnational cooperation projects in the field of vocational training.

The project aims at the following objectives:

- Preparing a comparative study of the actual national regulations and directives related to initial and continuing training and the qualification of train drivers
- Defining the necessary contents of training and qualification in an European core curriculum that includes minimum standards
- Developing integrative qualification modules for a standardised vocational training of train drivers
- Providing the training material (e.g. the qualification modules) by a content management system

At the end of the project there should be reached a further step to a widely accepted European qualifications pathway taking into account the national law and the company specific educational system. The final results should support interchangeable qualifications of train drivers in Europe and enhance the competitiveness of the European railway system.

One important part of the project “Qualification and certification for European train drivers” is the implementation and evaluation of the developed qualification modules. These modules consist of handbooks for trainers and student manuals for the participants.

The following guideline “Evaluation of the developed training materials”

- Gives an overview of the basics of the evaluation of training measures (chapter 2),
- Outlines the evaluation procedure and design, provides the evaluation questionnaires for the questioning of trainers and participants, and presents the evaluation work plan and schedule (chapter 3).

By referring to this guideline the evaluation of the training material is carried out in a consistent and standardised manner in the different partner companies and countries (ÖBB – Austria, SNCB – Belgium, CD – Czech Republic, SNCF – France, DB – Germany, PKP – Poland). As a consequence, the evaluation results in every company can be compared and serve as an information source for the future development of common European training materials.

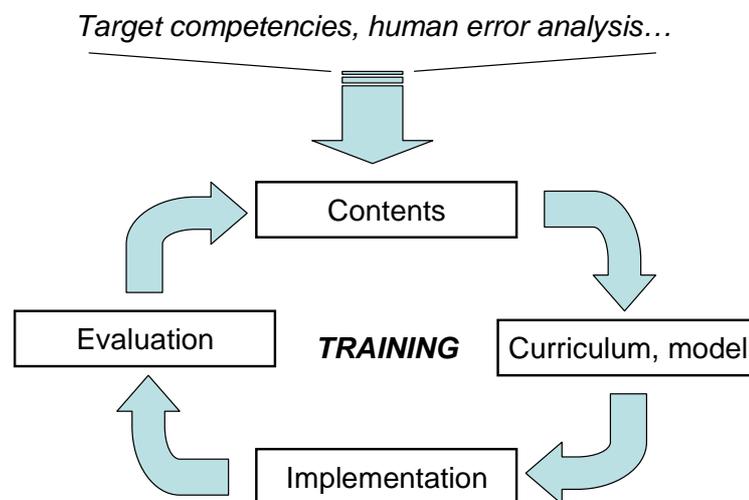


## 2 EVALUATION OF TRAINING MEASURES

### 2.1 Development and management of training measures

The development and management of training measures is often illustrated as a cyclic concept (Figure 1; cp. Beck et al., 2005). At first, the contents and objectives of the training have to be planned and specified according to target competencies and human error analysis. After that the adequate training method (classroom, self-study, computer-based, simulation, real environment) and the training model (duration, number of sessions, assessment) have to be chosen and didactical questions answered. Thereafter, the training can be implemented and put into practice. The practice period always has to be evaluated. That means conclusions have to be drawn if the set of intended training objectives could be achieved and the training is accepted as well as effective.

The results of the evaluation phase should again feed the planning phase and improve the whole process. At any time new target competencies (e.g. for new operational procedures) and findings from human error analysis (e.g. causes of accidents) can alter the training content and the training model.



*Figure 1: Basic steps of the development and evaluation of training measures*

The cyclic concept stresses the importance of a periodical evaluation of training measures in order to determine the effectiveness of a training program.

Kirkpatrick (1998) also mentions the evaluation of training quality as one aspect that has to be considered when planning and implementing a training program. In detail, he states the following steps of training development:



- (1) Determining needs: What are the needs of the participants (e.g. by a survey of job experts, employees, and superiors or by testing knowledge, skills and attitudes of employees)?
- (2) Setting objectives: Which objectives (results, e.g. incidents, accidents; behaviours, e.g. driving behaviour; knowledge, skills, attitudes) should be reached with the training program?
- (3) Determining subject content: What topics should be trained to meet the needs and to accomplish the objectives?
- (4) Selecting participants: Who can benefit from the training? What training is required by law and by rules and regulations? Should the training be voluntary or compulsory?
- (5) Determining best schedule: How should the training schedule look like? How takes the schedule into account the needs of the trainees, bosses, and best conditions for learning (concentrated training program, e.g. whole week of training, vs. spread out over weeks/months)?
- (6) Selecting appropriate facilities: Which facilities are appropriate (e.g. regarding equipment, distance) and which surrounding conditions necessary?
- (7) Selecting appropriate instructors: Which instructors/trainers (internal vs. external) are qualified for teaching (knowledge of subject, desire to teach, ability to communicate, learner oriented)?
- (8) Selecting and preparing audiovisual aids: Are audiovisual aids (e.g. video, CBT/WBT) available that help attracting and maintaining interest and support the knowledge transfer?
- (9) Implementing and coordinating the program
- (10) Evaluating the program: Do the benefits of the training program outweigh the costs?

