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Introduction

Following the project proposal,

the deliverable *Draft employability grid* describes the first draft of an approach to develop a holistic model of abilities required for working as a professional and the related learning objectives by mirroring the work process. This draft is based on the analysis outcomes described in Deliverable 4 *Methodological approach for a holistic and functional description of work processes*. Furthermore this document will outline basic considerations that lead to this draft and will discuss its general applicability and usability in praxis. Therefore this document shall be the base for further investigations primarily in WP 5.

As can be seen from this text, the deliverable at hand does not deal with *specific* work processes and specific vocational standards derived from them. In order to be generally applicable, the features of the *Employability Grid* have therefore necessarily to be *abstract*.

The above quoted part of the workpackage description should also clarify that the title *Employability Grid* cannot be understood in a way that a mere checklist is expected, useable as a foil which allows for easily discovering aberrations from an ideal model. There are various ways to relate vocational/educational standards to the requirements of work which differ considerably not only with regard to terminology and focus of interest, but also with regard to the *systematic context* in which the considered issues get their specific meaning. It is therefore not appropriate to assess the elements of a qualification/profile from the point of a view of a predefined model which in the first instance delivers a perspective *from outside*.

Nevertheless, it would not be wise only to investigate if an approach itself is consistent. If we want to make *EQF assignments comparable* and at the same time intend to respect that vocational standardisation elements are embedded in *systems*, we have to provide for a yardstick which allows for assigning entire standardisation approaches to a *common ground* which can only be found in the field to which all vocational standards are related: the area of *work*

The Reference Point for Relating Vocational Standards to Work:

The Core Work Objective

Work can be described in various ways. For our purpose which is to set up a generic framework for determining relationships between work processes and abilities to carry them out, it is crucial that the reference point for vocational standards in the world of work delivers access to *all dimensions* which are relevant for the specific character of work processes.

This excludes to set up a model which is based on mere assembling of partial work processes. It is obvious that work processes are related to each other, and it is not a secret that these

relationships are determined by a common goal which, as a rule, can be determined for all work processes: *to create a specific product or to deliver a specific service.*

This *work objective* which steers all work processes, also in terms of the organisational structure in which work takes place, should be the ideal reference point for determining the abilities to be developed in a vocational context. Every organisation who wants to survive will try to orient all elements and features of the whole work process to this goal in a way that they appear – at an abstract level – as *tools used to achieve this aim*, and as work is carried out by individuals, they have to be *enabled* to contribute to the achievement of the work objective by their specific use this as work.

It could be argued that the objectives of work differ from organisation to organisation which makes it impossible to use this as a reference point for vocational *standards* which have to be independent from the specific interests of organisations. Considerable differences can be observed if we have, for example, a look at the products of automotive enterprises even in the same class, and it has also to be noted that, according to differing products, initial training in these enterprises is different though basically related to public standards.

It should, however, be considered that the above mentioned differences do not exist by chance, but have evolved since enterprises competing at the market always intend to deliver products and services which differ from those of competitors and exceed the current *state of the art* in the field, thereby initiating the development of a new state of the art¹.

This implies that work objectives of these enterprises do not differ so extremely that they would not allow for finding a *common denominator*. This common denominator is related to the state of the art to which all organisations have to orient their work at any rate, leave alone that organisations who have to defend their status by competition will always try to exceed it sometimes even are not able to reach it, and this allows for defining a *core work objective*, a term which should be considered an analogy to the already widely used term *core work process*.

The Basic Issues for Describing Work Objectives

If we agree that a *core work objective* delivers the starting point for defining *abilities standardised within systems of vocational training and education*, we have to ask *which basic issues have to be considered if the core work objectives shall be achieved.*

¹ This *state of the art* does not necessarily represent the optimum possibilities in technical terms. *State of the art* is a category which refers to results of competition on the market for which mere economic factors play a role as well.

