

Matching Frames

Suggestions of the project “Matching Frames” for the automotive, electronics and the metal sector – Guidelines for implementing and referencing SQF, DQF and EQF

Presentation at the European Conference
*Qualifications Frameworks: A Contribution to the Development
of the European Labour Market?*

June 25th and 26th, 2012 in Munich, Germany

Klaus Ruth, Georg Spöttl (ITB, Universität Bremen)

Overview

- The tasks and goals of the project
- Following the path of work process analyses
- The gain of core work processes for frameworks and outcome-orientation
- Implications for implementing and referencing SQF, DQF and EQF

Matching Frames



Matching Frames

Project info

MatchingFrames – Further Development and transfer of sectoral qualifications frameworks

Leonardo da Vinci – Innovation Transfer Project (ITP)
funded by the National Agency
project term: 2010 until 2012;

Partners of the consortium Germany (coordinator),
Austria, France, Italy, Slovenia, Bulgaria, Lithuania

Matching Frames

The project's aims

The **primary aim** of the project is the development and testing of methods and tools that allow to identify qualifications/profiles and training regulations in three selected sectors (metal and automotive technology, electrical technology) and to assign them to the respective levels of NQFs and to the levels of the EQF.

Matching Frames

Questions addressed by the project

- What are the general shaping principles of sector-related qualifications frameworks and how are their descriptors defined?
- How are work process-oriented qualifications frameworks within sectors shaped and how are their descriptors defined?
- Can the approaches of sector-related qualifications frameworks be compared and linked with the EQF and its descriptors?
- Do sector-related qualifications frameworks hold the potential for supporting referencing ?

Matching Frames

In the perspective of qualifications frameworks a “sector” is

- the entirety of qualifications or occupations that are prevalent in an economic field where similar products or services are produced and where a similar technology is used and similar work processes are carried out;
- furthermore demarcated by a similarity of economic, institutional and organisational structures and a homogeneity of employment and working conditions as well as by similar structures of recruiting and qualifying.

Sector-orientated approaches allow for

- substantiating knowledge, skills and competences through referring to (working and learning) domains;
- specifying learning outcome-orientation by building on work processes;
- determining competences by building on work processes;
- increasing transparency through reference to domains and work processes;
- improving mobility by reference to domains and work processes.

General advantages of a work-based sector-orientated approach

- Occupational identity will be maintained;
- Closeness to the workshop reality;
- Possibility of international comparison;
- Possibility of international transfer.

General foundation of work process-based sectoral frameworks

Basis:

- analyses of work processes and
- related qualified occupational work;

Procedure for the development of sectoral frameworks:

- work process analyses;
- identifying core work processes and core competences;
- development of occupational standards;
- devising a level structure of a sector-related qualifications framework.

Involved actors:

- researcher,
- experts,
- stakeholder.

Advantages of the description of core work processes

- Orientation on results, independent from the way of acquiring the competence.
- Mastering the work requirements instead of learning from curricula.
- Possibility of international comparison.
- Improvement of European mobility.

Steps towards work process-oriented sectoral frameworks, outcome-oriented ordinances and competence-based qualifications

Qualifications

Work Process Analyses

Researcher,
Sector experts,
Shop floor experts



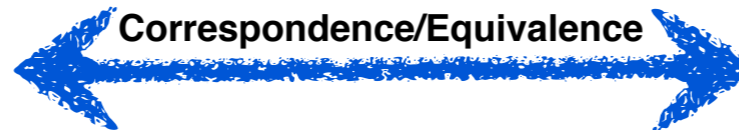
Core Work Processes

Researcher,
Sector experts,
Shop floor experts



Core Competences

Occupational Standards



Core Competences



Competence-based Qualifications



Qualifications Framework

Ordinances

Learning Fields



Analyse & Reformulate Frame Curriculum



LOO Ordinances

Researcher,
Sector experts,
VET experts

To do: Compare,
Analyse phrases,
wording, semantics of
core competences and
frame curriculum

8 steps to develop a sector framework using core work processes

- **Identification** of core work processes (CWP) on the shop-floor level;
- **Structuring** according to their “degree of difficulty” (with shop-floor experts);
- **Grouping** of CWPs according to indivisible tasks;
- **Assignment** of the grouped core work processes according to the level of requirements;
- **Make use of** results of points 3 and 4 in order to determine the level hierarchy;
- **Determination** of a sector related qualifacational framework;
- **Assignment** of the level hierarchy to the EQF;
- { **Determination** of credit points awarded for the levels. }

Example Car Service

Occupational Standard: General Inspection

Core Work Process

The inspection of vehicles required by the manufacturer is carried out. Individual customer requirements, safety precautions and special service actions are taken into consideration. The amount of inspection and service tasks is assessed and determined. Necessary spare parts are provided. The task comprises safety inspections concerning functions, operations, and road worthiness according to legal, manufacturer specific and individual requirements. Vehicle systems are identified by means of technical information systems. Fault finding methods including visual inspection, noise and function tests, integrated and rule oriented diagnosis are applied and documented.....

In order to master “General Inspection” as a core work process the following occupational standards are required:

- Apply inspection procedures and tools to test road worthiness, operational and functional safety and vehicle systems
- Prepare and carry out inspection tasks according to manufacturers’ specifications
- Handle workshop- and customer-specific service documents and information systems
- Ensure the function of vehicle and system conditions
- Assess the function of the entire car
- Cooperation with the manufacturer to get all the data necessary for an efficient service
- Knowledge and confident application of different forms of communication with clients customers and colleagues in relation to preparing, servicing and commissioning of vehicles

Level-structure of a sector related qualification framework.

	No.	Mastery of Occupational Standards	Recognized by EQF terms
Level 1 to 2 Semi-skilled level	1	Standard Service	C: Basic skills required for simple tasks and work under supervision K/S: Basic knowledge/ skills solve routine problems basic factual knowledge
	2	Wear and tear repair	
Level 3/4 Skilled worker	1	Standard Service	C: responsibility for completion of tasks; adapt own behaviour K/S: Knowledge of facts, principles, processes in a field of work; Range of cognitive/ practical skills required to accomplish tasks and solve problems by applying basic methods, tools, materials
	2	Wear and tear repair	
	3	Standard diagnosis, diagnostic procedure, trouble shooting and minor repair	
	4	General inspection	
	5	Undercarriage and suspension repair	
	6	Electrical and electronic repair	
	7	Advanced diagnosis and repair of aggregates, component groups and elements	
Level 4/5 Technician	8	Repair and overhauling of aggregates: engine, gearbox and automatic transmission	C: Responsibility for supervision of work; self-responsibility for service and repair; following work guidelines; K/S: factual and theoretical knowledge of aggregates; generate solutions for efficient repair.
	9	Standard extensions and accessory installation	
Level 5+/6 Assistant Engineer Master Craftsman, BA Technology	10	Personnel affairs	C: Taking over management and supervision tasks in the context of work. K/S: Specialised and theoretical knowledge for management and practical skills
	11	Qualification for accountancy	
	12	Entrepreneurial qualification	

* Abbreviations: C competences, K knowledge, S skills

Implications for implementing and referencing SQF, GQF and EQF

- Procedure also feasible in the metal and electrical sector (examples: industrial production electrician and industrial technician).
- Thus, the procedure can serve as a foundation of a guideline to develop sectoral frameworks and competence based qualifications.
- Referencing of SQF to the EQF is feasible.
- The closeness of sectoral frameworks to real work processes allows for a high level of transparency.

Thank you for your attention!