If the above mentioned aspects are taken into account the likelihood rises that the training program is effective and the results of the evaluation positive.

## **2.2 Evaluation as one step in the management of training measures**

In general, there are three reasons for carrying out evaluation studies:

- To justify the existence of the training department by showing how it contributes to the organisation's objectives and goals.
- To decide whether to continue or discontinue training programs.
- To gain information on how to improve future training programs.

Evaluation can be defined as a systematic empiric analysis of the consequences of a goal-oriented (training) activity in order to benchmark and modify it (Rossi, Freeman & Lipsey, 1999).



Formative evaluation characterises the judgement of a program during the development period. The aim of a formative evaluation is the revision of the training program to make it more effective and efficient. By contrast, summative evaluation describes the final judgement of a training program. The aim of the summative evaluation is providing data for the decision on the continuation of the training program.

Five levels of evaluation can be differentiated (Figure 2; based on Kirkpatrick, 1998).

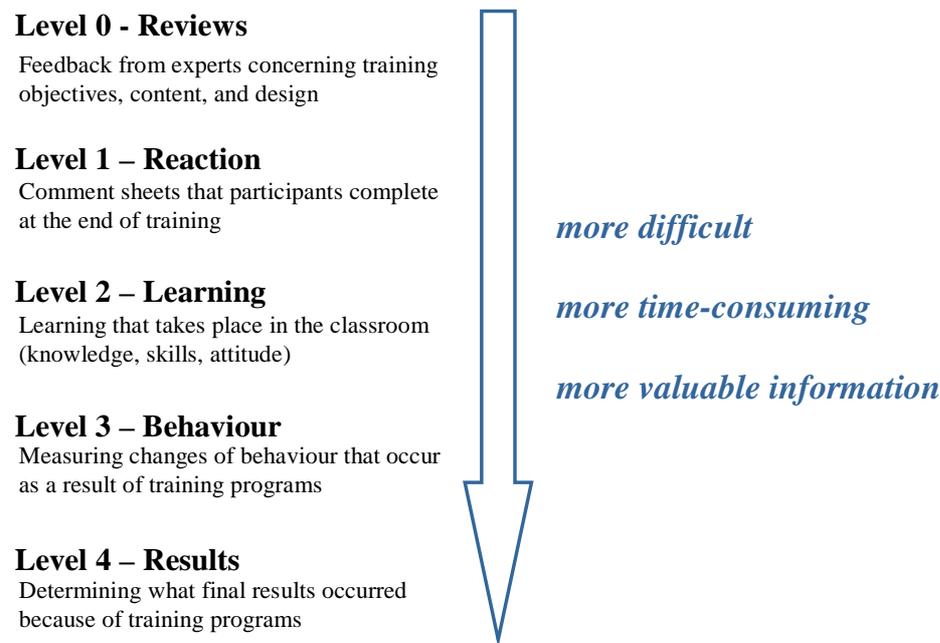


Figure 2: Five levels of evaluation (based on Kirkpatrick, 1998)

### 2.2.1 Level 0 – Reviews

On level 0 the evaluation implies an expert review concerning (1) learning objectives/content and (2) instructional design. The questioned experts are teachers, instructors and/or trainers.

These experts give feedback concerning the following questions (that should be part of a questionnaire or an interview):

- Is the content of the training program accurate and consistent?
- Are the topics of the training course up-to-date and realistic?
- Is the training program really needed?
- Is the pedagogical approach appropriate for the trainees?

If the results of the expert review are unsatisfactory the training program has to be revised before it is implemented. The revision should take the feedback and the comments of the experts into account. After a major modification of the training program the experts should be questioned again.



### 2.2.2 Level 1 – Reaction

On level 1 the trainees/participants give feedback concerning their satisfaction with the training course. A positive reaction may not ensure learning but a negative reaction almost certainly reduces the possibility of learning.

