In-company learning outcomes design

– experiences from Denmark, Finland, Portugal and Slovenia

Editor: Špela Resnik

Authors of country contributions: Regina Lamscheck-Nielsen – Moeve (Denmark),
Anna-Marie Korhonen – HAMK (Finland),
Sandra Lameira – ANQEP, Fatima Pires - DUAL (Portugal),
Špela Resnik - CPI (Slovenia)

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About this report

The learning outcomes concept has been clearly strengthened over time, and practically all European countries are engaged with various aspects and standards at policy level. This is even more significant in local practice, as teaching and training have to be re-arranged when working with learning outcomes. However, so far, learning outcomes for in-company training are the least elaborated area in this entire development. This is due not only to the fact that this field is remarkably diverse but also because a minority social partners and companies know how to handle the learning outcomes approach.

The project "See the goal" concluded with a report based on a transnational analysis of in-company learning outcomes design. This report consists of two main parts:

- ✓ The **descriptions of different approaches for designing in-company learning outcomes**, provided by partners from Denmark, Finland and Portugal. Although Slovenia does not present a national approach for describing in-company learning outcomes, the approach developed within the "See the goal" project for identifying work situations in videos is described in this report.
- ✓ Some **recommendations on in-company learning outcomes design**, which were concluded on the results of the "See the goal" project, findings from practice and previous innovation projects in Denmark, Finland, Slovenia and Portugal, as well as on conclusions from several European research papers and reports (from Cedefop, European commission's papers, European Training Foundation papers).

1. Short terminological introduction

1.1. The term learning outcomes in general

Learning outcomes state what a learner is expected to know, as well as what a learners should be able to do and understand at the end of a learning process or sequence. The way these learning outcomes are defined, written and understood is of key importance to the orientation of education and training and – eventually – to the relevance of the resulting qualifications and programmes to individual learners, the labour market and society in general (Cedefop 2017).

The term learning outcomes can be related to different contexts (Cedefop 2017, Mikulec 2016):

- Learning outcomes as levels or/and types of qualification (e.g. upper secondary vocational education; third cycle of tertiary education – PhD; qualification for Hairdresser…)
- Learning outcomes related to units (school subject, module…)
- Learning outcomes related to educational programmes (e.g. learning outcomes inside the Europass supplement...)
- Learning outcomes for individuals or groups of individuals (e.g. individual learning plans for students with disabilities, training plans for international mobility of students…)

Slovenian example of understanding learning outcomes

A learning outcome is a concept that is directly related to the evaluation/assessment of this knowledge, skills and values. Learning outcomes relate to the question "What knowledge, skills and values has the learner shown/performed". Consequently, the focus should be on how to know which learning goals are achieved: "How can the learner show what he learned and how will we assess it?"

1.2. Learning through working & in-company learning outcomes

The term Work-based learning (WBL) in the broadest sense can be understood as (CEDEFOP: definition of apprenticeship & EU commission: definition of WBL[1]):

- **Apprenticeship:** it refers to systematic alternating long-term training periods at the workplace and within an education/training institution. An apprentice is linked through a contract to an employer and receives remuneration (wage or allowance). An employer assumes the responsibility for the company-based part of the programme leading to a qualification.
- **On-the-job training periods in companies:** such as work placements, internships, traineeships, which are a compulsory or an optional element of VET programmes;
- **Training in school workshops:** it is an integral part of school-based VET programmes, performed in laboratories, workshops, kitchens, restaurants, junior or practice firms, simulations, real business/industry projects/ assignments.

Therefore, in-company training is just one form of learning/working experience where students learn through work. Students become members of some company's working environment. However, he/she has is supported while this working and learning process takes place. Support is usually given by one person from the company (in "See the goal" project, we name that person in-company trainer), while

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[1] Developing apprenticeships (2014); http://www.cedefop.europa.eu/sl/events-and-projects/projects/apprenticeships-work-based-learning
Work-Based Learning in Europe. Practices and Policy Pointers. European Commission 2013

another person usually comes from the VET provider/school that student is enrolled in (in "See the goal" project, we name that person VET consultant).

