



Identifying Professional Tasks

A Basis to Assess Vocational Learning

EVABCOM MANUAL I

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The *Leonardo-da-Vinci* project EVABCOM (2003-2005) developed and tested a tool to support the assessment and evaluation of vocational competence development. This tool essentially is based on two methodological components: workshops with skilled workers to identify core professional tasks, and domain-specific evaluation tasks that trainees or job entrants are asked to perform in order to assess their respective level of vocational skills.

This Manual 1 presents the method of Expert Workers Workshops, which forms the basis or first step for developing evaluation tasks. In the course of the project the different project partners applied and further developed this method in their respective national contexts and through an extensive process of exchange and collaboration. The outcome of this process are two manuals that should help to guide interested individuals, trainers, teachers, managers and researchers to apply and further develop this method.

Both manuals are the outcome of a two-year cooperation process and the joint efforts and continuous support of the different project partners. We would hereby like to thank the following individuals and their respective institutions for their support and commitment to the project and their contributions that made the final publication of the two manuals possible: Rainer Bremer and Simone Kirpal (ITB - Institute Technology and Education, University of Bremen, Germany), Annie Boudier, Alain Savoyant, Olivier Ferron and their colleagues (Céreq - Centre d'études et de recherches sur les qualifications, France), Peter Gray and Nick Boreham (University of Stirling, Scotland), Vera Czesana and Vera Havlickova (National Observatory of Vocational Education and Training and Labour Markets, Czech Republic) and Zofia Sepkowska (Association for Continuing Education Development 'Transfer', Poland). Special thanks are also due to Jeroen Onstenk (CINOP - Centre for the Innovation of Vocational Training and Adult Education, the Netherlands), Nikitas Patiniotis (University of Patras, Greece) and Peter Rigney (Irish Congress of Trade Unions, Ireland) for supporting the project in their role as external evaluators. Finally, we are also thanking the companies involved for making the practical implementation of the project in different work settings possible.

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1 Introduction

This manual presents a tool to assess and describe standards of modern skilled labour with simple methods. As an instrument of investigation it gives guidance on how to find out from skilled workers, who can be considered experts in their occupational domain, what they consider to be the core professional tasks in their respective specialisation. Departing from the workers' perspective on their work can be regarded as a particular strength of this approach.

In its present form this manual presents a short and (for the objectives of the EVABCOM project) modified version. Originally, this method of investigation was developed by ITB¹ in the course of implementing a large-scale vocational education and training pilot project called GAB. In collaboration with the German Volkswagen (VW) company the GAB project covered all national company branches with about 4.500 apprentices, 340 trainers, 1.500 instructors and 130 teachers teaching at German vocational training schools. The aim of the GAB project was to reduce as much as possible the number of 27 different vocational specialisations for which Volkswagen was offering training. The guiding idea was that the number of specialisations should be less when concentrating on the most essential competence profiles. In the end, the project was able to identify five new so-called 'core occupations' on the basis of the professional tasks assigned to them. These five 'core occupations' led to a major reform of the vocational training system at Volkswagen. This is the context in which the original method was developed responding to the demands of the German economy in the late 1990s.

The Institute Technology and Education (ITB) of the University of Bremen, Germany further developed this method. By now it has reached a level of generalisation that makes it possible to apply this method to all forms of labour that is or should be connected to some form of more or less formalised vocational training or apprenticeship. With its further elaboration the method of 'expert workers workshops' can now be compared with the DACUM ('Designing a Curriculum') approach that is implemented worldwide. Both methods aim at developing curricula to support the structure and organisation of vocational training.

However, with the EVABCOM project we are following a different aim. The original concept developed in the GAB project has taken a different direction and the present manual is the result of this development. This time we neither want to restrict ourselves to a specific sector like the automotive industry, nor do we focus on reducing vocational specialisations to define new 'core occupations'. We also do not pursue the development of new curricula as in the DACUM approach. The main objective of this manual, as modified for the EVABCOM project, is to identify and describe standards of modern skilled labour that reflect the actual work practice, but are often hidden due to major differences in national work concepts and vocational education and training systems. Two basic ideas are important in this context:

1. The raw material and partly manufactured products as well as the technology of modern production plants that are available on the global market, increasingly demand that the quality of products converges. This implies that job demands are also converging. Globalising forces are increasingly driving qualification and skilling needs.

¹ The original German version was developed by Falk Howe, Henning Gerlach and Michael Reinhold.

2. By contrast, the divergence between national vocational education and training systems persists. As this seems likely to remain the reality in the medium and long term, the gap between systems that organise work and employment along occupational lines and market-driven employment conditions is likely to persist in the future. Certainly, it is doubtful whether an arbitrarily designed political agenda will help to bridge this gap.

The guiding principle of this manual is to respect the developments as outlined under the first point by at the same time overcoming the restrictions and limitations that result from what has been stated under point 2. Based on those principles we are trying to find a way to describe modern industrial labour as being based on skills and competences that meet the requirements of competitive and global product markets on the one hand; and that, on the other hand, helps to understand industrial labour as a product of competence development shaped by a particular national system.

We think it is possible to describe modern work in relation to the work process related tasks involved and by making reference to the respective skills and training requirements. Those descriptions can be made regardless of a particular definition or concept of work, employment or training. We believe that individuals who have acquired the skills to perform these work-related tasks are best positioned to make those kinds of descriptions.

We hereby present a concise, basic concept of how those core professional tasks can be identified and analysed in collaboration with skilled workers. In the course of implementing the project, the project partners have contributed considerably to test and revise this manual, which can now be regarded as a basis for developing operational and skills-oriented evaluation tasks for work-related learning. A second manual has been produced for implementing and interpreting such evaluation tasks. Both manuals and further information can be obtained from the ITB's homepage at <http://www.itb.uni-bremen.de/> that also supports the downloading of these documents. Please, direct any further queries, suggestions and comments to:

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2 The method of 'Expert Workers Workshops'

The objective of the 'expert workers workshops' is to describe occupational profiles on the basis of particular core work tasks. The method of those workshops is based on 'Designing a Curriculum' (DACUM), a concept that was developed in the US and Canada during the 1980s and 1990s. This concept is basically a tool to assess what people do at their workplace in form of particular 'units' that represent activity-related professional tasks. The DACUM concept is based upon three fundamental assumptions:

- ⇒ A worker, who is an expert in his or her occupational domain, can describe his or her work or trade better than any external observer.
- ⇒ An occupation can accurately be described by defining the particular work-related actions the advanced skilled worker performs.
- ⇒ All kinds of work-related actions require a certain level of knowledge, skills, method and attitude in order to be performed correctly.

Core work-related or professional tasks (in the following referred to as 'professional tasks') describe a particular job to be performed in terms of the expected results. Those tasks are always specific to the particular work setting. The structure and organisation of work along a limited number of core professional tasks is crucial in order to understand the purposeful and sense-giving dimension of work.

Core professional tasks can be divided into sub-tasks, which again can be divided into basic work actions. In the context of occupationally structured labour the analysis of sub-task is only relevant when professional tasks need to be described in more detail. For the worker the purpose of a particular sub-task is always connected to and forms part of the overall, broader professional task. Sub-tasks (as well as basic work actions) in themselves cannot necessarily be regarded as being purposeful.

For example, if sub-tasks are being delegated to workers who do not form part of the working team, the workers will eventually get disconnected from the overall work context and will lose a sense of work coherence. Descriptions of sub-tasks and basic work actions are not useful for describing broader professional tasks. Or, more explicitly, core professional tasks should not be described by listing the subordinated sub-tasks or basic work actions they entail.