The answers from the participants give valuable feedback and comments for modifying and improving future training courses. Furthermore, a routine level 1 evaluation shows the commitment of the management and the trainers as interested partners of the trainees and provides quantifiable information for those persons and managers who are responsible for the training. As a method for gaining the data reaction sheets have proved suitability. The participants are asked concerning the training subject, instructor, facilities, schedule, exercises, tools, value, etc. The questionnaire should allow quantified answers (e.g. by using check boxes) and encourage written comments/suggestions. As far as reasonably possible a 100% feedback and honest responses should be gained (e.g. by guaranteeing anonymity). As part of a comprehensive quality assurance system the yielded results should be measured against specified standards. Figure 3 gives an example for a reaction sheet (Kirkpatrick, 1998).

In order to determine the effectiveness of the program in meeting your needs and interests, we need your input. Please give us your reactions, and make any comments or suggestions that will help us to serve you

*Instructions:* Please circle the appropriate response after each statement.

	<i>Strongly disagree</i>						<i>Agree</i>					<i>Strongly agree</i>
	1	2	3	4	5	6	7	8				8
1. The material covered in the program was relevant to my job												
2. The material was presented in an interesting way												
3. The instructor was an effective communicator												
4. The instructor was well prepared												
5. The audiovisual aids were effective												
6. The handouts will be of help to me												
7. I will be able to apply much of the material to my job												
8. The facilities were suitable												
9. The schedule was suitable												
10. There was a good balance between presentation and group involvement												
11. I feel that the workshop will help me do my job better												
What would have improved the program?												

Figure 3: Example for a reaction sheet (Kirkpatrick, 1998; p. 29)



### 2.2.3 Level 2 – Learning

The level 2 evaluation assesses the extent to which participants as a result of the training program (1) change attitudes, (2) improve knowledge, and/or (3) increase skills. A change in the daily behaviour at work (level 3) can only be achieved if one or more of the learning objectives have been accomplished.

The methods for quantifying the learning outcome of the participants are the knowledge test (true-or-false items, multiple-choice questions), attitude survey (agreement to specific statements), and performance test (demonstration of learned skills). As far as reasonably possible besides the training/experimental group a control group without training should be used. The control group and the experimental group must be equal in all significant characteristics. Furthermore, an assessment of knowledge, attitude, and performance should be carried out both before and after the program. As a result of this so called pre-post control group design any differences between control group and experimental group can be explained by the learning that took place because of the training program. Figure 4 gives an example for the results of a learning test (Kirkpatrick, 1998).

		<i>Experimental group</i>	<i>Control group</i>
Example 1	Pretest	45.5	46.7
	Posttest	55.4	48.2
	Gain	+9.9	+1.5
	Net Gain	9.9 – 1.5 = 8.4	
		<i>Experimental group</i>	<i>Control group</i>
Example 2	Pretest	45.5	46.7
	Posttest	55.4	54.4
	Gain	+9.9	+7.7
	Net Gain	9.9 – 7.7 = 2.2	

Figure 4: Example for the results of a learning test (Kirkpatrick, 1998; p. 41)

### 2.2.4 Level 3 – Behaviour

The level 3 evaluation assesses the extent to which a change of behaviour has occurred as a result of the training. This means, how much transfer of knowledge, skills and attitudes has taken place? What happens when the trainee leaves the classroom and return to his job?

Again, as far as possible a pre-post control group design should be applied. Furthermore, the level 3 evaluation should not be implemented immediately after the training program because normally it takes some time for behaviour changes to take place. As an evaluation method the persons who know the behaviour in daily work (trainees, supervisors) should be surveyed and/or interviewed. The analysis of work samples (e.g. simulator drives) is also adequate. In



order to quantify the stability of behaviour change the evaluation should be repeated at appropriate times.

When no change of behaviour occurs after a training program, this can have different reasons: The participant (1) has no desire to change behaviour, (2) does not know what to do and how to do it, (3) does not work in the right climate (e.g. the boss does not encourage the behaviour change), and (4) does not be rewarded for changing behaviour. For that reason it is necessary to evaluate both the reaction and the learning. In case no change in behaviour occurs it can be determined if this is the result of an ineffective training program or of the wrong job climate and the lack of rewards. Figure 5 shows an example for an interview sheet (Kirkpatrick, 1998).