Figure 1 below points out the four most relevant sets of factors within in-company training:

Figure 1: Key aspects of workplace learning
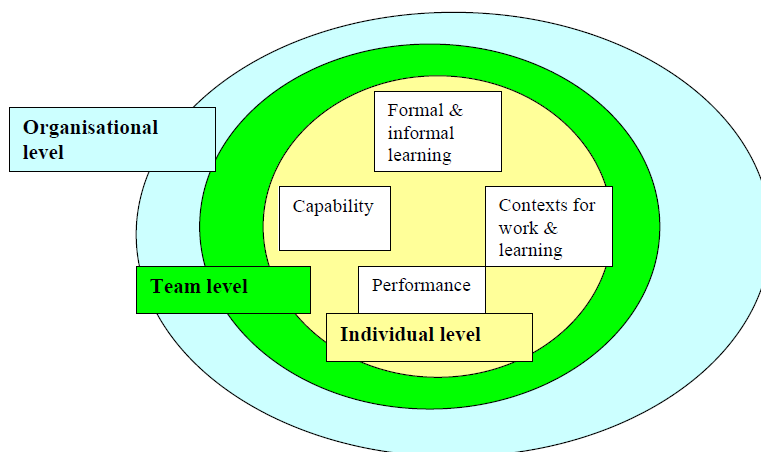
Source: Eraut & Hirsch (2007)

As seen in Figure 1, at the individual level, these factors can be described as (Eraut & Hirsch 2012):

- The capabilities an individual has in the broadest terms, including personal attributes, skills, knowledge, experience, understanding.
- Their performance at work and how this is perceived by others and themselves.
- The formal and informal learning that takes place for that individual and the processes by which this happens. Such learning is not necessarily planned or conscious.
- The context in which the individual is working and learning. This includes both the job and its wider context, especially the workplace culture and social interactions, as well as more formal management processes.

The factors are always affecting each other. In addition, we need to consider how this model is replicated at different scales in the organisation, typically at team or work group level, as well as at the level of the whole organisation. Teams and organisations also possess their own contexts and learning processes, leading to a so-called collective capability or collective performance. The entire learning system is dynamic throughout time and has to respond to the altering needs of organisations, the changing aspirations of individuals, the dynamics in the labour market, the outputs from the education system, and so on.

These factors and their implications may be taken into account when thinking about in-company training of our students, as well as while designing and implementing in-company learning outcomes. In-company learning outcomes are one part of vocational educational learning outcomes that are connected directly to in-company training, namely those competencies that students have to achieve with 'learning through working'. There is no international definition of this term, at least not one that would be widely used. Bellow we present one explanation of what in-company learning outcomes are:

Danish example of understanding in-company learning outcomes:

"Roughly said, the in-company learning outcomes cover the essential competences that are needed in a given occupation in practice. The final trade tests refer to knowledge, skills and competences for the final qualification of a given educational program. Popularly said, students learn theory (= knowledge) and skills at school, while they learn how to practice these skills in the context of a company. In many trades, this also means achieving a certain routine (conducting the same work flow many times), such as in construction work, gastronomy or social and health. The in-company training part of the programs also contributes with socialisation: to cope with a workplace culture, to cooperate with colleagues from different generations, to learn insider terms and abbreviations, to identify unspoken rules, etc. In-company learning outcomes usually cover the broad range of essential work fields in company practice, both in traditional production and for the innovative development of trades. More and more trades include some typical soft skills into the learning outcomes, alongside with practical/technical skills. This can be personal appearance in commercial occupations, empathy in customer or citizen dialogues or quality assurance with a critical view on a personal performance in construction."

2. Descriptions of different approaches for defining in-company learning outcomes

2. 1. Methodology

This part covers the conceptualisation, definition, quality assurance and reviewing/renewing of in-company learning outcomes. We have prepared a list of questions related to the definition and use of learning outcomes for in-company learning. According to the description in the project's application, as well as according to Slovenian national interest in these topics, we proposed the questions below. These were prepared according to several Cedefop's studies on learning outcomes, such as:

- The shift to learning outcomes - Conceptual, political and practical developments in Europe
- Learning outcomes approaches in VET curricula
- Curriculum reform in Europe - The impact of learning outcomes
- The shift to learning outcomes - Policies and practices in Europe
- and other Cedefop's materials.

The reason for selecting these studies lies in the fact that, for the last ten years, Cedefop has developed numerous studies related to learning outcomes with a special focus on VET.