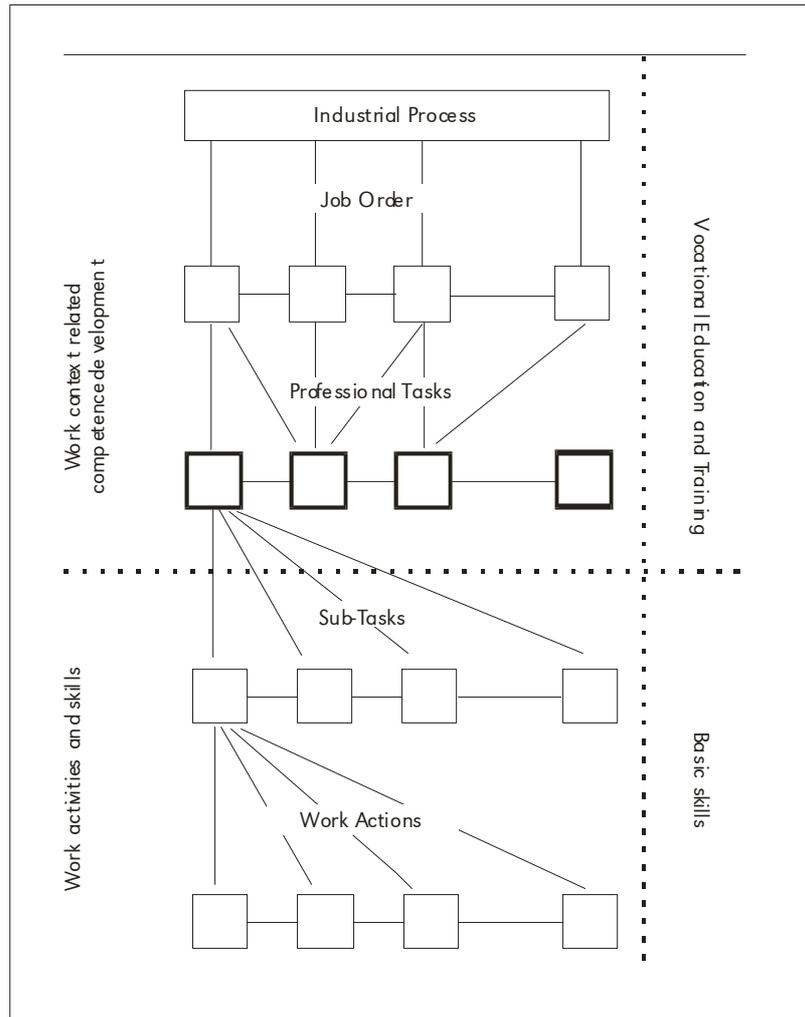


Illustration 1: *The hierarchical relationship between the mastering of professional tasks and simple work actions in the industrial context*

2.1 Objectives of the 'Expert Workers Workshops'

The 'expert workers workshops' have the following two main objectives:

- ⇒ To describe modern skilled labour in terms of core professional tasks that can be classified according to occupational fields or a specific domain;
- ⇒ To differentiate between different tasks according to the level of skills and training demands they involve.

The respective domain of skilled labour determines the objectives and content of the training it requires. If a trade can be described according to core professional tasks, then the guiding principles of the vocational education and training it involves are automatically defined. This implies that workers are able to independently perform the described professional task.

The investigation of skilled labour and its description along professional tasks need to fulfil the following criteria:

- ⇒ The professional tasks need to represent the broader, higher-level work process.
- ⇒ It must be possible to relate the professional tasks to a specific trade or occupational domain.
- ⇒ A professional task needs to describe a complete work process that involves and connects planning, implementation and evaluation phases.
- ⇒ Professional tasks also make reference to the contents and methods of the respective area of skilled labour.
- ⇒ When a professional task is being performed, its purpose, function and meaning need to be recognisable in terms of the broader, higher-level work context.

2.2 What is expected of the facilitators?

The facilitator is the most crucial factor when implementing 'expert workers workshops'. His or her skills and competences in terms of technical knowledge and methodological know-how will determine whether the workshop will be successful or not.

The facilitators need to assume a neutral role that ensures their commitment towards the agreed aims. They are challenged to establish a trustworthy relationship so that participants are sure that the statements they make during the workshop will not be used for some kind of evaluation purposes. The anonymity of participants is crucial for how the workshop develops. There are some advantages of using external facilitators. External facilitators have a greater distance to the company where the participants work. In addition, with external facilitators a competitive relationship between the facilitator and the participants is unlikely to evolve.

In order to lead the discussion with skilled workers about the professional tasks they perform it is indispensable that the facilitator has some basic technical knowledge of the investigated occupational domain. Ideally, the facilitator has been trained in the field and has worked as a skilled worker in various related areas. Alternatively, the facilitator may have acquired some experience as a trainer or instructor in the respective occupational area. Having some basic technical knowledge also extends to the capability of giving an opinion about trends and possible future developments of the occupation. This means that the facilitator also needs to be familiar with some theoretical background material or should have participated in events that give the opportunity to discuss those issues.

Apart from the technical knowledge, the facilitator needs to have well developed communication skills and some practical experience of how to organise and implement seminars and workshops. Since the 'expert workers workshops' are developed on the basis of moderation methods, it is important that the facilitator is familiar with and knows how to apply such methods. At this point only some basic principles of the moderation method can be introduced:

- ⇒ The facilitator is not leading the workshop or sessions. His or her role is to provide a framework that supports the participant's active engagement.

- ⇒ The participants are responsible for the results of the workshop. The facilitator is required to take on a neutral position.
- ⇒ The objectives and the method of the workshop need to be made transparent to the participants. This is important in order to underline the participant's independence, responsibility and self-reliance.
- ⇒ Switching between different modes of working such as individual and group work ensures that all participants will engage in contributing towards the results.
- ⇒ Visual aids such as clip boards support a more structured and systematic way of working, particularly in the context of group discussions.
- ⇒ The principle of consensus is geared towards giving each participant the opportunity to contribute with his or her skills and knowledge towards achieving common results.

In a broader sense the moderation method also extends to directing group dynamics, visualising and presenting results as well as generating a positive atmosphere for exchange and discussion.

It will probably be the exception rather than the rule that each of the two facilitators combines the required technical knowledge and the methodological know-how. A division of role and tasks has in practice proved to be a good approach. In this case one facilitator takes up the role of a technical expert, whereas the second facilitator assumes responsibility for organising and implementing the workshop. While the first facilitator may structure the content of the discussions requiring a certain level of technical expertise, the second facilitator can direct the overall dynamic of the workshop and ensure that the principles of moderation are followed. For the latter task a certain distance to the investigated domain may even be an advantage, because a certain distance bears a smaller risk of the facilitator influencing the direction of the workshop by bringing in or even imposing his or her own opinion.

It is important that both facilitators familiarise themselves with the participants' work environment and work places. Acquiring an overview of the work processes of the manufacturing plant and the production process before conducting the workshops, forms part of the facilitators' responsibilities. We therefore recommend that the facilitators visit the plant and exchange expert opinions about work processes with supervisors and skilled workers, who will not be involved in the workshops. This is necessary in order to obtain an understanding of the working and learning environment the workshop participants' vocational competence development is embedded in, and they will refer to during the expert workers workshops.

2.3 How to select and invite participants

As the facilitators rely upon the company's cooperation in selecting the workshop participants, it is very important to establish good contacts with the company division that is responsible for the occupational domain of investigation. A good cooperation will significantly support the smooth implementation of the workshops and the quality of the workshop results. As the company will typically suggest potential workshop candidates and make a pre-selection, two aspects are very important: first, to identify and establish good collaboration with those supervisors, team leaders, 'Meisters' or managers, who can best judge upon the skills and quality of work of their staff; second, it is important to have a contact person in the company who feels responsible for the workshops and can

help with coordinating, for example, the plant visit, the contacts and exchange with team leaders and supervisors, the selection of participants and the implementation of the workshops. A good company contact will also be helpful for a further follow-up to clarify questions and doubts regarding the lists of typical tasks. It is also possible to send a summary report to the respective contact person for further evaluation and discussion.

The selection of participants should follow the criteria of representing the respective trade or area of skilled labour. This makes the professional task, which the potential participant is currently performing, and his or her actual operational area and work profile, the most important selection criteria. This means that the expert workers who are invited to participate in 'expert workers workshops' must actually perform the core professional tasks of the occupational field of investigation. This is very important. That the participant has also been trained in the respective occupational domain is not required, but in most cases this would prove to be an advantage. However, somebody who has only acquired some general knowledge of the trade by means of initial training, for example, without having relevant practical work experience would not be a suitable candidate. In addition, direct supervisors should not be invited, as this would generate some kind of dependency relationship between participants.

In addition to the criteria described above, the following principles should be taken into account when identifying suitable expert workers:

- ⇒ The expert worker must have acquired significant work experience in the respective trade or occupational domain.
- ⇒ He or she has regularly followed some kind of formal or informal continuing vocational training in order to enhance work-related skills and competences.
- ⇒ The expert worker's current work profile is closely related to the initial training he or she has received.
- ⇒ The current work profile involves technologically advanced work processes.
- ⇒ The expert worker forms part of flexible work structures and a flexible work organisation.
- ⇒ His or her professional tasks are complex and driven by innovation.
- ⇒ The expert worker has some degree of autonomy in performing the work he or she is doing and can contribute his or her own ideas.

Participants also need to be open to share their work-related knowledge, for example about machines, tools, methods, work organisation and training. They must also be able to reflect upon their technical knowledge and have some communication skills in order to be able to describe and explain work processes and tasks. Of course, their participation in the workshops is always voluntary.

The above list of selection criteria for potential participants does not imply that each participant must fulfil all these criteria. The decision as to whether someone may be a suitable candidate is ultimately left to the facilitators. Even a participant, who does not meet all of the expected criteria, may still be considered an expert worker who can significantly contribute towards the success of the workshop.