1. What specific behaviors were you taught and encouraged to use?

2. When you left the program, how eager were you to change your behavior on the job?

\_\_\_\_\_ Very eager    \_\_\_\_\_ Quite eager    \_\_\_\_\_ Not eager

Comments:

3. How well equipped were you to do what was suggested?

\_\_\_\_\_ Very    \_\_\_\_\_ Quite    \_\_\_\_\_ Little    \_\_\_\_\_ None

4. If you are not doing some of the things that you were encouraged and taught to do, why not?

	How Significant?		
	Very	To some extent	Not
a. It wasn't practical for my situation.			
b. My boss discourages me from changing.			
c. I haven't found the time.			
d. I tried it, and it didn't work.			
e. Other reasons.			

5. To what extent do you plan to do things differently in the future?

\_\_\_\_\_ Large extent    \_\_\_\_\_ Some extent    \_\_\_\_\_ No extent

6. What suggestions do you have for making the program more helpful?

Figure 5: Example for an interview sheet (Kirkpatrick, 1998; p. 53)

### 2.2.5 Level 4 – Results

The level 4 evaluation assesses the final results that have occurred after the participants have attended the training program. That implies e.g. improved quality/productivity, decreased costs, reduced frequency and/or severity of incidents/accidents, etc.



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Ideally, again a control group and an assessment before and after the training measure should be used (if practical) and some time should pass between the training and the evaluation in order to make transfer possible.

The level 4 evaluation of results is an important level but very difficult to achieve. For that reason this evaluation level is carried out infrequently.



## 3 EVALUATION PROCEDURE

### 3.1 Work plan and schedule

During the 4<sup>th</sup> project meeting in Prague in February 2007 the partners agreed on the following evaluation procedure:

- **Partner countries:** The evaluation of the qualification modules will be carried out in every partner country. That means there will be evaluation studies in Austria, Belgium, the Czech Republic, France, Germany, and Poland.
- **Evaluation levels:** The evaluation levels 0 (expert review) and 1 (participant reaction) will be conducted. For these two evaluation levels questionnaires have been developed by IZVW. The evaluation levels 2 to 4 will not be realised because the analysis of learning results, behaviour transfer and final results is not an objective of the current project.
- **Qualification modules:** Every partner carries out the level 0 and level 1 evaluation of the qualification module “Basic of brakes”. According to the project work plan this module will be developed until end of April 2007. The development of the qualification modules “Shunting” and “Signalling” will be presumably finished end of June and end of May, respectively. Because of this, these both modules only have to pass the level 0 evaluation (the level 1 evaluation for these both modules is optional).
- **Execution of evaluation:** The partner themselves will carry out the evaluation. Every partner will choose a national evaluation team that evaluates the qualification modules. Furthermore every partner will make sure that an exemplary training course will take place that uses the developed training material for “Basic of brakes”. The IZVW is responsible for the common evaluation design, the necessary material (e.g. questionnaires), the support of the evaluation procedure, and the analysis of the results.
- **Language of questionnaires:** The evaluation questionnaires will be applied in two languages. The IZVW will provide a German/English version. Every partner is responsible for the translation into a national language/English version. Every question has to be written in two languages in order to guarantee a good comprehension concerning (1) the trainer/participant completing the questionnaire and (2) the partner who analyses the results.
- **Language of training material:** At the end of the development phase of the training materials these are only available in English. Every partner will translate the trainer handbook and the student manual into his own language. Subsequently, the trainers give feedback on the material and can use it for carrying out an exemplary training course. After the training course has taken place, the participants should also give feedback on the material.



- Consequence of negative level 0 results: If the expert review yields negative results, modifications of the training material are possible.

### 3.2 Evaluation Questionnaires

For the level 0 and level 1 evaluation two questionnaires will be used:

- One for the feedback from the trainers (see annex 5.1) and
- One for the feedback from the participants (see annex 5.2).

In order to get interpretable and meaningful results it is necessary to reach a reasonable sample size. Therefore, every partner will give the training material (together with the trainer feedback questionnaire) to at least four trainers in order to get feedback from them. Furthermore, one exemplary training course on “Basic of brakes” will take place in every partner country that consists of at least eight participants. The attending participants of this exemplary course should fill in the participant feedback questionnaires afterwards.

Table 1 gives an overview of the required sample size.

<i>Evaluation level</i>	<i>Sample size</i>
Expert review	4 Trainers from every partner → Sample size per qualification module: 24
Participant reaction	8 Participants from every partner → Sample size per qualification module <sup>1</sup> : 48

Table 1: *Sample size of the different evaluation levels*

Every trainer as well as every participant fills in one questionnaire for every training topic. Consequentially, the following evaluation study design results (Table 2).

