

	MANUAL TO CERTIFY PEOPLE	Mod 1
	Guidelines for standard designer: How to create a standard and define its competences.	<i>Letizia Sgalambro</i> <i>Peter Voelk</i> <i>Rev: 02</i> <i>05/06/2014</i>

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1.SCOPE AND FIELD OF APPLICATION

This guidelines contains principles and requirements for a standard designer and shall be used by the standard designer within the process of certification competences. They describe the concept, the profession and the process to develop a professional standard.

2.TERMS AND DEFINITIONS

2.1 Standard of Competence. According to ISO definition, a standard is a document that provides requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose.

A standard is a set of rules to be used consistently as good principles, practices or guidelines. In essence, it is an agreed way of doing something.

The point of a standard is to provide a reliable basis for people to share the same expectations about a product or service.

In a certification of competence a standard is a set of competences who define the characteristic of a professional.

2.2 Competence According to the Recommendation of European Parliament on the establishment of European Qualification Framework.¹, **competence** is the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. It is the ability to transform a given **input** in a specific **output**, using the necessary knowledge, skills and behaviour.

Competence differs from a process because it doesn't describe the single actions, but the ability to perform that action

Competence is described in terms of responsibility and autonomy.

2.3 Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In the context of the European Qualifications Framework, knowledge is described as theoretical and/or factual.

2.4 Skill is the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the European Qualifications Framework, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments);

2.5 Behavior, is the attitude we use broadly in professional and personal situations.

2.6 Indicators define the elements (or the evidence) that allow to evaluate the level of the performance described through the elements of competence. They are variables (operational representation of an attribute: quality, characteristic, property) used to detect empirically the criteria of acceptability of the performance. They provide a simple and reliable basis for assessing performance and are measured by descriptors.

2.7 Descriptors define the level (or the quality) of the indicators: from not acceptable to very good. They can be just numbers or can specify in detail what it is expected.

¹ GLOSSARY RECOMMENDATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning <http://www.eucen.eu/EQFpro/GeneralDocs/FilesFeb09/GLOSSARY.pdf>

2.6 Input Knowledge, ideas, information, that you put into work in order to make it succeed.

2.7 Output is the result that a person produces after performing different processes.

2.8 Standard profile An agreed set of characteristic that describes the work of a professional.

3.PROFESSIONAL PROFILE: THE STANDARD DESIGNER

The standard designer has the competence for defining a professional standard, in response to the needs of different stakeholders, as education bodies, local entity, companies, professional associations.

A professional standard will be described as a set of competences where every single input will be transformed in an output throughout different processes.

The elements of competences described (knowledge, skills and behaviour) are the elements necessary to complete the process.

The complexity of each element of competence will categorize the competence according to the European Qualification Framework.

The designer is able to guide the experts in expressing their needs, and to individuate the competences and relevant knowledge, skill and behaviour in order to develop a professional standard accordingly.

The designer is able to review the expert documentation, collect occupational data and define the scope for standard development.

The designer is able to test the standard defined going to the job place to interview the workers, analyzing the activities they carry out.

The designer is able to translate the standard developed into the information system “language”.

4. THE PROCESS: STEPS FOR DEVELOPING THE STANDARD

The process of developing a standard consists of two phases:

1. to place the standard in the legal, ethical and normative context on national and international level to produce a feasibility study,
2. to develop the standard

Each phase has an input and shall produce a specific output.

4.1 PLACING THE STANDARD IN THE LEGAL, ETHICAL AND NORMATIVE CONTEXT ON NATIONAL AND INTERNATIONAL LEVEL

Input: the request of the creation of the standard from the client and the specific field of the profession.

On the base of the context to make feasibility study the designer shall:

- Define the working title of the standard,
- Identify the experts to interview,
- Conduct the interview to determine job competencies requirements,
- Describe the environment (organization of labour: handcraft or scientific organization, working process of the company, customer, technology, supplier, competition, professions, associations, legislation, economics ecc...) using the study of current organizational occupational data and compiles distribution reports, organization and flow charts, and other background information required for study. If the standard refers to a handcraft organization one of the main competence is related to problem solving because the control of the process is due to the worker, and the standard of the product depends on the worker, while when the standard refers to a scientific organization one of the main competence is Adaptability because the standard of the product doesn't depend on the worker,