Tool: Checklist for selecting participants	
⇒ The work-related tasks performed form part of the occupational domain of investigation	<input type="checkbox"/>
⇒ The current operational area represents the occupational domain of investigation	<input type="checkbox"/>
⇒ The worker has done his or her initial training in the occupational field	<input type="checkbox"/>
⇒ He/she has acquired significant work experience	<input type="checkbox"/>
⇒ He/she has regularly followed some kind of formal or informal continuing vocational training in the relevant occupational field	<input type="checkbox"/>
⇒ The current work profile involves technologically advanced work processes	<input type="checkbox"/>
⇒ The worker is involved in flexible work structures and work organisation	<input type="checkbox"/>
⇒ His/her professional tasks are complex	<input type="checkbox"/>
⇒ He/she has some degree of autonomy in performing and planning work tasks	<input type="checkbox"/>
⇒ There is no dependency relationship with other participants	<input type="checkbox"/>
⇒ The worker's participation in the workshop is voluntary	<input type="checkbox"/>

Illustration 2: Checklist for the selection of participants

A good selection of participants will significantly contribute towards the success of the 'expert workers workshops'. The technical knowledge and work experience of the invited participants will determine how well and to what level of detail the occupational domain can be assessed during the workshop. It is important to keep in mind that the statements participants make about their technical knowledge and work experiences are rooted in their personal occupational history. Participants, who cannot be considered 'experts' in the trade of investigation, also cannot contribute productively towards the results of the workshop. In the worst case, they may even mislead or distort the results. A toolmaker, for example, will not be able to make detailed statements about the professional tasks of an industrial mechanic who works in the maintenance unit of a big production plant.

It is difficult to give a definite recommendation concerning the minimum number of participants a workshop should involve. Each company size requires a different number in order to be representative. For large companies, for example, 10 participants may be appropriate, whereas for small and medium size enterprises it can be less.

3 How to implement 'Expert Workers Workshops'

3.1 Welcome and introduction

After the participants have gathered, they attend an informal reception during which they take a seat and get to know each other. When the group of participants is complete, the facilitators welcome the participants and introduce themselves. This is followed by a short introduction: the facilitators explain the background and concept of the workshop, the associated objectives and how participants were selected. For this introduction the following points should be considered:

- ⇒ **Objectives of the 'expert workers workshop'**: Analysing and formulating core professional tasks of the trade and assigning them to different skill levels.
- ⇒ **Basic assumption of the 'expert workers workshop'**: Every occupational field can be described by identifying a limited number of core professional tasks. No one is better equipped to describe a particular domain accurately and completely than the skilled worker who works in the respective trade at the operational level.
- ⇒ **Justification for the selection of participants**: As experienced skilled workers, the participants represent the trade and its typical tasks and have a well-founded knowledge of the vocational practice.

After this introduction, the facilitators present an overview of the sessions and structure of the workshop using overhead slides. It is important to set a time for going on break and for the ending of the workshop. The purpose of the tape recording for the evaluation of the workshop needs to be explained. Participants need to agree that the discussions are being taped. It is the responsibility of the facilitators to ensure the anonymity of the results. During the workshop the facilitators should indicate when the taping is about to be started or stopped.

At the end of the welcoming and introductory session, the facilitators and participants briefly present themselves from their seats. Each individual presentation should include the name, the current operational area and how their current tasks relate to the overall production process, the vocational training and a brief outline of the career history. This round of introduction of all participants should be kept to a total of about thirty minutes, i.e. the facilitator should allow each person two to three minutes for presenting. At this point, each participant should make a nametag so that participants can address each other by name during the workshop. If the facilitators know all the names of the participants in advance, nametags can be prepared beforehand and be handed out during the time the participants are introducing themselves.

3.2 Personal occupational history

While the purpose of participants presenting themselves is to get to know each other, the assessment of the occupational history of each participant provides the basic material for the further development of the 'expert workers workshop'. Therefore, the facilitators need to pay close attention to the precise

formulation of the tasks and the accurate description of the terms used, which are to be illustrated with suitable examples.

In particular, the following two operational definitions must be well explained to the participants: 'core professional tasks' and 'stages of professional development'.

Definition: Professional tasks

⇒ Core professional tasks describe the respective skilled labour on the basis of purposeful and sense-giving work contexts. Professional tasks cover a complete job and are typical for a particular trade.

Definition: Stages of professional development

⇒ Stages of professional development refer to concrete workstations, operational areas and other work areas or roles that have formed the expert worker during his or her career history.

Illustration 3: Definition of key workshop terminology

In the course of the workshop, the identified professional tasks will gradually be extracted from the work-specific context and generalised. When participants outline and describe their personal occupational history, the professional tasks they identify are strongly linked to their personal experiences and the respective operational area at their workplace. Therefore in this first phase of assessing professional tasks, the term 'example task' is used to stress their illustrative nature.

After the description and collection of professional tasks have been completed and all tasks have been integrated into a common list, the concept of 'characteristic' or 'typical professional task' can be introduced. Typical professional tasks (TPTs) are different from the formerly identified core professional tasks in that they possess a general validity, which is independent of a concrete work context or person.

A work profile can change not only in terms of location, but also in terms of content, for example, through the extension of the range of tasks it involves. Such kind of modification of content at a particular stage of professional development is described hereby with the example of a skilled worker's operational area in a maintenance workshop. One professional task, for example, consisted of maintaining and repairing automatic welders. This operational area could change when assuming additional management responsibilities by means of qualifying as 'Meister' for maintenance and being given the additional duty of 'optimising the production process'.

The workshop-specific terminology should be explained and clarified in detail using examples from the trades of investigation or the assigned broader occupational field.

Example A: Stages of professional development of a skilled metal worker

Stage 3: Maintenance workshop in mass production

Task 1: Performing maintenance duties for the production plant

Task 2: Repairing technical systems

Task 3: Making helpful devices

Task 4: Optimising production processes

Example B: Stages of professional development for electrical engineering

Stage 2: Production maintenance

Task 1: Checking and repairing equipment

Task 2: Repairing electric motors and drives

Task 3: Installing, de-installing and setting sensors and actuators

Task 4: Fault diagnosis and correction for electrical installations

Illustration 4: Examples illustrating stages of professional development and respective tasks

The next workstep consists of developing a personal occupational history for each participant (cf. Illustration 5). This workstep can only be introduced after the facilitators and all the participants have developed a common understanding of the fundamental terminology used in the workshop. The facilitators have to stress how important the stages of professional development and the assigned professional tasks are for the successful development of the workshop.

The session on developing the participant's personal occupational history starts with identifying the most important stages of the professional development of each participant starting from the initial vocational training up to the level of becoming an expert worker. To avoid too fine a subdivision, each participant is advised not to exceed the limit of five stages. Participants, who wish to consider more than five stages, are asked to combine stages or select the five most important stages to be presented. The advanced skilled workers should also name three to four professional tasks, which they performed during the stages they identified and they consider to have been decisive for their career.

Workstep 1: Personal occupational history

- ⇒ Please, name the most important stages (maximum 5) of your professional development up to the point of becoming an 'expert worker'.
- ⇒ Please, give three to four typical examples of tasks from your vocational practice that you have performed.
- ⇒ Please, write down the stages and the examples of tasks on the prepared overhead for the presentation of the results.
- ⇒ We would like you to present your occupational history in plenum in 15-20 minutes.

Illustration 5: Workstep 1: Personal occupational history

Developing the personal occupational history should be completed by each participant individually within 15–20 minutes. To support this workstep, a pre-structured worksheet is prepared on which the stages of professional development and the assigned tasks should be written down following the example sheet below. To make the presentation of the results easier, the worksheets are copied onto overheads and overhead pens are given out. The facilitators answer questions and make sure the time limit is kept.

Stage 1:	
Task 1:	_____
Task 2:	_____
Task 3:	_____
Task 4:	_____
Stage 2:	
Task 1:	_____
..	
Stage 3:	
Task 1:	_____
..	

Illustration 6: Worksheet: Personal occupational history

After the participants have outlined their personal occupational history, they are asked to mark the professional tasks that have particularly challenged them with regards to their current work and that have significantly added to their skills and competence development (cf. Illustration 7). Alternatively, these tasks can also be outlined when making the presentation: participants mark the particularly challenging and qualifying professional tasks when directly asked by the facilitators during making the presentation.

Workstep 2: Identifying challenging and qualifying tasks in the context of developing the personal occupational history

⇒ *Guiding Question:* “Which of the professional tasks you mentioned presented a particular challenge and had a qualifying aspect in terms of your current work practice? Please, mark these professional tasks on the overhead.”