<i>Qualification module</i>		<b>Basic of brakes</b>		<b>Shunting</b>		<b>Signalling</b>	
<i>Evaluation level</i>		Expert	Participant	Expert	Participant	Expert	Participant
<i>Partner (Country)</i>	ÖBB (Austria)	4	8	4	(8)	4	(8)
	SNCB (Belgium)	4	8	4	(8)	4	(8)
	CD (Czech Republic)	4	8	4	(8)	4	(8)
	SNCF (France)	4	8	4	(8)	4	(8)
	DB (Germany)	4	8	4	(8)	4	(8)
	PKP (Poland)	4	8	4	(8)	4	(8)

Table 2: *Design of the evaluation study with sample size (numbers in brackets indicate that this part of the evaluation is not mandatory but optional)*

<sup>1</sup> only “Basic of brakes” is mandatory



Most questions can be answered by just ticking the appropriate response. Regarding the demand and scope of the training content, the trainer/participant can give an overall grade and has the opportunity to make comments and suggestions.

The questions of the evaluation questionnaires cover different aspects of the training material and can be sorted into several dimensions (Table 3).

<i>Dimension</i>	<i>Item</i>	<i>Trainer feedback</i>	<i>Participant feedback</i>
Structure	The structure of the training material is reasoned and comprehensible.	yes	yes
	The training content is communicated in an understandable manner.	yes	yes
Relevance for practice	The content of the training material is important.	yes	yes
	The content of the training material is useful for the job of a train driver.	yes	yes
	Some contents of the training material are unnecessary.	yes	yes
Correctness	The content of the training material is accurate and error free.	yes	yes
	The content of the training material is up-to-date.	yes	yes
Acceptance	The content of training material is illustrated by examples.	yes	yes
	The training content is presented in an interesting way.	yes	yes
	The relevance/benefit of the content of the training material becomes clear.	yes	yes
	The participants will learn very much by using the training material.	yes	no
	I have learned very much.	no	yes
	I would like to use the training material as soon as possible by myself.	yes	no
Demand	The content of the training material is too skin-deep.	yes	yes
	The demand of the training content is ...	yes	yes
Scope	The scope of the training content is ...	yes	yes
General	All in all – which grade would you give the training material?	yes	yes

*Table 3: Dimensions of the questions of the evaluation questionnaires (yes: question is included; no: question is not included)*



### 3.3 Instruction

Because of the fact that the analysis of the evaluation results and the writing of an evaluation report will need some time it is absolute necessary that the data acquisition will be finished end of July 2007.

Table 4 shows the work plan and schedule of the evaluation study and a detailed instruction for carrying out the evaluation. Every partner is requested to stick to this work plan.

*Table 4: Work plan, schedule and instruction of the planned evaluation study*

<i>Time</i>	<i>Phase</i>	<i>Instruction</i>
– 30/04/2007 (Basic of brakes)  – 31/05/2007 (Signalling)  – 30/06/2007 (Shunting)	Development	The whole consortium develops the training materials (trainer handbook, student manual) for the three qualification contents (basic of brakes, shunting, signalling). It is necessary that the final versions of the training material are available at the scheduled time. The design and procedure of the evaluation study is prepared. To Do (every partner): - Participation in the development of the training materials - Comments and discussion concerning the design of the evaluation study
01/05/2007 – 17/06/2007 (Basic of brakes)  01/06/2007 – 31/07/2007 (Signalling)  01/07/2007 – 31/07/2007 (Shunting)	Level 0	Every partner performs the level 0 evaluation (expert reviews). The level 0 evaluation concerns all qualification contents. The evaluation questionnaire can be found in the annex of this document. Every partner is responsible for his national evaluation. It may be useful to set up a national evaluation team that organises and conducts the evaluation. To Do (every partner): - Translation of the training material in national language - Translation of the trainer feedback questionnaire in national language - Selection of four experienced trainers that form the sample of experts - Briefing of selected trainers and giving them additional information (background of the project, objectives and levels of evaluation) - Delivery of the training materials (basic of brakes, shunting, signalling) to the experts and requesting feedback - Sending feedback questionnaires to IZVW, University of Wuerzburg