1. *The specific character of the work subject.* This seems trivial, but it has, nevertheless, some consequences which have to be considered: It is not the same if you cultivate tomatoes or if you produce clothes-pins; dependent from the work subject, technical requirements differ obviously.
2. *The scope of the work subject in relationship to other ones.* This is especially important since it might be asked: Do the overall work objectives of an organisation always determine the way how every section of the organisation works, or are there some departments, work units, etc. whose work is nearly independent from overall work objectives although their work can be considered a contribution to achieve these overall goals? This does not only concern departments where this seems evident as their relationship to the work objective is only an extrinsic one², it concerns also parts of an organisation whose work is clearly linked to an overall work objective in terms of *content*, but could also be related to another work objective since the outcomes of their activities will be useable for various work objectives.³ As we have to have in mind that we want to derive *abilities* from work objectives ruling work processes, we have to consider work objectives at a level where they really steer the work of people which might imply that a *core work objective* exceeds the level of an organisation or is only related to a part of it.⁴
3. *The needs of those who use products or services.* It was not always common sense that this issue has to be taken in account in all areas of work.⁵ Therefore it is important to formulate this issue as a part of the work objective.
4. *The needs of the organisation which arise from her specific character as an enterprise or a public institution.* This can concern economic reflections, but also necessities arising from the legally defined tasks of organisations (according to their specific character, they play a minor or major role). It is not for sure that these issues are always in line with the needs of the above mentioned users. They can even contradict them⁶. Also these needs should be explicitly defined as a part of the work objective description.

² as security services or bookkeeping departments, they can normally easily be outsourced

³ This concerns, for example, departments, but also whole enterprises producing technical tools for various enterprises and adapting them to the specific needs of the end seller (as supply industry in the automotive sector)

⁴ At the level of *vocational standards*, it is obvious that people of the same profession can work in various work environments steered by different overall work objectives. Nevertheless, there should also be *partial work objectives* considerable as *core work objectives* to which work within these professions is related to.

⁵ This concerns especially some public institutions in some countries that have not always been famous for their user-friendliness.

⁶ For example, users normally are interested to get a long-life product or a sustainable service. This is not the natural interest of those who want to sell their products and services again as soon as possible.

5. The needs of individuals who work for the organisations intending to deliver a product or service. It is no secret that they are often enough not identical with the needs of organisations,
6. *Needs which arise from the environment within which the work objective has to be achieved.* This concerns work conditions which have a static character (as security regulations, etc.) Referring only to specific parts of the work process, they need not omnipresent as the first three kinds of issues and have therefore not to be formulated as a part of the work objective description.
7. *The way how work within an organisation is organised.* This issue is cross-cutting with regard to the above mentioned issues since it can be considered *a tool to relate work processes best to the work objective* which implies that the specific character of the above mentioned issues 1 – 6 has to be taken in account for this purpose. The organisation of work is crucial for the ways how individuals contribute to achieve the overall work objectives, and it relates work processes to each other via *hierarchical relationships between individuals*.

Work Description in Terms of the Organisation and of the Individual

Remembering that we have to find a way how *abilities of individuals* can be derived properly from the needs of the world of work, we can see that an organisational structure which is related to the work objective delivers the field in which these abilities have to be applied, and they have thus to be specified according to the roles individuals play in the above mentioned hierarchies.

This requires more than a reproduction of traditional roles oriented to an *institutional structure* (like *senior manager, department director, etc.*) The orientation of organisational structures to the work objective has to be made *visible in the way how an individual's work is described*.

It is important to consider that this kind of work description is multidimensional: It is on the one hand *individual-centred* since it describes *what an individual does*, on the other hand it refers to the overall organisation of work which shall be used as a *tool to achieve the work objectives of the organisation*. Thus the work of an individual is defined as *a contribution to achieve the work objective according to the individual's position in the organisational structure*.

If we want to set up a model for this kind of description, we should use terms for actions which imply the above described reference to an overall work objective. If they are abstract enough, they could be usable for describing a model of an ensemble of work processes which are oriented to a common work objective.

It might appear that this kind of model does not cover all relevant dimensions of work since it ignores that not everybody who is involved in work processes considers his work first and utmost a contribution to achieve a common work objective. It could be argued that the suggested model reflects only the position of an entrepreneur, and for others might other issues be more important. This is certainly true, but the fact has to be accepted that this objective orientation of work remains the principle underlying division of labour as long as competition steers business processes.