- Describe the job (job description, organizational position, objectives, results, experience, education, job demands,) using the collection, analysis, and preparation of occupational information from the company using developed occupational data to evaluate or improve methods and techniques for evaluating and training personnel programs, and ISCO International Standard Classification of Occupation or Occupation local codes to identify the main tasks and the general area of the job. The Standard Design can have the ISCO -08 (rev 4) the Code 8550 Educational support activities,
- Define the objective of the profession, such as physical, mental, and training requirements of jobs and person and develops written summaries, such as job descriptions, job specifications,
- Identify the activities (process) carried out to obtain the objective and describe the input and output of the process, using the research on similar professional figures already existing and using the observation of jobs competencies and interviews with the companies to determine job competencies requirements,
- Identify the level of autonomy related to EQF (European Qualification Framework) or local similar framework,
- Identify the Legal ethical regulations.

Output: a feasibility study summarizing all the information gathered

Table 1: Description of the standard

STANDARD NAME:	
ENVIRONMENT DESCRIPTION	
JOB DESCRIPTION	
OBJECTIVE	
ACTIVITIES AND PROCESS	
INPUT	
OUTPUT	
OCCUPATIONAL DATA	

4.2 DEVELOPING THE STANDARD

Input: the feasibility study produced in the previous phase.

To develop a standard it is necessary to:

1	<ul style="list-style-type: none"> • Make a deep analysis of work situation, • Identify the main processes (Macro Phases) and each related input and output, • Describe each process in detail, listing the all the actions. (Table 2)
2	<ul style="list-style-type: none"> • Identify the competences needed for each process, (Table 3) <p>The tasks identified to describe each competence require specific knowledge, skills and behaviour that the standard designer shall clearly specify using the right verbs to describe the actions. Verbs shall be used according to the complexity of the process. (see Attached Table: Performance verbs)</p>
3	<ul style="list-style-type: none"> • Produce a Draft Standard design • Define, for each competence, its elements: knowledge, skill and behaviour (KSB), • Suggest the indicators to assess skills (Table 4) <p>Indicators are the criteria used to verify the possess of those (KSB), where descriptors measure the level of possession.</p>
4	<ul style="list-style-type: none"> • Identify, for each element of competence which is the best method to evaluate them, • Assign the weight (importance) on each competence and each single element of competence. The weight can be marked as H (high) M (medium) L (low). (Table 5)
5	<ul style="list-style-type: none"> • Debate the Draft Standard design with experts and Stakeholders • Create the final Standard Design

Table 2. Process Description of the Standard

INPUT	MACRO PROCESS PHASES	DESCRIPTION OF THE MICRO ACTION OF THE PROCESS	OUTPUT
	1.	The professional does: <ul style="list-style-type: none"> •a) •b) •c) 	A
A	2.	The professional does: <ul style="list-style-type: none"> •a) •b) •c) 	B
B	3.	The professional does: <ul style="list-style-type: none"> •a) •b) 	C

Table 3. Comparing Main Processes and Competences

Main Process	Competence Related
1.	A
2.	B
3.	C

4.3 THE STANDARD DESIGN

The Standard design shall contain:

- a. The name of the Standard to certify
- b. A short description of the Standard to certify
- c. The name of the competences divided in two parts:
 1. The first part describes the competence in general terms
 2. The second part details the scope of application in the specific context and it is introduced by the preposition **for**
- d. A description of the competences requested containing the input needed to perform the task and the output that shall be produced
- e. A description of each element of competence with their indicators. As it is shown on table 5, the indicators the standard designer shall specify are the ones related to the skills, leaving to the test developer the definition of the indicators for knowledge and behaviour.

Table 4. Draft Standard design

NAME OF THE STANDARD:			
Description of the profile			
COMPETENCE	DESCRIPTION OF THE COMPETENCE	ELEMENTS OF COMPETENCE	INDICATORS
1.	Using (INPUT), the professional is able to..... (OUTPUT)	Knowledge	
		Skills	
		Behaviour	
2.	Using (INPUT), the professional is able to..... (OUTPUT)	Knowledge	
		Skills	
		Behaviour	
3.	Using (INPUT), the professional is able to..... (OUTPUT)	Knowledge	
		Skills	
		Behaviour	