18/06/2007 – 21/06/2007	<p>5<sup>th</sup> LEONARDO project meeting in Paris</p> <p>If any unforeseen circumstances arise during the level 0 evaluation, possible consequences can be discussed at the meeting and necessary decisions can be made (e.g. modifications of the training material as a consequence of expert suggestions).</p>	
<p>01/07/2007 – 31/07/2007 (Basic of brakes)</p> <p>01/07/2007 – 31/07/2007 (evtl. Signalling)</p> <p>01/07/2007 – 31/07/2007 (evtl. Shunting)</p>	Level 1	<p>Every partner performs the level 1 evaluation (participant reaction). The level 1 evaluation concerns all qualification contents. The evaluation questionnaire can be found in the annex of this document. Every partner is responsible for his national evaluation. Again, it may be useful to set up a national evaluation team that organises and conducts the evaluation.</p> <p>The selected trainer who performs the exemplary training course should in principle agree with the objectives and the content of the training material.</p> <p>During the exemplary training course a representative of the national evaluation team should attend the course and note special observations. The representative of the evaluation team also presents the feedback questionnaires and gives additional information. It must be guaranteed that the feedback of the participants only refers to the Leonardo training materials and contents.</p> <p>To Do (every partner):</p> <ul style="list-style-type: none"> <li>- Translation of the participant feedback questionnaire in national language</li> <li>- Selection and briefing of trainer who conducts the exemplary training courses on the three qualification modules using the newly developed training material</li> <li>- Selection of exemplary training course with at least eight participants (without prior knowledge concerning the module contents basic of brakes, shunting, and signalling)</li> <li>- Conducting the training courses using the new developed training material</li> <li>- Requesting feedback from participants regarding the three qualification modules (basic of brakes, shunting, signalling)</li> <li>- Sending feedback questionnaires to IZVW, University of Wuerzburg</li> </ul>
01/08/2007 – 30/09/2007	Analysis	<p>The IZVW analyses the feedback questionnaire and prepares a detailed report. This report will be sent to all partners.</p>



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## 5 ANNEX

### 5.1 Questionnaire for trainers

The questionnaire for the expert review (level 0 evaluation) is printed on the next page.

It is the German/English example for the evaluation in Austria and Germany. The sections that have a greater font size and are not in italics must be translated into the national language by every partner. The English original has to be left unchanged.



## Trainer-Feedback-Bogen zu LEONARDO Qualifikationsmodulen

### *Trainer-feedback questionnaire on LEONARDO Qualification modules*

Das Europäische Projekt "Qualifizierung und Zertifizierung europäischer Eisenbahnfahrzeugführer" ist Teil des Leonardo-da-Vinci Programms, das grenzüberschreitende Kooperationsprojekte im Bereich der beruflichen Bildung fördert.

Ein Teil dieses Projekts besteht in der Entwicklung von drei integrierten Qualifikationsmodulen. Diese haben zum Ziel, einen Beitrag für eine standardisierte berufliche Ausbildung für Eisenbahnfahrzeugführer in Europa zu leisten. Die drei Qualifikationsmodule decken die folgenden Inhaltsbereiche ab: (1) Grundlagen der Bremse, (2) Rangieren und (3) Signalsystem. Aufgrund der Tatsache, dass die Eisenbahntechnik und die Betriebsregeln in den europäischen Ländern sich deutlich unterscheiden, behandeln die Qualifikationsmodule nur den gemeinsamen Inhalt.

Um die Trainingsmaterialien weiter zu verbessern, sind wir sehr an Ihren Vorschlägen und Eindrücken bezüglich der Qualifikationsmodule interessiert. Bitte helfen Sie uns bei dieser Aufgabe, indem Sie diesen Fragebogen sorgfältig ausfüllen.

Wir bedanken uns schon jetzt für Ihre Unterstützung!

*The European project "Qualification and certification for European train drivers" is part of the Leonardo da Vinci Programme that supports transnational cooperation projects in the field of vocational training.*

*One part of this project is the development of three integrative qualification modules for a more standardised vocational training of train drivers in Europe. These three qualification modules cover the training topics (1) basic of brakes, (2) shunting, and (3) signalling. Because of the fact that the railway technology and operating rules in the different European countries are very different the qualification modules focus on common contents.*

*We are very interested in your suggestions and impressions concerning these qualification modules in order to improve the training material further. Please support us in this task by carefully completing this questionnaire.*

*Thank you in advance for your assistance!*

Datum (TT.MM.JJ) / Date (dd.mm.yy): \_\_\_\_\_

Unternehmen / Company: \_\_\_\_\_

Bitte nehmen sie das Trainerhandbuch und die Teilnehmerunterlage für einen Trainingsinhalt zur Hand (nur ein Kreuz!):

*Please take the trainer handbook and the corresponding student manual for one training topic (only one tick!):*

- Grundlagen der Bremse / *Basic of brakes*
- Rangieren / *Shunting*
- Signalsystem / *Signalling*

Bitte bewerten Sie das Trainingsmaterial anhand der folgenden Fragen. Markieren Sie die passende Antwort nach jeder Aussage.