This does not mean that other issues (including societal and ethical ones) should be ignored. The above delivered list of issues to be considered if work objectives shall be achieved includes some suggestions that these issues even might *contradict* each other. But they should be put *into relation to the work objective* and not be considered separately.

This implies that *abilities to contribute to the achievement of a work objective* include more than only to go straightforward and to leave aside all facts which could hinder; it has to be understood that to deal with the above mentioned issues properly means to take in account the *conditions under which work objectives have to be achieved*.

The EQF Category Competence as Interface to the World of Work⁷

Following this argumentation, we are not far away from a reasonable *interface between work and vocational standards*, in our case the EQF. If we describe work processes in the mentioned multidimensional way, then the *abilities* to carry out these work processes should mirror this, and as work processes are linked to the work objective via hierarchical structures implicitly formulated within work process descriptions, this should also deliver a possibility to relate abilities to *levels*. For there is no other reason for the establishment of levels than to make sure that the abilities to be developed by individuals are sufficient for working properly at a certain position defined in the structure of an organisation.

The EQF is ambiguous with regard to categories usable to describe the thus determined abilities adequately. If *knowledge, skills, and competence* are considered separate columns which independently from each other have been described for eight levels, then the EQF is not

⁷ This header deals with the EQF as a „quasi-natural,“ reference point of work process oriented standardisation in education. Who believes that this has to do with the high conceptional value of this framework, has to be disappointed, for there is only a *pragmatic* reason for not discussing other possibilities: The EQF has got this quality by *political reasons* which cannot be ignored: More than 30 governments all over Europe have meanwhile declared their commitment to the EQF, and the number is increasing. Unfortunately this is not a sign of high quality; some people even argue the converse: Political compromise has prevented uniformity of the EQF model. The following chapters should show how heterogeneous and ambiguous the EQF is. If *logical sequences* are discovered, this does not necessarily mean that the whole EQF has been structured in a way that follows these sequences, and it does not at all exclude inconsequences. Nevertheless it is worth the effort to identify such „logical chains“ because it allows for trying to refer them to structures which might underlie (ensembles of partial) work processes.

a good tool for this purpose. The way how the EQF table is designed supports this understanding, and thus many debates of the EQF have dealt with the issue how it is possible to determine the level of a qualification which refers to level 4 with regard to knowledge, but to level 3 with regard to skills. However, if we have a look at the definitions of *knowledge*, *skills*, and *competence* to be found in the Annex of the legal EQF text, we discover that these categories by no means are to be understood as descriptors standing equally side by side, but are related to each other in a hierarchical sequence:

“‘knowledge’ means the outcome of the assimilation of information through learning. 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;

‘skills’ means 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);

‘competence’ means 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. In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy”.⁸

It should be visible that *competence* steers *skills* and *knowledge*, and *skills* steer *knowledge* which implies that *competence* is the overarching category that should rule *the assignment to levels*. If we want to find criteria for differentiating abilities in a hierarchical sense, we have therefore primarily to check how far the category *competence* delivers those.

The Implicit Logic of Levelling Competence⁹

The above mentioned definition of *competence* allows for comparison of levels on the basis of a criterion which is related to a couple of complementary concepts relevant for the position of an individual's work in an organisational structure: *responsibility and autonomy*.¹⁰

The table below should show how these categories are applied in order to describe the levels of competence in the EQF:

⁸ See *Recommendation of the European Parliament and of the Council from 23 April 2008 on the establishment of the European Qualification Framework for lifelong learning, Annex I*. This inconsequence has among others also been criticised by the authors of *Building the eCF, A combination of sound methodology and expert contribution*, p.

⁹ As mentioned above in a footnote with regard to the header of this chapter, this implicit logic should not be understood as the leading principle of EQF structuring. The EQF is a result of politically motivated negotiations which led to an *eclectic* allowance of interests. If logical structures can be discovered, then these sequences have mostly already been designed before they became elements of the EQF. But an analysis of these origins lies beyond the scope of the document at hand.