Illustration 7: Workstep 2: Identifying challenging and qualifying tasks in the context of the personal occupational history

This part of the presentation should not exceed five minutes per participant. Then, the facilitators and other participants may ask questions, particularly if the stages or tasks are not clear or are too general in the way they are described.

In order to get concise responses the following list illustrates possible questions that allow for differentiating between challenging tasks and tasks with insufficient preparation.

Tool: Possible questions supporting the presentation of participants’ personal occupational history

- ⇒ **Challenges:** What was challenging about the professional tasks you mentioned? Were they beyond your ability or were you simply not properly prepared to perform them?
- ⇒ **Difficult Tasks:** What was difficult about the task? When did you realise that it was difficult? How did you overcome the difficulty? How would you deal with such a difficult task today?
- ⇒ **Not well enough prepared:** How did it happen that you were given a task you had not yet been properly prepared for? How did you deal with the problem? How would you handle a task you have not been properly prepared for today?

Illustration 8: Tool: Questions to support participants’ presentation of their personal occupational history

3.3 Compiling core professional tasks

In order to describe a trade on the basis of the concrete tasks an advanced skilled worker should be able to perform, the definitive professional tasks that typically shape the occupational profile need to be compiled. Based on the challenging professional tasks that the participants have described and

explained in the context of developing their personal occupational history, the core professional tasks of a trade will now be identified and described. This workstep is explained in detail below.

Tool: Identifying core professional tasks

- ⇒ The participants compile different kinds of professional tasks, which include those of their current work and those that were identified as being decisive for becoming an expert worker.
- ⇒ Professional tasks that were identified as being decisive to develop into an expert must still be relevant today. However, it is not important whether the expert workers themselves or other skilled workers perform those tasks.

Illustration 9: Tool to identify core professional tasks

Working method: In order to compile a list of professional tasks, three to four participants work together in small groups. Each group is assigned a letter for identification (A, B, C, D...). Participants can form the groups by choice or be counted off by the facilitators. The facilitators should only assign individuals to particular teams when specialisations can clearly be distinguished such as a specialisation as industrial mechanic in the assembly of technical systems, production plant maintenance or the manufacturing of equipment. The intervention of the facilitators in the group formation must be justified. For example, teamwork benefits from a composition of members who perform similar tasks. Co-workers with differing seniority should not be in the same group or only in exceptional cases. Experience has shown that such a configuration may have a negative impact upon the overall group dynamic and the working ability of the whole group.

After the groups have been formed, the facilitators give instructions for how to compile a list of core professional tasks. The two examples below illustrate professional tasks that are exhaustively described including being given a title.

Example A: Professional task in the occupational field of metal work

Task title: Mechanical manufacturing of components and modular parts

- ⇒ The professional task covers the manufacturing of single components and modules necessary for the production, operation or repair of technical systems. The work pieces have to be manufactured applying different manual and machine manufacturing methods and are assembled into modules. The standards of the single components or the module in terms of functionality, quality (surface quality, deviations, shape and position tolerances) and the costs involved have to be considered and accounted for.

Illustration 10: Example description of core professional tasks

Example B: Professional task in the field of electrical engineering

Task title: Examination and repairing of equipment

⇒ The professional task consists of detecting and eliminating defects in equipment (e.g. power tools, 230 v lines, data lines). If the job cannot be done locally, a backup is to be provided. Repairs are often performed on site depending on the type of equipment and the problem, or in company-owned workshops where quality and cost requirements are met most effectively and repairs can be done much faster.

Illustration 10: Example description of core professional tasks

Each group is given spreadsheets, metaplan cards and pens. For this workstep the facilitators should respect the following guidelines:

- ⇒ Each professional task should be given a title in the form of a full sentence, as well as a sequential number combined with the identifying letter of the group, e.g. A1, A2 ... A14.
- ⇒ In order to give the participants an idea about the required level of abstraction when describing professional tasks, ten to twenty such tasks should be sufficient to describe a trade or occupational profile.
- ⇒ The professional tasks should be described in such a way that they convey an accurate picture of the participant's actual work practice.
- ⇒ An exhaustive description of a professional task includes an explanation of the tools and methods it involves and the demands specific to the type of skilled work it requires.
- ⇒ The titles and descriptions of the professional tasks are written down on the prepared spreadsheets, which are copied and distributed to all participants.
- ⇒ Additionally, the title of the professional task and the corresponding numbering should be written on the metaplan cards for making a presentation on the pinboard.
- ⇒ The whole exercise should not exceed 60 minutes. In order to keep to the timeframe, it is recommended that the initial description of the professional tasks should only be sketched out or limited to keywords.

In addition to the above-mentioned guidelines for compiling professional tasks, the facilitators should suggest working through the following three steps (cf. Illustration 11):

1. All professional tasks that *have been performed by all group members* are compiled, discussed and entered into the prepared spreadsheets. The tasks that participants already mentioned during their presentation are also included.
2. The professional tasks that *only a few members of the group performed* are identified. These tasks are briefly presented by the group members concerned and the working team discusses and decides which of those professional tasks should be included in the list.
3. Each group checks whether there exist any other professional tasks that are typical for the occupational field or that are likely to shape the work of the trade in the near future, but that *have not (yet) been performed by any of the group members*. These tasks should also be added to the list and described on the spreadsheet.

Workstep 3: Compiling professional tasks

- ⇒ Please, form groups of 3 to 4 to compile and describe professional tasks. Please, proceed as follows: Identify...
 - a) Professional tasks that all group members have performed in the course of their personal occupational history;
 - b) Professional tasks that only some of the group members are performing, but that are decisive for the occupational field;
 - c) Professional tasks that none of the group members is or has been performing, but that you consider typical for the trade or that will shape the occupational field in the near future.
- ⇒ Please, write the title of each professional task on a metaplan card in a numbered order, e.g. Group A: A1, A2, A3, etc.
- ⇒ Please, present the professional tasks you listed in a plenary session in about 60 minutes.

Illustration 11: Guiding steps for compiling core professional tasks

While the groups are working, the facilitators make sure that participants have understood the workstep and the instructions given and answer any question that may arise. They should try to follow the discussions in the individual groups and take notes of arising problems or particularly interesting contributions. They should also enforce the timeframe. If some groups encounter difficulties in meeting the set timeframe, they should still focus on creating a complete list of the professional tasks, but should restrict themselves to describing them by using keywords only. Before the presentation of the group results can be given in plenum, each participant has to be given a hard copy of the list of professional tasks produced by the other working groups. Making and distributing the copies may be a good time to go for a break.

3.4 Presentation of professional tasks

At this stage of the workshop the group results will be presented and discussed with the aim of putting together a common list of professional tasks that are characteristic or typical for the trade of investigation. Characteristic or typical professional tasks (TPTs) are tasks that can be generated in a way that they can be considered independent of a particular operational area, work setting or a specific person.

Working method: The titles or labels of the professional tasks that the groups have identified are presented in a plenary session using the prepared metaplan cards that the participants are placing on the pinboard (see Illustration 13). In addition, hard copies of the completed descriptions of all group results are made available to the participants so that everybody can understand in which context the respective professional tasks have been developed.

Workstep 4: Presentation and classification of professional tasks

- ⇒ Group A presents and explains the first professional task as A1.
- ⇒ The other participants ask questions about the presented task.
- ⇒ Similar professional tasks identified by the other groups are classified as belonging to task A1.
- ⇒ Group B continues with presenting the second professional task as B1.
- ⇒ This procedure continues until all professional tasks identified during the group work have been presented and discussed.
- ⇒ The classifications of the professional tasks are checked according to the context and, if necessary, corrected.
- ⇒ Groups of similar professional tasks are listed under a common heading or title.

Illustration 12: Workstep 4: Presentation and classification of professional tasks

The presentation of the group results aims at developing a common list of typical professional tasks. The presentation in plenum should be structured as follows:

1. Groups take turns presenting a professional task by pinning it to the board and explaining it. Each card is marked with the letter of the group and a task number so that an unambiguous title can be assigned to each professional task as described in detail on the paper copies that were distributed to the participants. The presented explanations could be made along the following categories: work pieces, tools, methods, organisation and demands that are characteristic for or typical of the professional tasks. The facilitators ask questions when appropriate and write down additional comments.
2. After the first professional task has been written on the board in its edited form, the other groups are asked to add any of their tasks that are of the same or of similar nature. After this exercise, the assignments the groups made are discussed in plenum. At this point the facilitators pose the following questions in order to initiate a discussion: "In what ways are the professional tasks similar?" "Are they similar enough to be integrated into one task?" "Does one task

encompass another so that it can be subsumed?” If possible, similar professional tasks should be combined by consensus of all participants. The facilitators should note and document minority arguments and opinions so that the decision of the plenum regarding the evaluation of the workshop is justifiable and understandable.