*Please evaluate the training material with the following questions. Tick the appropriate response after each statement.*

trifft nicht zu / *totally wrong*      1      3   4   5      trifft völlig zu / *totally true*

Die Struktur des Trainingsmaterials ist logisch und nachvollziehbar.

*The structure of the training material is reasoned and comprehensible.*

trifft nicht zu / *totally wrong*      1   2   3   4   5      trifft völlig zu / *totally true*

Die Lerninhalte sind wichtig.

*The content of the training material is important.*

trifft nicht zu / *totally wrong*      1   2   3   4   5      trifft völlig zu / *totally true*

Der Inhalt des Trainingsmaterials ist korrekt und fehlerfrei.

*The content of the training material is accurate and error free.*

trifft nicht zu / *totally wrong*      1   2   3   4   5      trifft völlig zu / *totally true*



Der Inhalt des Trainingsmaterials ist auf dem letzten Stand.

*The content of the training material is up-to-date.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Die Lerninhalte werden anhand von Beispielen veranschaulicht

*The content of training material is illustrated by examples.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Die Lerninhalte werden auf interessante Art dargestellt.

*The training content is presented in an interesting way.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Die Lerninhalte sind nützlich für den Beruf des Eisenbahnfahrzeugführers.

*The content of the training material is useful for the job of a train driver.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Die Bedeutung/Nutzen der Lerninhalte wird klar.

*The relevance/benefit of the content of the training material becomes clear.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Der Inhalt des Trainingsmaterials ist zu oberflächlich.

*The content of the training material is too skin-deep.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Einige Lerninhalte sind überflüssig.

*Some contents of the training material are unnecessary.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Die Lerninhalte werden in verständlicher Form vermittelt.

*The training content is communicated in an understandable manner.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Die Teilnehmer lernen sehr viel durch die Verwendung des Trainingsmaterials.

*The participants will learn very much by using the training material.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Ich möchte das Trainingsmaterial so bald wie möglich selbst anwenden.

*I would like to use the training material as soon as possible by myself.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Die Schwere des Trainingsstoffs ist ...

*The demand of the training content is ...*

1	2	3	4	5	6	7
viel zu leicht <i>much too easy</i>		genau richtig <i>totally well</i>			viel zu schwer <i>much too difficult</i>	

Der Umfang des Trainingsstoffs ist ...

*The scope of the training content is ...*

1	2	3	4	5	6	7
viel zu gering <i>much too narrow</i>		genau richtig <i>totally well</i>			viel zu weit <i>much too wide</i>	

Alles in allem – welche Bewertung würden Sie dem Trainingsmaterial geben?

*All in all – which grade would you give the training material?*

sehr gut <i>excellent</i>	gut <i>good</i>	mittel <i>fair</i>	schlecht <i>poor</i>	sehr schlecht <i>very poor</i>	



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Was ist gut? / *What is good?*

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Was ist schlecht? / *What is bad?*

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Verbesserungsvorschläge / *Suggestions for improvement*

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Vielen Dank! / *Thank you very much!*



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## 5.2 Questionnaire for participants

The questionnaire for the participant reaction (level 1 evaluation) is printed on the next page.

It is the German/English example for the evaluation in Austria and Germany. The sections that have a greater font size and are not in italics must be translated into the national language by every partner. The English original has to be left unchanged.



## Teilnehmer-Feedback-Bogen zu LEONARDO Qualifikationsmodulen

### *Participant-feedback questionnaire on LEONARDO Qualification modules*

Das Europäische Projekt "Qualifizierung und Zertifizierung europäischer Eisenbahnfahrzeugführer" ist Teil des Leonardo-da-Vinci Programms, das grenzüberschreitende Kooperationsprojekte im Bereich der beruflichen Bildung fördert.

Ein Teil dieses Projekts besteht in der Entwicklung von drei integrierten Qualifikationsmodulen. Diese haben zum Ziel, einen Beitrag für eine standardisierte berufliche Ausbildung für Eisenbahnfahrzeugführer in Europa zu leisten. Die drei Qualifikationsmodule decken die folgenden Inhaltsbereiche ab: (1) Grundlagen der Bremse, (2) Rangieren und (3) Signalsystem. Aufgrund der Tatsache, dass die Eisenbahntechnik und die Betriebsregeln in den europäischen Ländern sich deutlich unterscheiden, behandeln die Qualifikationsmodule nur den gemeinsamen Inhalt.