Table 5 Competence Description and Assessment methods

NAME OF THE STANDARD:			<i>Insert the name of the standard</i>											
NAME OF THE COMPETENCE TO VALIDATE			DESCRIPTION OF THE COMPETENCE TO VALIDATE											
<i>Insert the name of the competence</i>			<i>insert the description of the competence (related to the standard)</i>											
Assessment methods														
			Cv analysis			Practical exam			Theoretical exam					Oral
		ELEMENTS OF COMPETENCE TO EVALUATE	Previous qualification	Portfolio reviews	Dialog	Role play/Simulat	Work on place	Case study	Multiple choice test	Open questions test	Cloze tests	True/false questions	Matching type	Interview
Code	Weight	SKILLS:												
S011		Insert the elements of competence needed to evaluate Skills												
S012														
Code	Weight	KNOWLEDGE:												
K011		Insert the elements of competence needed to evaluate Knowledge												
K012														
Code	Weight	BEHAVIOUR:												
B011		Insert the elements of competence needed to evaluate Behaviour												
B012														

5. PROCESSES AND COMPETENCES OF THE STANDARD DESIGNER

The Macro processes of the standard designer are:

1. designing the framework to insert the new standard
2. Identifying and interviewing the experts
3. Inferring relevant information from the data and documentation of the company
4. Developing a draft of a first professional standard
5. Verifying the draft interviewing the Company workers or experts

The following table describes in detail each competence, the related input and output and main process needed for each competence

Table 2a. Process Description of the Standard designer

INPUT	MACRO PROCESS	DESCRIPTION OF THE MICRO ACTION OF THE PROCESS	OUTPUT
Request for a new standard. Related information on national and international framework and regarding technical aspects	1. Designing the framework to create the standard	The designer is able to: <ul style="list-style-type: none"> • Describe the scope and field of application • Describe the technical terms used • Define working title of the standard • Identify and describe the stakeholders • Identify and propose to the Certification Body the sectorial experts on company, local, national and international level • Collect key documents and key information regarding the requested standard on national and international level • Make sure that requested single competences are not in conflict with protected professions and with existing professions listed in the national qualification standard • Make sure that the execution of the work based on the developed competence does not conflict with national laws 	Feasibility study
Feasibility study	2. Identifying and interviewing the experts	The designer is able to: <ul style="list-style-type: none"> • Identify the best expert to interview • Plan the meeting • Explain the expert the purpose of the meeting • Analyse with him steps, processes, purposes of the trade or profession. • Identify the main field of the company. • Identify the main activities. • Set the analysis of the trade or profession in phases or processes or different purposes and consequently the individual skills, based on the output products. • Check with the expert the accuracy of the data collected • Use relevant questions to better understand the needs of the organization 	An overview of the organization and the process.

Interview of the experts	3. Inferring relevant information from the data and documentation of the company	The designer is able to: <ul style="list-style-type: none"> • Find out the skills required (input, output, tools, actions). • Identify the key elements of the competence. • Describe production processes. • Analyse internal documentation (organization chart, Functional map, job description, ISO Certification, main customers...) • Define the business environment. • Collect and Analyse occupational data. 	A specific idea of process and business environment
A set of information about process, competences and occupational data	4. Developing a draft of a first professional standard	The designer is able to: <ul style="list-style-type: none"> • Describe the output required. • Define the competences • Identify the input for each competence • List the elements of competences (knowledge, skills and behaviours) required to perform each activity • Identify the indicator to evaluate each element of competence • Fill in the sample format. • Use the right standard vocabulary. 	A first draft of the standard
A draft of the standard	5. Verifying the draft interviewing the Company workers or experts	The designer is able to: <ul style="list-style-type: none"> • Test and verify the standard created. • Encourage the minute analysis of the gaps or clarifications needed to complete the standard of competency • Observe and validate, with a checklist, the single indicators previously identified. • Complete the preparation of the standard of competence, integrating parts sketchy and making any changes suggested by the expert. 	The final version of the standard described in terms of competences and elements of competences

5.1 Competences of the standard Design

Defined the process, the competence designer shall identify which competences are needed to fulfill (accomplish) those process.

Processes and competences are not the same: the first describe actions, the second the ability to act.

The Macro process of the Standard Designer are:

- a. Designing the framework to insert the new standard
- b. Identifying and interviewing the experts
- c. Inferring relevant information from the data and documentation of the company
- d. Developing a draft of a first professional standard
- e. Verifying the draft interviewing the Company workers or experts

To accomplish these processes the Standard Designer need to possess these competences:

1. Interpreting, processing and synthesizing information by collecting data **for** creating a professional standard
2. Communicating and dealing with experts revising and integrating documents **for** acquiring new information and **for** checking their correctness
3. Producing new documents arranging information **for** the creation of the standard