¹⁰ See *Recommendation, Annex II*

Level 1 The learning outcomes relevant to Level 1 are	work or study under direct supervision in a structured context
Level 2 The learning outcomes relevant to Level 2 are	work or study under supervision with some autonomy
Level 3 The learning outcomes relevant to Level 3 are	take responsibility for completion of tasks in work or study adapt own behaviour to circumstances in solving problems
Level 4 The learning outcomes relevant to Level 4 are	exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities
Level 5 (*) The learning outcomes relevant to Level 5 are	exercise management and supervision in contexts of work or study activities where there is unpredictable change review and develop performance of self and others
Level 6 (**) The learning outcomes relevant to Level 6 are	manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts take responsibility for managing professional development of individuals and groups
Level 7 (***) The learning outcomes relevant to Level 7 are	manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams
Level 8 (****) The learning outcomes relevant to Level 8 are	demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research

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It can be seen at first glance that these descriptions include *more* than mere levels of responsibility and autonomy, and do not allow for an easy differentiation of abilities in terms of levels. There is, fortunately, a reference point which should provide for commensurability: *work or study*, as a framework common to all ability-based performance this at the same time

¹¹ l.c.

delivers the interface to the world of work.¹² But the differences made between levels are not self-explaining, at least it is rather difficult to understand them in a way that mirrors distinctions that are relevant for work.

There are various reasons for this difficulty:

- Sometimes a *degree* shall characterise an EQF level which is the case if “some” is used for specification¹³,
- Sometimes two different actions are equally used for characterisation of the same level,¹⁴ sometimes two differing (even contradicting) characteristics for the conditions of work are indicated¹⁵
- Apart from “work or study” that delivers the framework within which competence can be applied at every level and as such does not suggest distinctions, there is no equally visible yardstick for differentiation of levels. Specific issues as solving problems, context structure, etc, appear at certain levels, but have no counterpart at other levels which leads to the question: Is it assumed that at the higher “neighbour level” a specific feature does *not* exist?¹⁶ Or is it understood that the higher level *implies* some features of the lower one (and if this is the case, which ones and why)?

It is not the intention of the “employability grid” to heal the described deficiencies. If it were reasonable in a practical sense, it would be the best to come up with a suggestion that follows a clear logical principle without any consideration of situations that have nothing to do with logical reflections, but only with interests of stakeholders in the field. But this kind of approaches ignores the political reality which is – at least currently – determined by commitment to the EQF.

Taking this in account, but at the same intending not to give up the idea of coherent referencing, it shall be investigated if the EQF allows for discovering an *implicit logic* which is hidden by the copious level descriptions, referring to distinctions which play a role in the real

¹² It is interesting that a basic difference is made between *work* and *study*: Is a study different from work? This makes the heterogeneous origin of the EQF obvious.

¹³ For example in the description of level 2: “work or study under supervision with *some* autonomy” (by the way, how shall somebody study *without* any autonomy?) or in the description of level 4: “taking *some* responsibility for the evaluation and improvement of work or study activities”: As a rule, responsibility cannot be put into perspective: Either somebody is responsible for something or not. But even if such statements were sensible, one had to ask which extent of responsibility is meant by *some* responsibility: Is there a certain percentage which already qualifies for a higher EQF level, and the other way round: is there a degree of responsibility which does not count for assignment to a certain level?

¹⁴ As in the description of level 5: “exercise management *and* supervision in contexts of work or study activities”

¹⁵ As in the description of level 4: “exercise self-management within the guidelines of work and study contexts that are *usually predictable, but are subject to change*”. Why is it important that these contexts are “usually predictable”? Even if they are only in some cases “subject to change”, the individual whose abilities shall be qualified by EQF level 4 has to be able to deal with this change, and it does not play a role how often.

¹⁶ For level 1, it is e.g. indicated that *competence* means the ability to “work or study under direct supervision in a structured context”, for level 2 this means the ability “to work or study under supervision with some autonomy”.

world of professionals. This follows the assumption that differentiations between levels – although not consequently derived from a leading principle – are not all arbitrary, but represent a structure of work organisation which is practically relevant, although not always reflected.