The questions for partners are written below. When answering the questions, we ask partners to provide examples, where possible.

Conceptualisation of learning outcomes

- Which theoretical aspects are the background for definition and writing of learning outcomes? Which are the practical/political implications?
- How are the terms learning outcomes and/or competences understood, as synonyms or as separate concepts? Which are the implications for policies and practices?
- To what extent is the terminology of learning outcomes based on a predefined taxonomy? To what extent is terminological guidance provided?
- How is the distinction between learning objectives and learning outcomes made and which are the implications?
- How are learning outcomes expectations defined?

Defining learning outcomes

- Who is involved in the definition of learning outcomes? What are the mechanisms of involving stakeholders in writing learning outcomes and what is the availability of a 'labour market voice' during the formation of learning outcomes?
- What kind of method to use when defining the content of learning outcomes? To what extent are the following aspects taken into account when defining learning outcomes:
  - Functional analysis of tasks?
  - Broader occupational analysis and research on the labour market?
  - Theoretically-defined subjects and disciplines?
- How narrow or broad are learning outcomes defined in relation to the whole qualification?
- How are different domains of learning (knowledge, skills, competence, attitudes, etc.) articulated and addressed through learning outcomes?

- How are different levels of learning outcomes described and how is this related to progression in learning?

Quality assurance of learning outcomes

When designing learning outcomes, were EQAVET guidelines for quality assurance followed regarding:
- Design: define in-company learning outcomes in accordance with guidelines
- Communicate: communication between student, trainer and teacher on learning progress
- Assessments: assess and report on learner's achievements
- Train: Learning outcomes presented in learning and teaching materials

Reviewing and renewing learning outcomes
- To what extent are learning outcomes written to facilitate and open up to change? How/to what extent are learning outcomes open to local adaptation?
- Who takes part in the review and renewal of learning outcomes?

Following answers we received from partners, the approaches on designing in-company learning outcomes will be described in the following subchapters. Each country approach is described according to national reports provided by partners for this project, as well as following other available literature on this topic. The aim of these descriptions is not to compare different approaches but try to advance some guidelines/recommendations on how to design in-company learning outcomes.

Firstly, the chapters with national approaches starts with a general description of VET in each country. The descriptions of VET systems are described for an easy understanding of some national features effecting the design of in-company training learning outcomes.

Secondly, different national approaches are illustrated. Although partners prepare their own contributions following the questions described in the 'Methodology' chapter, the reports vary substantially from country to country. Not all partners are described in all the questions, since the conceptualisation of learning outcomes varies across countries. After getting back partners' contributions/descriptions, we prepared descriptions on different approaches following mainly the three questions below:
1. How you define/design in-company learning outcomes (the procedure)?
2. Who is involved in defining in-company learning outcomes?
3. Do you have some mechanisms of quality assurance for defining in-company learning outcomes?

2.2. FINLAND

2.2.1. General information on Finnish VET[2]

The Ministry of Education and Culture is responsible for strategic and normative steering of vocational education and training (VET), and leads the national development of VET, its national objectives, the structure of qualifications, while core subjects included in qualifications are determined by the government.

More than 40% of the relevant age groups start upper secondary VET studies immediately after basic education. Most of these obtain their VET qualifications at vocational institutions. All qualifications include at least six months of on-the-job learning. The most popular fields are technology, communications and transport, and social services, health and sports.

In addition to school-based upper secondary VET, vocational qualifications can be obtained in apprenticeship training or as competence-based qualifications:

- apprenticeship training includes courses at vocational institutions. The share of work-based learning (WBL) is 70-80%. Most apprentices are adults;
- competence-based qualifications are usually completed by adults. There are 34 vocational qualification, 65 further vocational qualification and 56 specialist vocational qualifications. Vocational and further vocational qualifications are at upper secondary level and may be obtained through competence tests, independent of how vocational skills were acquired. The specialist vocational qualification is at post-secondary, non-tertiary level.

Authorisations to provide VET are granted by the Ministry. They cover VET fields, qualifications, number of students, language of instruction, locations, special educational tasks and other issues. VET providers may also be assigned tasks to develop and serve the world of work.