3. The above described procedure of presenting, discussing and summarising the first professional task is repeated until all tasks have been discussed in the plenary session. To ensure that all groups actively engage in the presentation, groups take turns presenting the professional tasks: group A presents its first task, then group B, then group C, etc.

After all professional tasks have been presented and discussed according to this procedure the participants and facilitators check the classifications made and make corrections where appropriate. This additional checking after the presentation is completed is absolutely necessary, because an overview of the total spectrum of professional tasks is necessary to assign some tasks, while others may be revealed to be falsely categorised. When summarising the group results the facilitators have to be aware of the level of abstraction of the professional tasks that were identified as typical of the occupational field. Otherwise there is always the danger of grouping all tasks into one single all-encompassing professional task or that professional tasks are interpreted as sub-tasks or abstract work actions.

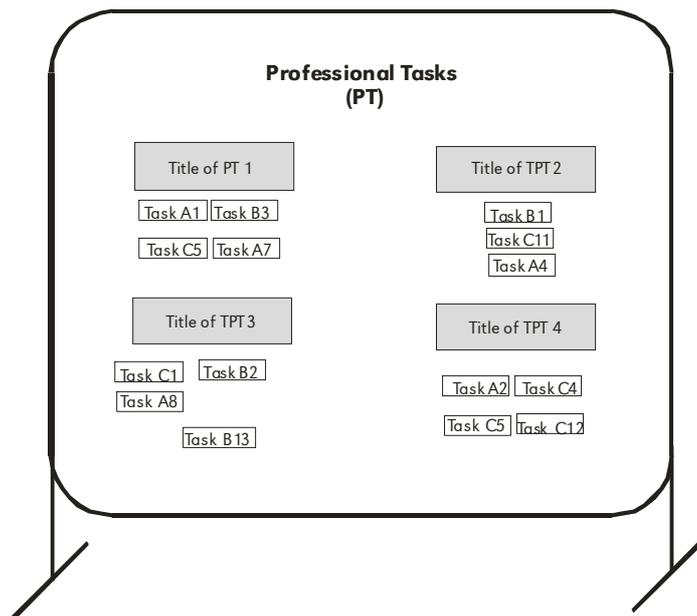


Illustration 13: Example of a pinboard classifying professional tasks

Similar tasks should be clustered and listed under the same heading or title. If the participants cannot agree upon an appropriate heading, the facilitators can suggest a title or assist in formulating a title. The headings are important as they relate to the core professional tasks listed under them. The titles will also be written on metacards and numbered continuously.

Integrating the group results into a common list of typical professional tasks as well as the agreement upon corresponding titles indicates an important interim result of the workshop. That is why sufficient time should be allocated to presenting the professional tasks in plenum.

3.5 Analysis of professional tasks

The identified typical professional tasks shall now be analysed by the participants in terms of the training requirements they involve in the context of skilled labour. The objective of this workstep is to categorise the tasks according to at least two, but not more than four different skill levels. Two skill levels that represent a beginner and an advanced or 'expert' stage are sufficient to ensure obtaining valuable results for this workstep. Experiences have shown that participants tend to classify along three (low, intermediate, high) or even four (low, intermediate, high, very high) skill levels.

We recommend that the facilitators prepare one pinboards for each skill level to classify the different tasks. The first skill level could, for example, be explained as follows: "The professional task can already be performed by a beginner. At the same time it provides an overview of the occupational field". The facilitators should prepare those pinboards before the session starts. If the participants wish to be informed about the objectives and background of the analysis of the professional tasks, the explanation shown in the box below can be given.

Tool: Explanation of classification of professional tasks according to different skill levels

⇒ "You have successfully completed the journey from beginner to expert in your specialisation. On the way you have successfully overcome the difficulties and obstacles and you know what is required to achieve this. In order to better prepare trainees, who would like to follow your example, we would like to ask you to classify the identified professional tasks according to different skill requirements they involve."

Illustration 14: Tool: Classifying professional tasks according to different skill levels

The participants may have some very divergent opinions as concerns the skill levels of the different tasks they have identified. To convince the participants that it is possible to make such a classification it may be useful to have a good example at hand. The examples should illustrate that an apparently 'easy task' may actually require complex and advanced skills, whereas a 'difficult task' may even be carried out by a beginner. The facilitators should take detailed notes of those examples as they reveal some first ideas about the evaluation tasks that need to be developed during the second phase of the project.

During this workstep it is important to keep in mind that the level of difficulty of a professional task is always assessed subjectively and depends on the level of competence of the particular worker

and how he or she perceives the degree of difficulty of the task. Once somebody has acquired the skills to master a particular task, it is 'easy', while at a beginner stage all tasks are 'difficult'. In addition, the mastering of a task is always subject to certain contingencies such as time pressure, individual competences, requirements that are inherent of the task itself, etc. Ultimately, the classification into skill levels is inherent of the skills of the participants, not inherent of the tasks themselves.

Working method: For classifying the professional tasks according to at least two different skill levels, we recommend proceeding as follows:

1. Group A suggests an assignment to a skill level for the first typical professional task and justifies its classification. The other working groups, on the basis of their own results, check whether or not they can agree to the suggested classification. Once an agreement is reached, the professional task in question is put on the pinboard as a metaplan card.
2. If the first suggestion is not accepted, a counter suggestion has to be made. All alternative suggestions then have to be discussed. If the discussion does not lead to a definite classification, two versions of the professional task will be created and put on metaplan cards to be assigned to the different skill levels in question. Both versions of the professional task should be reflected in the title to underline the differences between the two versions. One of the reasons why a professional task may be assigned to different skill levels may be rooted in the personal work experience of the participants. In this case it may be discovered later on that there has been a difference in understanding the content of a professional task that may have remained unnoticed during the course of the presentation (see also chapter 3.4).
3. After the first professional task has been assigned to a skill level, group B suggests a classification for the next professional task, and so on. This procedure is followed until all the professional tasks have been assigned to a skill level.

Workstep 6: Assigning professional tasks to different skill levels

- ⇒ Please assign the professional tasks to different skill levels.
- ⇒ Group A suggests a classification for the first task and the other working groups agree or make a counter proposal.
- ⇒ The alternative proposals are discussed. In case that no agreement can be reached, two versions of the professional task are created and assigned to different skill levels.
- ⇒ The double classification should also be reflected in selecting two different titles which reflect how the two versions differ.
- ⇒ Group B makes a proposal for the second task, etc.

Illustration 15: Workstep 6: Assigning professional tasks to different skill levels

The facilitators ask questions in order to be able to understand the decision making process. If classifications to particular skill levels, in their opinion, are not appropriate, they initiate a discussion of possible alternative classifications. We recommend that tasks are assigned to at least two but not more than four different skill levels. The two skill levels should represent a beginner and an advanced stage.

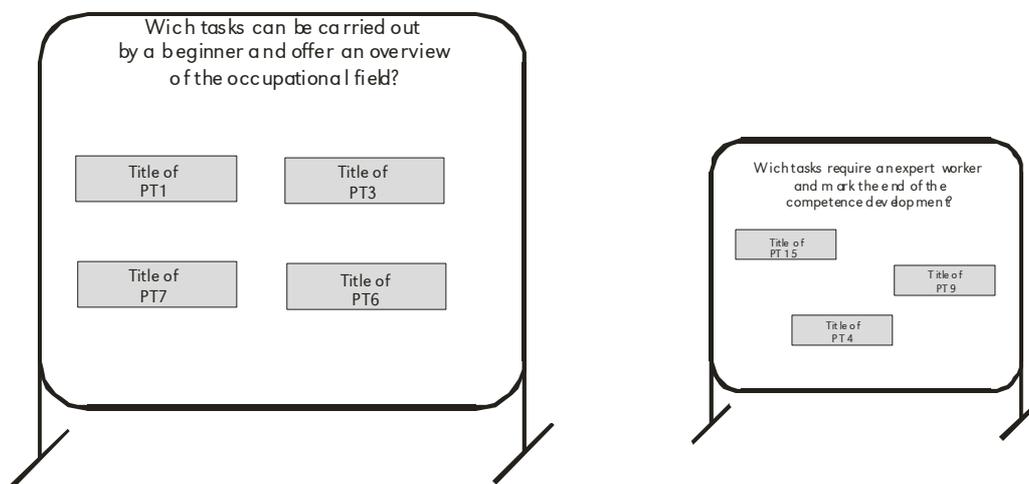


Illustration 16: Pinboards with classified TPTs according to different skill levels

The final results are to be evaluated by the participants. Are the classifications made basically correct, or are there still fundamental doubts? In order to initiate further discussions the facilitators can also make alternative suggestions. If the distribution of the professional tasks to the different skill levels is uneven, the facilitators should ask the participants how tasks could be changed so that they could, for instance, be performed by a beginner. The facilitators document the classification of professional tasks to different skill levels.

