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Introduction

This document aims to respond to what was formulated in the BeWell application with the establishment of a common methodology for the design of qualifications and their corresponding recognition of non-formally and informally acquired competences as prior learning (VNIL/RPL)¹. The Competence Matrix to be found in this document outlines the learning outcomes relevant for Healthcare Professionals related to sustainability. While the learning outcomes are not directly linked to the core of the competences of Healthcare Professionals, it is believed that the sustainability aspect will become more and more important in the future. Therefore, it will probably become more central to the education of all Healthcare Professionals. The matrix is of a general nature and does not single out specific professions. The learning outcomes are however written in such a way that people working in the Health Sector and interested in sustainability hopefully will find them engaging and relevant for their work.

The Competence Matrix has been developed through an analysis of available sources on sustainability. Most central for the development of the learning outcomes was the work done by European Federation of Nurses Associations (EFN), who delivered a comprehensive set of learning outcomes related to the training programme developed on sustainability. In addition, the Scoping Review on green skills developed as part of BeWell Work Package 2 Task 2.1.1 was consulted. Some of the more general learning outcomes on sustainability have been adapted from a needs analysis done in the European project Ace-Ex². From the scoping review from BeWell it is possible to see that while sustainability might not be a core part of the education of Healthcare Professionals, it is becoming more necessary and important. The review also outlines how the labour market is working on developing this section of the professional education.

The Competence Matrix is developed in accordance with the principles of the European Qualifications Framework (EQF) and operationalised through the specifications of the European Credit system for Vocational Education and Training (ECVET).

The EQF is operationally defined as a system of descriptors of qualifications based on learning outcomes, regardless of how or where these are achieved. This BeWell matrix may serve as a reference tool to compare the qualification levels of the different qualification systems. The intention is also to promote both lifelong learning and equal opportunities in the knowledge-based society, as well as the further integration of the European labour market, while respecting the diversity of national education systems, as well as sector-based involvement, as indicated above. With a well-defined matrix of competences, future recognition of individual's prior learning as well as permeability and portability between different strands of health education and training will be facilitated.

¹ Validation of non-formal and informal learning/Recognition of Prior Learning

² Needs Analysis Report: https://ace-ex.eu/wp-content/uploads/2024/07/1_MS2-Results-of-the-needs-analysis_08062024.pdf

One aspect of this is to strive for transparency across languages, training cultures and workplace requirements. This will on the one hand require comparable learning outcome descriptions, made valid through plurilingual versions of competence matrices and with reliable assessment procedures. The operational part of this will be VNIL/RPL procedures, where validation of non- and informally acquired skills and competences can be assessed and made visible and with optional recognition of all types of prior learning. This will partly be obtained through use of the Skillsbank platform holding parallel matrices in partner languages and with a first level self-assessment option available. In the training programmes there will be different sets of quizzes defining the stepwise progression. Verification of participation and achievements as competence profiles and spider graphs reflecting an individual's performance will be issued and can serve as identification tools to help in the process of selecting programmes or learning experiences for further up- or reskilling.

For a full recognition of performance, competent bodies representing accredited systems must be involved. This can be at national or regional level, but with the BeWell system as a SQF structure with stakeholders and relevant training providers representing EHMA as an official organisation, certificates stating the learning outcomes achieved may also be issued.

The main characteristics of the EQF

The EQF represents a tremendous paradigm shift in education and training:

- On the one hand it defines qualifications according to levels, using a stepwise approach with descriptors according to each level's complexity and level of professionalism, responsibility, expertise and performance requirements.
- Secondly the EQF caters for Qualifications as such, with the capital Q, regardless of type of provision (traditional Vocational Education and Training, Higher Education studies or through work-based learning). This applies directly to the need for permeability and portability between flexible training pathways.
- Thirdly, there is a shift from input factors (study volume and length, number of curriculum pages etc) to a documentation of achieved learning outcomes.
- Finally, the use of learning outcomes as a documentation of obtained professional attainment, not only the intended outcomes and educational aims and objectives as found in traditional curricula, opens up for flexibility and portability of acquired competences according to performance criteria.

Learning outcomes may be defined as “statements of what a learner knows, understands and is able to do after completion of learning. In other words, Learning Outcomes determine the advancements of learning gained by a learner after a period of study or training, in terms of knowledge, skills and competences”³.

³ Caspersen, J., de Lange, T., Prøitz, T.S., Solbrenke, T.D., Stensaker, B (2011): LEARNING ABOUT QUALITY – Perspectives on learning outcomes and their operationalisations and measurement. Oslo: Department of Educational Research, University of Oslo and NIFU – the Nordic Institute for Studies in Innovation, Research and Education

In a nutshell the EQF may be seen as:

1. A meta-framework with 8 levels
2. A translation device between different qualification systems and their levels
3. Covering the entire range of qualifications from the basic level to the highest professional qualifications, academic as well as vocational
4. Facilitating the linking together and integration of different processes, initiatives and instruments
5. Learning outcomes are in focus – replacing previous input-based curricula as tools for qualification descriptions
6. Learning outcomes descriptors applied for each level
7. The learning outcomes are in general broken down into three dimensions: knowledge, skills and competence. The revised version of the EQF (2017) rephrased competence with “responsibility/autonomy” as a descriptor term for the ability of the learner to apply knowledge and skills autonomously and with responsibility, whereas the labour market orientation, in UNESCO/UNEVOC⁴ and ILO⁵ terms, is more often phrasing this as “Competence includes responsibility and autonomy required for competent performance in the workplace”, (documents/projectdocumentation/wcms_645065.pdf Gasskov, 2018, 6) in [UNESCO-UNEVOC TVETipedia Glossary](#). For similar reasons the term Competence will be used in this qualification matrix.