Table 3a. Comparing Main Processes and Competences

PROCESS	COMPETENCE
Designing the framework to insert the new standard	Interpreting, processing and synthesizing information by collecting data for creating a professional standard
Identifying and interviewing the experts	Communicating and dealing with experts revising and integrating documents for acquiring new information
Inferring relevant information from the data and documentation of the company	Interpreting, processing and synthesizing information by collecting data for creating a professional standard
Developing a draft of a first professional standard	Producing new documents arranging information for the creation of the standard
Verifying the draft interviewing the Company workers or experts	Communicating and dealing with experts revising and integrating documents for checking their correctness

Table 4a. Draft Standard design

COMPETENCE		ELEMENTS OF COMPETENCE				INDICATOR	
<p>1. Interpreting, processing and synthesizing information by collecting data for creating professional standard</p>	<p>Using the request for a new standard and its related documents (input) The designer is able to make a feasibility study (output)</p> <p>Using the information gathered from the expert (input) The designer is able to create a first draft of the professional standard (output)</p>	Knowledge. To know:					
		Where to get specific data	for	Executing his job			
		Procedures of analysis	for	Inferring information			
		ISO17024	for	National and international standard			
		Uni and Iso legislation	for	Following guidelines and procedures			
		the working legislation	for	Comparing competences and duties			
		Skills. To be able to:					
		Research	information	using	The web		Quantity and quality of information
		Analyse	All the elements of the company	using	The expertise of the expert		Accuracy of analysis
		Summarize	All the elements of the process	inferring	the documentation in hand		quality of information produced
		Describe	The working process	using	The information found		Precision
		Identify	The main elements of the process	using	The information found		Numbers of elements
		Create	A detail document	collecting	All the data		accuracy
		Behaviour. To be:					
		in					

COMPETENCE	DESCRIPTION	ELEMENTS OF COMPETENCE				INDICATOR	
2. Communicating and dealing with experts revising and integrating documents for acquiring new information and for checking their correctness	Using the feasibility study (input) The designer is able to: to get all the needed information from the expert (output) Using the First draft of the standard (input) The designer is able to integrate experts' suggestion to revise and rewrite his draft (output)	Knowledge. To know:					
		Where to get for specific occupational data	for	Choosing the expert to interview			
		the steps involved in the process of working	for	Planning the interview			
		ISO17024	for	Organizing the interview			
		The concepts of Knowledge, Skills, Behavior	for	Preparing the questions			
		Elements of communication	for	The creation of the questions			
		Procedures of analysis	for	Inferring information			
		Skills. To be able to:					
		Decide	The person to interview	according to	the request of the client		correspondence
		Explain	To the expert		His needs		Level of understanding/ quality of information
		Prepare	Questions	using	the documentation in hand		Quality of questions
		Identify	Main field and activities of the company	using	the information of the expert		Accuracy of information
		Behaviour. To be:					
		friendly and polite	in	Talking with the expert			
		accurate	In	Taking notes			

COMPETENCE	DESCRIPTION	ELEMENTS OF COMPETENCE			INDICATOR	
3. Producing new documents arranging information for the creation of the standard	Using A set of information about process, competences and occupational data (input) The designer is able to: Produce the standard (output)	ISO17024	for	writing the standard		
		Technical writing	for	writing the standard		
		The concepts of Knowledge, Skills, Behavior	for	Describing the elements of competence		
		Procedures of analysis	for	Inferring information		
		Skills. To be able to:				
		Define	competences	according to	the information gathered	
		Synthesize	information			
		plan	A standard			
		propose	A detailed version			
		Behaviour. To be:				
			in			
		accurate	In	Writing the standard		