The description of a typical professional task should follow the format illustrated in chapter 3.6. It should have a length of approximately one page and include the exemplified categories of

information and the respective skill level. Typically, an occupational specialisation can and should be characterised by eight to twelve typical professional tasks. The completed list of tasks provides the basis for the second project phase that focuses on the evaluation of vocational competence development. For this phase it is important to distinguish between professional tasks that are more suitable for beginners and those that can be mastered by an expert.

It is important to note that in the second phase we will not present a professional task that has been mentioned by the expert workers during the workshops. Developing the evaluation tasks requires a different methodology for which the identified core professional tasks constitute an important basis. Outlining the content and structure of an evaluation task, however, involves very different worksteps than the ones implemented during the expert workers workshops. The project has also developed a second manual that outlines the methodology of the evaluation tasks.

3.6 Examples: Description of typical professional tasks (TPTs) on the basis of different skill levels

Example 1: TPT of the occupational profile 'mechatronic'

Task title: Fault diagnosis of mechatronic systems
Description: <p>The first step of mechatronic system fault analysis consists of comparing the defect condition of the system or a particular part with the condition of the system in order. For that purpose, system parameters need to be analysed and compared. A next step is to interpret and evaluate fault and function records. In addition, possible faults as projected by the manufacturer are being checked.</p> <p>The diagnosed fault is being analysed in order to define the cause of the failure. The fault diagnosis requires applying different equipment and programmes. Once the fault is being defined, a detailed documentation is required that is put in relation and is making reference to other system errors.</p>
Work areas and interfaces with other production units: <p>Fault diagnosis applies to all kinds of machines and facilities needed for the production of the engine including mechatronic, thermodynamic and chemical systems. It is most frequently required before the reinstallation of the system, not so much during repair jobs that are typically performed following a concrete work order.</p>
Specificities: <p>In contrast to other occupational specialisations, mechatronics are involved in quality control, which is randomly performed at each stage of the production process. As this branch of the company is specialised in producing engines, work processes are highly automatic. This requires that plant facilities and machines are being maintained on a regular basis.</p>
Required experiences: <p>The task requires that workers are familiar with the specificities of fault documentation typical for this particular plant or division. They also need to know how to plan and control work processes and their logistics. New plant facilities and/or formerly unknown failures require an understanding of the manufacturer's directions for use and the ability to translate visual drafts into verbal or written language.</p>
Remarks: <p>Skills level: high</p>

Example 2: TPT of the occupational profile of a multi-skilled technician working for the cosmetics industry

Task: Repairing production machinery
Description: <p>The cosmetics factory blends and packs hair-care and cosmetic products as part of a multi-national operation. Plant organisation centres on production lines, which are adapted for specific products. Process operators staff these lines and carry out some routine maintenance and adjustment tasks, but more complicated repairs, maintenance and rebuilding work are carried out by multi-skilled technicians working under a technical team leader (TTL).</p>
Business segments concerned and interfaces: <p>Secondary manufacturing and packaging prior to warehousing and dispatch. The business is market-driven and has to respond quickly to demands for new forms of product. MSTs therefore need to interface with design and marketing departments in order to ensure quality standards are met, whilst minimising costs due to downtime.</p>
Specificities: <p>The majority of the factory products are in the form of liquids and waxes packaged in plastic bottles or tubes. There are stringent legal and marketing requirements regarding labelling and consistency of quantity measurement. This task is part of a flexible production process, which adapts to the needs of the company marketing department and to consumer demands. Due to the complexity of the manufacturing process, a wide range of machinery is used in the plant, and the learning process for multi-skilled technicians is therefore complex. Individual machine types may only be required occasionally resulting in a fragmented learning process.</p>
Preconditions / required experiences: <p>Each line consists of a number of machines with specific functions (e.g. fillers, labellers), which work together as a production line. The machines are from multiple sources and may have been used previously on other lines or in other plants. Replacement parts may be cannibalised from older machines, sourced from manufacturers or made to order by outside contractors. The task requires that the MST exercises judgement in negotiating for, and obtaining, the requisite parts. Although installing parts or performing other repair operations follows a logical path, experience is required to overcome situational difficulties or time constraints encountered as a result of the 'lean production' management process.</p>
Remarks: <p>Knowledge of the work process as a whole is required in order to assess the seriousness of machine or systems failure, to take appropriate remedial action and to prevent recurrences. In addition, the MSTs must maintain a network of trusted contractors and knowledge of when to outsource specific operations. This knowledge is frequently based on craft skills acquired in apprenticeship and/or in previous employment. The skills level is dependent upon the specific context as well as certain conditionalities and constraints.</p>

Example 3: TPT of the occupational profile 'helicopter fitter'

Task: Complex Assembly
Description: Helicopter production implies the assembly of structural elements (under-frame and coachwork) and the mounting of fitting elements (hydraulic, electrical parts, flying controls, engine, cockpit layout, etc.). The task comprises sticking, riveting and screwing operations of metal and composite materials and fittings. This assembly task is defined as complex assembly when, due to safety and quality demands, it requires fine adjustments with strong precision constraints to comply with the manufacturing standards (regarding alignment and wedging of elements, values of torques screwing, etc.).
Work areas concerned and interfaces with other production units: Several fitters may have to work simultaneously on the same helicopter. Due to a confined work area, this implies the solving of organisation and coordination problems. In addition to their own checking operations, the fitters may have to participate in final quality control and functioning tests.
Specificities: The task requires a very strict follow-up of written procedures and an on-going checking of the component parts. The required adjustments often imply using specific tools and measuring devices.
Preconditions / required experiences: The tasks requires that workers master a large range of adjusting and fitting methods with a great diversity of materials, as well as technical blueprint reading.
Remarks: Skill level: high

3.7 Ending the workshop

To conclude the workshop, the facilitators ask the participants to give feedback regarding the process and content of the 'expert workers workshop'. They may address, for example, any fundamental aspects relevant for the occupational field, which have been overlooked. They should also try to get an evaluation of the results of the workshop from the participants. As methodological variation to group discussions, feedback can also be given by brainstorming or by collecting keywords. This largely depends upon the style of moderation applied.

The facilitators should likewise summarise the results from their perspective and give an idea about their personal evaluation. The most important thing here is the drafting of a detailed description of the identified typical professional tasks based on the results of the workshop.

The facilitators close the 'expert workers workshop' with a warm thank-you to the participants.

4 Glossary

4.1 English

Expert worker: An expert worker is a skilled worker at intermediate or higher skill level who has been trained in the respective occupational field. He or she has acquired relevant work experience and is engaged in regularly up-dating skills and competences by means of formal or informal continuing training to be able to master the vocational practice. The work tasks the expert worker is performing are complex and allow for some degree of autonomy.

Job demands define what is required of the worker in terms of competences, skills and respective training in order to perform a job correctly and to the expected quality, efficiency and productivity standards.

Personal occupational history: The personal occupational history outlines the workers career history along decisive stages of their professional development. This is mostly done in a chronological order and provides a tool to systematically assess work and learning experiences of the individual worker by making reference to both the vocational practice and training. In the context of expert workers workshops it is important to underline the development from transforming from a beginner into an expert worker. In this particular case the personal occupational history is developed along professional tasks that are linked to the personal experience and the respective operational area and workplace of the participants.

Professional tasks describe the respective skilled labour on the basis of purposeful and sense-giving work contexts. They help to obtain an objective and impartial view of the work done in relation to work processes and the wider industrial context. Each professional task covers a complete job that is described in terms of the expected results. It is the defined results that give meaning to each professional task. The aim of the expert workers workshops is to identify a limited number of core tasks that are typical for a particular trade or occupational field. Those tasks should possess a general validity which is independent of a concrete work context or person.

Stages of professional development refer to concrete workstations, operational areas and other work areas that have formed the expert worker during his or her career history. Such stages are connected to the operational areas that are characteristic for the respective work and industrial processes and that the expert worker has mastered in the course of his or her occupational trajectory. Important here is the notion that the stages of professional development imply a progressive or incremental dimension by building on the work experiences formerly made.