⁴ The United Nations Educational, Scientific and Cultural Organization International Centre for Technical and Vocational Education

⁵ Training and International Labour Organisation

Matrix development

The three dimensions in BeWell workplace-oriented settings are defined in the matrix as below:

1. **Knowledge:** 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 study or work. In the context of the European Qualifications Framework, knowledge is described as theoretical and/or factual
2. **Skills:** 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)
3. **Competence:** Defined in Cedefop database on «Terminology of European education and training policy» as the “demonstrated ability to use knowledge, know-how, experience and – job-related, personal, social or methodological – skills, in work or learning situations and in professional and personal development. Competence is not limited to cognitive elements (involving the use of theory, concepts or tacit knowledge); it also encompasses functional aspects – including technical skills – as well as interpersonal attributes (e.g. social or organisational skills) and ethical values. (In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy.)

The learning outcomes are organised in logical units. Each of the units are composed as a collection of the learning outcomes belonging to a specific and well-defined part of the qualification.

The BeWell has been developed in work packages targeting different dimensions of the project ambitions and goals. There are different parts of the project that have contributed to the development of this qualification matrix. Among this is the work undertaken in WP2 with the observatory and the scoping reviews of relevant skills and competences. Further, the preliminary work done on the training materials has been considered. Lastly, the learning outcomes have been developed through a thorough analysis of previous European projects covering similar competences⁶.

⁶ [ACE-EX](#), [EGREEN](#), [PMIR](#)

ESCO

[ESCO](#) is the multilingual classification of European Skills, Competences, Qualifications and Occupations. It identifies and categorises skills, competences, qualifications and occupations relevant for the EU labour market and education and training.

The ESCO skills pillar distinguishes between

- i) skill/competence concepts and
- ii) knowledge concepts by indicating the skill type.

There is however no distinction between skills and competences. Each of these concepts comes with one preferred term and a number of non-preferred terms in each of the 28 ESCO languages.

ESCO applies the same definition of "competence" as the European Qualification Framework. According to this "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." When seen together the main matrix below and the corresponding submatrices will constitute a broad approach towards description and definition of digital competences in the healthcare sector.

Training programmes/MOOCs⁷ will be defined as microcredentials, meaning smaller training provisions/courses directly addressing workplace requirements. They should be stackable and building towards bigger entities, potentially as components in full qualification cycles. They may also be verified in multilingual versions and issued digitally as fake-proof portable documents according to the EDCI-standard.

⁷ Massive Open Online Courses

Assessment and validation criteria

The qualification matrix in this document outlines the learning outcomes that are seen as central to the green competences within the BeWell project. Learning outcomes are as the name suggests, descriptions of what a learner knows. Another important aspect of this, is how one can be sure that the learner actually has apprehended the learning outcomes in question. This is done through different forms of assessment and validation.

In BeWell, we are using a combination of formal assessment and validation of non-formal and informal learning. By formal assessment, we mean that the learners go through the training programmes created, get a certain score on their assessments, and based on the required score, are deemed to have achieved the relevant learning outcomes. In the matrix, each of the training programmes are linked to the relevant learning outcomes. As you can see from the table below, each of the training courses have a set score that the students need to achieve to pass.

Training programme	Score
Green Skills for frontline nurses and allied healthcare professionals (GSN)	Score of 75 % or higher
Green Skills for the health sector (GSHS)	Score of 75 % or higher
Health System and Environmental Health (HSEH)	Score of 75 % or higher
Pollution and Health (PH)	Score of 75 % or higher
Sustainable logistics (SL)	Score of 75 % or higher

There is another way to go, which is through validation of non-formal and informal learning. Validation of skills gained through non-formal and informal learning is seen as increasingly important in Europe. It is now being recognized as a crucial part of skills policies and initiatives such as the European Skills Agenda, the European Area of Education, the reinforced Youth Guarantee, and the European Social Pillar Action Plan. Validation helps individuals to continue learning throughout their lives and across different institutions, industries, and countries. The need for upskilling and reskilling is also being recognized, with a growing emphasis on investing in skill development⁸.

As outlined in the European guidelines for validating non-formal and informal learning, this is a process where the individual has to be in the centre, and there can be no one-size-fits all. However, a set of guidelines, based on the work of Cedefop and adapted to the BeWell reality is one deliverable in this project. The full procedure for such a recognition will be included in the final results of the BeWell project as part of Work Package 4.

⁸ Cedefop (2023). European guidelines for validating non-formal and informal learning. Luxembourg: Publications Office. Cedefop reference series; No 124.
<http://dx.doi.org/10.2801/389827>