VET providers are responsible for organising training in their areas, for matching provision with local labour market needs, and for devising curricula based on national qualification requirements. They also decide independently on issues such as type of education and training provided and the method for completion of studies, within the limits of their authorisation from the Ministry of Education. A VET provider may be a local authority, a municipal training consortium, a foundation or any other registered association or State company.

National qualification requirements ensure a nationally uniform vocational competence. They function as the basis for evaluation of learning outcomes. These requirements are drawn up by the Finnish national Board of Education, in the context of broad cooperation with stakeholders (employers' organisations, trade unions, the Trade Union of Education, and students' unions).

Cooperation with the world of work is considered essential. In addition to contributing to national qualification requirements, representatives from enterprises participate in the development of local curricula, they organise and plan training and skills demonstrations, and are part of regional committees. They also assess, together with teachers, skills demonstrations in upper secondary qualifications in workplaces.

Flexibility and individualisation have become a means to respond to changing requirements of the world of work. Studies in upper secondary VET are based on individual study plans, comprising both compulsory and optional modules. Modularisation allows for a degree of individualisation of qualifications. For example, students can include modules from other vocational qualifications

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[2] From CEDEFOP's Spotlight on VET (2015)

(including both further and specialist vocational qualifications) or degrees of universities of applied sciences. Flexibility also enables education providers to meet more effectively the demands of regional and local world of work.

There are no dead-ends within the education system. From the late 1990s, the vocational track has given access to the University of Applied Sciences and other universities. With this reform, upper secondary vocational education and training became equal to the general upper secondary education as a pathway to higher education.

Education system in Finland
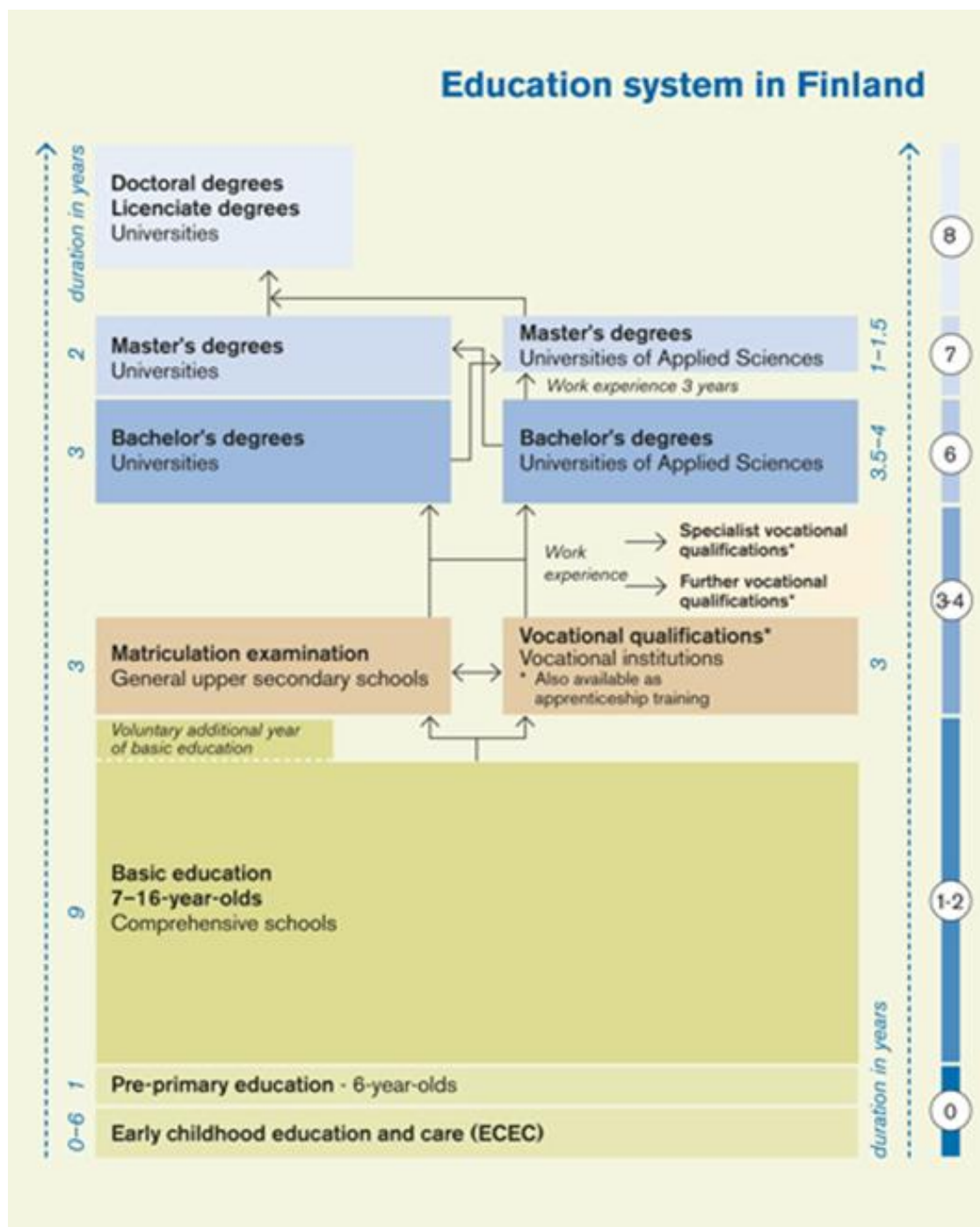
2.2.2. Defining in-company learning outcomes (the procedure)