Sub-task: Each professional task is composed of several subordinated sub-tasks which can be further divided into simple work actions. Sub-tasks in themselves cannot be regarded as being purposeful as their purpose is always connected to and forms part of the overall, broader professional task. While the performance of professional tasks enhances a worker's competence and skills development, sub-tasks rather involve little or no learning components as they rather rely on the reproduction of basic skill sets. Performing sub-tasks usually does not reveal the skill level that is required to master the higher level professional task. Therefore, sub-tasks also do not reveal the learning path involved in becoming an expert worker. Sub-tasks do not have the same purpose like professional tasks. Workers who only perform sub-tasks (as well as basic work actions) will eventually get disconnected from the objectives

and purpose of the broader work context. Thus, they do not need to develop the skills that are required to perform to the expected standards inherent of the related professional task.

Work actions refer to basic actions that workers perform in order to master a sub-task. They constitute components of sub-tasks and require only simple and very basic skill sets.

4.2 Deutsch

Experten-Facharbeiter: Sie besitzen Fähigkeiten, die eher einem höheren als mittlerem Qualifikationsniveau zuzuordnen sind. In der Regel erhielten sie ihre Ausbildung auch in dem Gebiet (Branche, Berufsfeld, Beruf), in dem sie zum Zeitpunkt der Untersuchung arbeiten. Sie verfügen über eine ausreichende bis bedeutende Berufserfahrung und haben sich kontinuierlich weitergebildet bzw. auf andere Weise ihre Fähigkeiten so weiterentwickelt, daß sie das durchschnittlich moderne Niveau der Facharbeit beherrschen. Ihre Arbeitsaufgaben sind komplex angelegt und verlangen eine gewisse Autonomie bzw. einen Entscheidungsspielraum und die entsprechende Selbständigkeit.

Anforderungen an die Facharbeit: Sie definieren, welche Kompetenzen, Qualifikationen und welche spezielle Erfahrung bzw. Vorbereitung erforderlich sind, um den Arbeitsauftrag erwartungsgemäß und entsprechend den Standards von Qualität, Produktivität und Rentabilität auszuführen.

Individueller beruflicher Werdegang: Dieser beschreibt den Verlauf der beruflichen Entwicklung in Form von Abschnitten, wichtigen Schritten und Veränderungen. Er läßt sich am besten zeitlich darstellen und gibt ein Bild oder einen Eindruck über berufsspezifische Entwicklungsverläufe vom Anfänger zum Experten. Er schließt die Berufsausbildung bzw. -vorbereitung mit ein. In einem Experten-Facharbeiter-Workshop sollte der berufliche Werdegang zugehörigen Arbeitsaufgaben dokumentiert werden, die jeweils charakteristisch für ein Erfahrungsniveau bzw. einen bestimmten, entwicklungsrelevanten Arbeitsplatz sind.

Berufliche Arbeitsaufgaben beschreiben die konkrete Facharbeit anhand von sinnvermittelnden Arbeitszusammenhängen und charakteristischen Aufträgen, die für den Beruf typisch sind und vollständige berufliche Handlungen umfassen. Sie dienen der Objektivierung der geleisteten Arbeit in Hinblick auf ihren (anspruchsvollen) Zweck und sinnstiftenden Kontext im Zusammenhang mit anderen Geschäfts- und Arbeitsprozessen. Jede Berufliche Arbeitsaufgabe umfaßt einen vollständigen Auftrag, der ein definiertes Ergebnis erwarten läßt. Dieses Ergebnis macht den Sinn des Auftrags aus. In den Experten-Facharbeiter-Workshops wird versucht, eine bestimmte Anzahl an Arbeitsaufgaben zu identifizieren, die den Kern eines Berufs, einem Arbeitsgebiet oder Beschäftigungsfeld ausmachen. Die so ermittelten Beruflichen Arbeitsaufgaben sollen unabhängig von einem bestimmten Arbeitsplatz oder einer konkreten Person gültig sein.

Stationen der beruflichen Entwicklung: Stationen der beruflichen Entwicklung sind Arbeitsplätze, Werkstätten und andere konkrete betriebliche Arbeitsbereiche, die die Experten der Facharbeit in ihrem beruflichen Werdegang durchlaufen und geprägt haben. Solche Stationen bestehen aus Geschäfts- und Arbeitsprozessen und den dafür charakteristischen Arbeitsplätzen, die die Experten-Facharbeiter im Verlauf ihrer beruflichen Karriere durchlaufen haben. Grundlegend ist die Idee, daß es sich dabei um einen Aufstieg handelt, der proportional zu den vorher gemachten Erfahrungen stattfindet.

Teilaufgaben: Jede Berufliche Arbeitsaufgabe läßt sich in Teilaufgaben zerlegen, die in diesem Sinne der komplexen Aufgabe untergeordnet sind. Die Teilaufgaben selbst zeigen in der Regel nicht das

Kompetenzniveau, das zur Erledigung des übergeordneten Auftrags nötig ist. Daher enthalten sie auch nicht den Lernweg, der zum Anspruchsniveau eines Experten führt. Teilaufgaben erfüllen nicht den Zweck einer Beruflichen Arbeitsaufgabe. Arbeiter, die nur Teilaufgaben ausführen, sind von diesem Zweck abgeschnitten und müssen keine Kompetenzen entwickeln, die zur Erreichung dieses Zwecks in Form des erwarteten Ergebnisses eines Beruflichen Arbeitsauftrags nötig sind.

Arbeitshandlungen: Sie sind Grundlage von Teilaufgaben bzw. deren Elemente, zu deren Erledigung bestimmte Handlungen erforderlich sind, die nur wenig anspruchsvolle Fähigkeiten verlangen.

4.3 Français

Professionnels Confirmés - Ils possèdent les capacités correspondant plutôt à un niveau élevé qu'à un niveau moyen de qualification. En règle générale ils ont été formés dans le champ professionnel (la branche, le champ professionnel, le métier) concerné. Ils disposent d'une expérience professionnelle significative et, afin de se maintenir à un niveau suffisant, ils ont régulièrement mis à jour leurs compétences et leurs qualifications dans le cadre d'une formation continue formelle ou informelle. Leurs tâches professionnelles sont complexes et exigent une certaine autonomie et les marges de décision correspondantes.

Exigences du travail² - Elles définissent les compétences, qualifications et l'expérience ou la préparation spécifiques nécessaires à une réalisation correcte du travail demandé et correspondant aux objectifs attendus de qualité, productivité et rentabilité.

Parcours professionnel individuel - Il décrit chronologiquement les séquences, les étapes importantes et les changements du développement professionnel. Il sert d'outil à la description de la progression professionnelle de novice à expert. Il inclut l'expérience professionnelle et les périodes de formation. Lors de l'atelier d'experts la description du parcours professionnel retient les tâches professionnelles qui sont caractéristiques d'un niveau d'expérience ou d'un emploi significatifs pour le développement ultérieur.

Tâches professionnelles - Elles décrivent le travail concret en se référant aux éléments du contexte qui contribuent à constituer le sens et la finalité du métier pour l'individu. Elles permettent d'objectiver le travail réalisé de manière impartiale par rapport aux processus opérationnels et au contexte plus large de l'activité de l'entreprise. Chaque tâche professionnelle recouvre un processus d'activité complet (planification, réalisation et évaluation) décrit en termes de résultats attendus. C'est ce résultat qui constitue le sens de l'activité (en étant inscrit dans le contexte plus large). Lors de l'atelier expert il conviendra d'identifier parmi ces tâches celles qui constituent le cœur du métier ou du champ professionnel. Ces dernières devraient être indépendantes d'un poste de travail ou d'une personne spécifiques.

Étapes du développement professionnel - Elles font référence aux postes de travail, ateliers et services par lesquels l'expert est passé et a développé sa professionnalité. Ces étapes sont toujours liées avec le métier concerné et l'activité de l'entreprise et ont été maîtrisées par le professionnel dans le cours de sa trajectoire professionnelle. L'idée est primordiale, qu'il devrait s'agir d'étapes ayant marqué une progression, proportionnelle à l'expérience antérieure

² Fiches de poste

Sous-tâches - Chaque tâche professionnelle est décomposable en plusieurs sous-tâches subordonnées qui peuvent à leur tour être divisées en actions élémentaires. En elles-mêmes les sous-tâches ne sont pas significatives car leur finalité est toujours connectée et fait partie de celle de la tâche professionnelle d'ensemble. Alors que la réalisation des tâches professionnelles favorise le développement de la qualification et des compétences, les sous-tâches pour leur part ont peu ou pas de potentiel d'apprentissage dans la mesure où elles reposent plutôt sur la reproduction de compétences élémentaires déjà acquises. La réalisation des sous-tâches n'est généralement pas un indicateur du niveau de compétence requis pour réaliser la tâche et l'activité professionnelle. C'est pourquoi elles ne disent rien sur les voies de développement de l'expertise. Les sous-tâches n'ont pas les mêmes buts que les tâches professionnelles. Les travailleurs qui ne réalisent que des sous-tâches (ou des actions élémentaires) peuvent éventuellement être déconnectés des objectifs et des finalités de l'activité professionnelle globale. Ainsi, ils n'ont pas besoin de développer les compétences nécessaires pour atteindre les normes attendues de la tâche professionnelle.