These work related issues play certainly a role if the level of *responsibility* and *autonomy* has to be *specified*. Unfortunately the descriptions of level-relevant *competence* include a lot of *information which* only surround information about the degree of *autonomy and responsibility*, but do not in all cases clarify things *since this information is not precise enough* that it could not be assigned to other levels. This prevents easy comparison of levels.

In order to deal properly with the eclectic character of *these descriptions* and nevertheless to identify – as far this is possible – the implicit logic used for levelling *competence* the following procedure is applied:

- All parts of the descriptions which (at least to a certain extent) only allow for assumptions¹⁷ and are not differentiated in terms of content, shall be left aside..
- The topic “development of performance” (which only appears at some higher levels and has no easily identifiable equivalent at other levels) shall for the time be ignored.
- The *actions* to which *competence* refers and their *context*, the field of work or study within which action takes place, shall be considered in order to identify *hierarchical relationships* based on a uniform principle.

For this purpose, at first *key terms* shall be identified which can be assigned to *actions* and *context*, putting them into a hierarchical order:

Actions

Work as object of supervision

Work neither as object nor as subject of supervision

Work as subject of supervision

Manage

Transform

Innovate

Context

Structured

Predictable

¹⁷ As “complex” or “substantial authority”

Changing

Unpredictable

To be changed

If we consider the column *actions*, we can see that all of them can be understood as determined by *the relationship of individuals' actions to actions of other individuals on the one hand, and to the context* on the other hand. It shall be checked if there are uniform principles which can be used to describe the above listed actions and contexts in a way that provides for comparison on the same basis which always implies that real *oppositions* can be made:

- With regard to *action* the opposition *subject/object* is suggested; in terms of the relationships to actions of other individuals this opposition can be formulated as *steering/steered*; with regard to the *context* as *determining/determined*. Some specifications of these opposition are nevertheless added; they seem to be relevant for differentiation of levels.
- With regard to *context* the category *change* is suggested which allows for the basic opposition *changing/not changing*. Specifications are added if necessary.

On this basis, the following table¹⁸ is suggested in order to provide less ambiguous understanding of the EQF category *competence*:

(See following page for table)

¹⁸ It is visible that a differentiation between Level 5 and 6 cannot be made if the EQF level descriptions are reduced to assignments to the above used categories. This could mean that the granularity of the designed grid is not high enough. A direct comparison of the competence descriptions of Level 5 and 6 does not confirm this assumption: On the one hand, a difference in *degree* that can be observed: At Level 6 you have to manage *complex* activities, at Level 5 this is not specified. On the other hand, issues which are implied in the description of Level 5, are explicitly formulated for Level 6: At Level 6 you take *responsibility for decision making*, whereas at Level 5 such strong words do not appear: Does this mean that somebody who has to be able to take over management tasks as defined for Level 5 needs not to take responsibility for his decisions?

Level	Competence in EQF terms	Action with regard to action of others	Action with regard to context	Context
1	<i>work or study under direct supervision in a structured context</i>	Steered by action of others	Determined by context	Not changing <i>Structured</i>
2	<i>work or study under supervision with some autonomy</i>	Steered by action of others	Determined by context	Not changing <i>Not structured</i>
3	<i>take responsibility for completion of tasks in work or study adapt own behaviour to circumstances in solving problems</i>	neutral	Determined by context	Not changing <i>Including changing circumstances</i>
4	<i>exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities</i>	Steering action of others	Determined by context	Not changing/changing
5	<i>exercise management and supervision in contexts of work or study activities where there is unpredictable change review and develop performance of self and others</i>	Steering action of others	Determined by context	Changing
6	<i>manage complex technical or professional activities or projects, taking responsibility for decision making in unpredictable work or study contexts take responsibility for managing professional development of individuals and groups</i>	Steering action of others	Determined by context	Changing
7	<i>manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams</i>	Steering action of others	Determining context <i>Transforming</i>	Changing
8	<i>demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research</i>	Steering action of others	Determining context <i>Transforming and replacing</i>	Changing