National qualification requirements and in-company learning outcomes
The Government decides on the general goals of vocational education and training, the structure of qualifications, and the core subjects. The Ministry of Education and Culture decides on the studies and their scope. The qualification requirement system of vocational education and training consists of national qualification requirements, each education provider's locally approved curricula and the students' personal study plans. The Finnish National Board of Education decides on a national qualification requirement[3] for each vocational qualification, determining the composition of studies and objectives, core contents and assessment criteria for study modules. It also includes provisions on student assessment, student counselling, on-the-job learning periods[4], special education and training, educational arrangements for immigrants and apprenticeship training (Finnish National Board of Education 2018).

The content of local curricula is defined in the national qualification requirement, as well. A total qualification has 180 credits, while on-the-job learning period should be minimum 35 credits. Those requirements represent the basic document for defining the content of learning outcomes. According to these requirements, schools prepare the students' personal study plans. These plans include also learning outcomes for on-the-job learning periods. Student's study plans for on-the-job learning periods are prepared according to his/her wishes and according to the company's capacities, while the basis for their preparation are national qualification requirements.

In national requirements for vocational qualifications, each vocational qualification presents **target of assessment and assessment criteria**. Below one part of targets of assessment and assessment criteria from national qualification requirement is presented as an example:

TARGETS OF ASSESSMENT	ASSESSMENT CRITERIA		
1. Mastering the work process	Satisfactory 1	Good 2	Excellent 3
	The student or candidate		
Planning one's own work	prepares their work under guidance in accordance with the company's or organisation's instructions	plans and prepares their work in accordance with the company's or organisation's instructions	plans and prepares their work on their own initiative in accordance with the company's or organisation's instructions

As seen above, there are three levels of a competence. In Finland, students themselves play a big role in defining the level of competence they are aiming for. Therefore, students plan themselves the way to show their competences according to the requirements for qualifications and, by so doing, they set their own goals for learning.

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[3] *You can find the English translation of the National Qualification Requirements for Vocational Education and Training: https://www.oph.fi/download/174523_vocational_qualification_in_hairdressing_2014.pdf*

[4] *With the term on-the-job learning period, we mean in-company training, but we decided to leave that term in a way that is more common used in Finland.*

In Finland, these requirements are followed strictly in order to complete each student's competence accordingly. This does not mean that it is not possible to gain at on-the-job learning period competences that are not inside National Qualification Requirements, but are related to specific profession. However, this kind of other competences will not be visible in the diploma. However, requirements are written so that they are valid in several types of workplaces where a profession is usually practiced. Local adaptations relates to workplaces' strategies to conduct work processes.

2.2.3. Who is involved in defining in-company learning outcomes?

The Requirements for Vocational Qualifications are created by three dimensions of actors in the system of vocational education and training in Finland: There are representatives from 1) educational sector, 2) employers (workplaces) and 3) trade unions related to qualification. In practice, the Finnish national board of education nominates a committee for this job from these three actors. The committee makes any required research and ultimately prescribes the requirements. Usually, the educational sector has a leading role in this task. This kind of process generally takes over one year (Finnish National Board of Education, 2013). At the moment, Finland is undergoing a big reform in the vocational education and training sector, one of its primary goals being for this quite complicated procedure to be reorganized and become smoother and quicker. In this regard, a clear demand is coming from the labour market: current jobs are changing rapidly and reactions must follow quickly (Ministry of Education and Culture, 2017).