6.1 PERFORMANCE VERBS

Level	Illustrative verb	DEFINITION	EXAMPLE	
1	Knowledge	arrange, define, describe, duplicate, identify, label, list, outline, recognize, relate, recall, repeat, reproduce, select, state match, memorize, name, order,	remembering previously learned information	memory of specific facts, terminology, rules, sequences, procedures, classifications, categories, criteria, methodology, principles, theories, and structure
	Receiving	asks, chooses, describes, follows, gives, holds, identifies, locates, names, points to, selects, sits erect, replies, uses	willingness to receive or attend	listening to discussions of controversial issues with an open mind, respecting the rights of others.
	Set	begins, displays, explains, moves, proceeds, reacts, responds, snows, starts, volunteers	being ready to perform a particular action: mental, physical or emotional	knowing how to use a computer mouse, having instrument ready to play and watching conductor at start of a musical performance, showing eagerness to assemble electronic components to complete a task
2	Comprehension	classify, convert, defend, describe, discuss, distinguish, estimate, explain, express, extend, generalize, give examples, identify, indicate, infer, locate, paraphrase, predict, recognize, rewrite, report, restate, review, select, summarize, translate	grasping the meaning of information	stating problem in own words, translating a chemical formula, understanding a flow chart, translating words and phrases from a foreign language
	Responding	answers, assists, complies, conforms, discusses, greets, helps, labels, performs, practices, presents, reads, recites, reports, selects, tells, writes	active participation indicating positive response or acceptance of an idea or policy	completing homework assignments, participating in team problem-solving activities
	Guided response	assembles, builds, calibrates, constructs, dismantles, displays, dissects, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes, sketches	performing under guidance of a model: imitation or trial and error	using a torque wrench just after observing an expert demonstrate a its use, experimenting with various ways to measure a given volume of a volatile chemical

Level	Illustrative verb	DEFINITION	EXAMPLE	
3	Application	apply, change, choose, compute, demonstrate, discover, dramatize, employ, illustrate, interpret, manipulate, modify, operate, practice, predict, prepare, produce, relate, schedule, show, sketch, solve, use, write	applying knowledge to actual situations	taking principles learned in math and applying them to figuring the volume of a cylinder in an internal combustion engine
	Valuing	completes, describes, differentiates, explains, follows, forms, initiates, invites, joins, justifies, proposes, reads, reports, selects, shares, studies, works	expressing a belief or attitude about the value or worth of something	accepting the idea that integrated curricula is a good way to learn, participating in a campus blood drive
	Mechanism	(same list as for guided response): assembles, builds, calibrates, constructs, dismantles, displays, dissects, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes, sketches	being able to perform a task habitually with some degree of confidence and proficiency	demonstrating the ability to correctly execute a 60 degree banked turn in an aircraft 70 percent of the time
4	Analysis	analyze, appraise, break down, calculate, categorize, compare, contrast, criticize, diagram, differentiate, discriminate, distinguish, examine, experiment, identify, illustrate, infer, model, outline, point out, question, relate, select, separate, subdivide, test	breaking down objects or ideas into simpler parts and seeing how the parts relate and are organize	discussing how fluids and liquids differ, detecting logical fallacies in a student's explanation of Newton's 1st law of motion
	Organization	adheres, alters, arranges, combines, compares, completes, defends, explains, generalizes, identifies, integrates, modifies, orders, organizes, prepares, relates, synthesizes	organizing various values into an internalized system	recognizing own abilities, limitations, and values and developing realistic aspirations
	Complex or overt response	same list as for guided response): assembles, builds, calibrates, constructs, dismantles, displays, dissects, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes, sketches	performing a task with a high degree of proficiency and skill	dismantling and re-assembling various components of an automobile quickly with no errors

Level	Illustrative verb	DEFINITION	EXAMPLE	
5	Synthesis	arrange, assemble, categorize, collect, combine, comply, compose, construct, create, design, develop, devise, design, explain, formulate, generate, integrate, manage, modify, organize, plan, prepare, propose, rearrange, reconstruct, relate, reorganize, revise, rewrite, set up, summarize, synthesize, tell, write	rearranging component ideas into a new whole	writing a comprehensive report on a problem-solving exercise, planning a program or panel discussion, writing a comprehensive term paper
	Characterization by a value or value complex	acts, discriminates, displays, influences, listens, modifies, performs, practices, proposes, qualifies, questions, revises, serves, solves, uses, verifies	the value system becomes a way of life	a person's lifestyle influences reactions to many different kinds of situations
	Adaptation	adapts, alters, changes, rearranges, reorganizes, revises, varies	using previously learned skills to perform new but related tasks	using skills developed learning how to operate an electric typewriter to operate a word processor
6	Evaluation	appraise, argue, assess, attach, choose, compare, conclude, contrast, defend, describe, discriminate, estimate, evaluate, explain, judge, justify, interpret, relate, predict, rate, select, summarize, support, value	making judgments based on internal evidence or external criteria	evaluating alternative solutions to a problem, detecting inconsistencies in the speech of a student government representative
	Origination	arranges, combines, composes, constructs, creates, designs, originates	creating new performances after having developed skills	designing a more efficient way to perform an assembly line

INDICATORS: Comprehension, organization, analysis synthesis, application choice, problem solving, evaluation, awareness interest, attention, coordination, dexterity, manipulation, grace, strength, speed, precision, concern, responsibility