Um die Trainingsmaterialien weiter zu verbessern, sind wir sehr an Ihren Vorschlägen und Eindrücken bezüglich der Qualifikationsmodule interessiert. Bitte helfen Sie uns bei dieser Aufgabe, indem Sie diesen Fragebogen sorgfältig ausfüllen.

Wir bedanken uns schon jetzt für Ihre Unterstützung!

*The European project "Qualification and certification for European train drivers" is part of the Leonardo da Vinci Programme that supports transnational cooperation projects in the field of vocational training.*

*One part of this project is the development of three integrative qualification modules for a more standardised vocational training of train drivers in Europe. These three qualification modules cover the training topics (1) basic of brakes, (2) shunting, and (3) signalling. Because of the fact that the railway technology and operating rules in the different European countries are very different the qualification modules focus on common contents.*

*We are very interested in your suggestions and impressions concerning these qualification modules in order to improve the training material further. Please support us in this task by carefully completing this questionnaire.*

*Thank you in advance for your assistance!*

Datum (TT.MM.JJ) / Date (dd.mm.yy): \_\_\_\_\_

Unternehmen / Company: \_\_\_\_\_

Bitte nehmen sie die Teilnehmerunterlage für einen Trainingsinhalt zur Hand (nur ein Kreuz!):

*Please take the student manual for one training topic (only one tick!):*

- Grundlagen der Bremse / *Basic of brakes*
- Rangieren / *Shunting*
- Signalsystem / *Signalling*

Bitte bewerten Sie das Trainingsmaterial anhand der folgenden Fragen. Markieren Sie die passende Antwort nach jeder Aussage.

*Please evaluate the training material with the following questions. Tick the appropriate response after each statement.*

trifft nicht  
zu  
*totally wrong*

1	<input checked="" type="checkbox"/>	3	4	5
---	-------------------------------------	---	---	---

trifft völlig  
zu  
*totally true*

Die Struktur des Trainingsmaterials ist logisch und nachvollziehbar.

*The structure of the training material is reasoned and comprehensible.*

trifft nicht  
zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig  
zu  
*totally true*

Die Lerninhalte sind wichtig.

*The content of the training material is important.*

trifft nicht  
zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig  
zu  
*totally true*

Der Inhalt des Trainingsmaterials ist korrekt und fehlerfrei.

*The content of the training material is accurate and error free.*

trifft nicht  
zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig  
zu  
*totally true*



Der Inhalt des Trainingsmaterials ist auf dem letzten Stand.

*The content of the training material is up-to-date.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Die Lerninhalte werden anhand von Beispielen veranschaulicht

*The content of training material is illustrated by examples.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Die Lerninhalte werden auf interessante Art dargestellt.

*The training content is presented in an interesting way.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Die Lerninhalte sind nützlich für den Beruf des Eisenbahnfahrzeugführers.

*The content of the training material is useful for the job of a train driver.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Die Bedeutung/Nutzen der Lerninhalte wird klar.

*The relevance/benefit of the content of the training material becomes clear.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Der Inhalt des Trainingsmaterials ist zu oberflächlich.

*The content of the training material is too skin-deep.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Einige Lerninhalte sind überflüssig.

*Some contents of the training material are unnecessary.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Die Lerninhalte werden in verständlicher Form vermittelt.

*The training content is communicated in an understandable manner.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Ich habe sehr viel gelernt.

*I have learned very much.*

trifft nicht zu  
*totally wrong*

1	2	3	4	5
---	---	---	---	---

trifft völlig zu  
*totally true*

Die Schwere des Trainingsstoffs ist ...

*The demand of the training content is ...*

1	2	3	4	5	6	7
viel zu leicht <i>much too easy</i>		genau richtig <i>totally well</i>			viel zu schwer <i>much too difficult</i>	

Der Umfang des Trainingsstoffs ist ...

*The scope of the training content is ...*

1	2	3	4	5	6	7
viel zu gering <i>much too narrow</i>		genau richtig <i>totally well</i>			viel zu weit <i>much too wide</i>	

Alles in allem – welche Bewertung würden Sie dem Trainingsmaterial geben?

*All in all – which grade would you give the training material?*

sehr gut <i>excellent</i>	gut <i>good</i>	mittel <i>fair</i>	schlecht <i>poor</i>	sehr schlecht <i>very poor</i>

Was ist gut? / *What is good?*

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Was ist schlecht? / *What is bad?*

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Verbesserungsvorschläge / *Suggestions for improvement*

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Vielen Dank! / *Thank you very much!*