Actions de travail - C'est l'ensemble des actions et des habiletés élémentaires qui permettent d'exécuter les sous-tâches. Elles servent de base et sont les éléments des sous-tâches. Leur réalisation ne requiert que des capacités de faible niveau d'exigence.

4.4 Polski

Pracownicy wysoko wykwalifikowani: posiadają umiejętności, które należy zaliczyć raczej do wyższego niż średniego poziomu kwalifikacji. Z reguły zdobywają wykształcenie w tej dziedzinie (branży, zawodzie), w której na czas przeprowadzanych badań aktualnie pracują. Dysponują oni wystarczającym lub znacznym doświadczeniem zawodowym, podnosili stale swoje kwalifikacje lub w inny sposób rozwijali swoje umiejętności, co umożliwiło im osiągnięcie przeciętnego współczesnego poziomu pracy zawodowej. Ich zadania zawodowe są ułożone kompleksowo i wymagają pewnej autonomii lub swobody decyzyjnej oraz samodzielności.

Wymagania względem pracy zawodowej: definiują kompetencje, kwalifikacje oraz specjalne doświadczenie lub przygotowanie, niezbędne do wykonania pracy zgodnie z oczekiwaniami i standardami jakości, produktywności i rentowności.

Indywidualny przebieg pracy zawodowej: opisuje rozwój zawodowy w formie etapów, ważnych kroków oraz zmian. Najlepiej przedstawia się on w czasie i daje obraz lub wyobrażenie o specyficznym zawodowym przebiegu rozwoju od pracownika początkującego do eksperta. Obejmuje wykształcenie wzgl. przygotowanie zawodowe. Podczas warsztatów pracowników wysoko wykwalifikowanych przebieg pracy zawodowej powinien być udokumentowany wraz z odpowiednimi przypisanymi im zadaniami zawodowymi, charakterystycznymi dla danego poziomu doświadczenia lub określonego stanowiska pracy, mającego znaczenie dla rozwoju.

Zadania zawodowe opisują konkretną pracę zawodową na podstawie logicznych zależności występujących w pracy i charakterystycznych zadań typowych dla danego zawodu i obejmujących kompletne czynności zawodowe. Służą one skonkretyzowaniu wykonywanej pracy ze względu na jej (wymagający) cel i logiczne powiązanie z innymi procesami pracy i przedsiębiorstwa. Każde zadanie zawodowe obejmuje kompletne polecenie, które każe oczekiwać uzyskania zdefiniowanego wyniku. Wynik ten stanowi sens polecenia. Podczas warsztatów wysoko wykwalifikowanych pracowników próbuje się zdefiniować określoną liczbę zadań zawodowych, stanowiących rdzeń danego zawodu,

diedziny pracy lub obszaru zajęć. Wyłonione w ten sposób zadania zawodowe powinny obowiązywać niezależnie od określonego stanowiska pracy lub konkretnej osoby.

Etapy rozwoju zawodowego: Etapy rozwoju zawodowego są to stanowiska pracy, warsztaty i inne konkretne obszary pracy zakładowej, przez które przechodzą eksperci podczas przebiegu ich pracy zawodowej i które wywierają na nich wpływ. Takie etapy składają się z procesów pracy i przedsiębiorstwa oraz charakterystycznych dla nich stanowisk pracy, przez które muszą przejść pracownicy wysoko wykwalifikowani w ciągu swojej kariery zawodowej. Zasadnicza idea polega na tym, że chodzi tu o awans, który następuje proporcjonalnie do wcześniej zdobytego doświadczenia.

Zadania częściowe: każde zadanie zawodowe można rozłożyć na zadania częściowe, które są przyporządkowane do zadania kompleksowego. Same zadania częściowe nie przedstawiają z reguły poziomu kompetencji, potrzebnego do wykonania nadrzędnego polecenia. Stąd też nie obejmują one celów edukacyjnych prowadzących do osiągnięcia poziomu wymagań stawianych pracownikowi wysoko wykwalifikowanemu. Zadania częściowe nie spełniają celu zadań zawodowych. Pracownicy, którzy wykonują tylko zadania częściowe, są odcięci od tego celu i nie muszą rozwijać kompetencji potrzebnych do osiągnięcia go w formie oczekiwanego wyniku zadania zawodowego.

Czynności robocze: są podstawą zadań częściowych lub ich elementów, do wykonania których potrzebne są określone czynności, nie wymagające zbyt dużych umiejętności.

4.5 Český

Kvalifikovaný dělník - expert: Kvalifikovaný dělník - expert disponuje dovednostmi, které jsou charakteristické pro střední nebo vyšší kvalifikační úroveň. Absolvoval odbornou přípravu v příslušném oboru. Získal příslušné pracovní zkušenosti a pravidelně si obnovuje a rozšiřuje znalosti a dovednosti v rámci formální nebo neformální další odborné přípravy, aby zvládal svoji práci na úrovni nejmodernějších poznatků. Pracovní úkoly, které kvalifikovaný dělník - expert vykonává, mají komplexní charakter a vyžadují jistou míru autonomie, tzn. prostor pro rozhodování a odpovídající samostatnost.

Pracovní požadavky definují, co se od pracovníka vyžaduje po stránce odborné způsobilosti, kvalifikace, speciálních zkušeností resp. odborné přípravy, aby práci vykonával v souladu s odpovídajícími standardy, v požadované kvalitě, efektivnosti a produktivitě.

Odborný vývoj jednotlivce: Popisuje průběh odborného rozvoje ve formě úseků, důležitých kroků a změn. Dá se nejlépe vyjádřit z hlediska času. Poskytuje obraz či přehled o průběhu odborného rozvoje od začátečnicků po experty. Zahrnuje též odborné vzdělávání. Při workshopu s kvalifikovanými dělníky - experty by měl být odborný vývoj jednotlivce dokumentován pracovními úkoly spjatými s odborným vývojem, které jsou typické pro určitou úroveň zkušeností, popř. pro určité pracovní místo.

Pracovní úkoly popisují příslušnou kvalifikovanou práci ve vazbě na konkrétní pracovní kontext a charakteristické vazby, které jsou typické pro dané povolání, a zahrnují příslušné profesní jednání. Slouží k objektivizaci pohledu na vykonávanou práci z hlediska jejího účelu i z hlediska jejího kontextu a souvislostí s jinými pracovními procesy. Každý pracovní úkol představuje ucelený pracovní blok, který je popsán z hlediska očekávaných výsledků. Jde o definici takových výsledků, které dávají smysl danému pracovnímu úkolu. Cílem semináře s kvalifikovanými dělníky - experty je

identifikace omezeného počtu stěžejních úkolů, které tvoří jádro příslušného povolání, pracovní oblasti nebo oboru zaměstnání. Tyto úkoly by měly mít všeobecnou platnost bez ohledu na konkrétní pracovní místo nebo osobu.

Etapy profesního vývoje se vztahují ke konkrétnímu pracovnímu místu, dílně či konkrétnímu oboru práce v podniku, kterými kvalifikovaný dělník – expert prošel a které jej formovaly během jeho pracovní historie. Tyto etapy sestávají z pracovních procesů a pro ně charakteristických pracovních míst, kterými kvalifikovaný dělník – expert prošel v průběhu své profesní kariéry. Důležité je zdůraznit, že etapy profesního vývoje zaznamenávají vzestupnou trajektorii nabývání pracovních zkušeností, ukazující zřetelné zvýšení úrovně oproti předcházejícímu stavu.

Dílčí úkoly: Každý pracovní úkol lze rozložit do několika dílčích úkolů, které jsou v tomto smyslu podřazeny komplexní úloze. Dílčí úkoly samy o sobě nevytvářejí zpravidla o úrovni odborné způsobilosti, která je k jejich zvládnutí nutná. Nelze z nich odvodit ani vzdělávací cestu, která vede k požadované úrovni kvalifikovaného dělníka – experta. Dílčí úkoly nenaplňují smysl pracovních úkolů dané profese. Dělníci, kteří vykonávají pouze dílčí úkoly jsou v tomto smyslu omezeni a nemusí rozvíjet žádné kompetence, které jsou nutné pro dosažení očekávaných výsledků při plnění pracovních úkolů dané profese.

Pracovní úkony jsou základní činnosti, které dělníci vykonávají, aby zvládli dílčí úkol resp. jeho prvky. Tvoří složky dílčího úkolu, k jejichž zvládnutí je třeba určité jednání, které vyžaduje pouze jednoduché nejzákladnější dovednosti.