2.2.4. Quality assurance of learning outcomes

Below are the guidelines from the Finnish national board of education:
"The quality of vocational education and training is becoming increasingly important, as education services should respond to the changing and growing competence needs of the world of work and individuals. Quality assurance in vocational education and training will be developed on the basis of common European guidelines, in the light of the special features of the national education system. At present, around one in three VET providers has an effective quality assurance system in place, but several providers are still in the initial phases. Measures will be taken to enhance quality assurance in vocational education and training so that all VET providers will have an effective quality assurance system in support of continuous quality improvement by 2015. A systematic procedure and forms of support will be developed to offer incentives for VET providers at different stages of quality work for constant enhancement of quality. In addition, tools and procedures will be developed for assuring the quality of learning on-the-job, in youth workshops and in apprentice training. A national quality strategy for vocational education and training will be drawn up to support providers in continuous quality improvement. The role of performance-based funding in quality assurance will be consolidated by taking customer satisfaction into account more effectively in measuring performance. Quality awards will continue to be used to promote quality improvement and to disseminate best practices."
(EURYDICE 2015.)

An educational institute is always a responsible part when guiding workplaces on how and what to teach students during their on-the-job learning period. It includes also an explanation of learning objectives (learning goals). In the Finnish VET-system, students present their competence in real work situations and their workplace mentors assess their competences alone or with teachers. Education institutes are always responsible to document all these activities, and they grant a certification of qualification (Finnish National Board of Education, 2013).

Learning outcomes have to be in line with the Requirements of Vocational Qualification. During an on-the-job learning period, these requirements are followed in different ways depending on education institutions practices. Workplace mentors are obliged to give guidance, as well as feedback, to students.

2.3. DENMARK

2.3.1. General information on Danish VET[5]

Vocational education and training (VET) plays a key role in the Danish strategy for lifelong learning and for meeting the challenges of globalisation and technological change. An inclusive and flexible initial VET system helps ensure that all young people have the opportunity to obtain relevant competences for a smooth transition into the labour market. Adult education and continuing training respond to structural and technological changes in the labour market and provide the workforce with new and updated skills.
VET is under the Ministry of Education's jurisdiction, which maintains a close dialogue with social partners as a way to respond to labour market needs.
Programmes are organised according to the dual principle, alternating between periods of school-based learning and work-based learning (apprenticeship training) in enterprises. A typical iVET programme (EUD) lasts three-and-a-half years with a 2:1 split between workplace and school-based training, although there is a considerable variation between programmes. Individual study plans are compiled for all students, with VET schools and social partners sharing the responsibility for developing curricula to ensure responsiveness to local labour market needs.
Alternative routes to VET qualifications include:
- combined vocational and general upper secondary education, EUX programme (new academic preparation programme) – a relatively new pathway, lasting around four years, and attended by more ambitious students aiming at obtaining access to higher education along with a vocational qualification;
- 'new apprenticeship' (Ny Mesterlære) programmes, where the entire training is at a company instead of partly at a VET institution. These programmes are attended by students with a practical approach to learning; they are rarely used (max. 3 % of a VET cohort);

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[5] From Cedefop's Spotlight on VET (2016)

- individual VET programmes, attended by very few students, consist of single subject courses and elements from EUd programmes;
- basic vocational education and training (EGU), attended by lower secondary graduates with a practical approach to learning. The programme caters for young unemployed, and lasts for three to four years, with work-based learning (WBL) being at least 75%.

Adult vocational training (arbejdsmarkedsuddannelser, AMU) provides participants with skills and competences relevant to the labour market and is primarily directed towards specific sectors and jobs. Programmes may either deepen a participant's knowledge in a particular field or extend it to related fields. AMU programmes (around 3000) last an average of one week and are created, adapted or discontinued in response to labour market needs. At tertiary level, further VET and adult education programmes lead to EQF-level five qualifications.

More information on Danish VET: http://eng.uvm.dk/upper-secondary-education/vocational-education-and-training-in-denmark
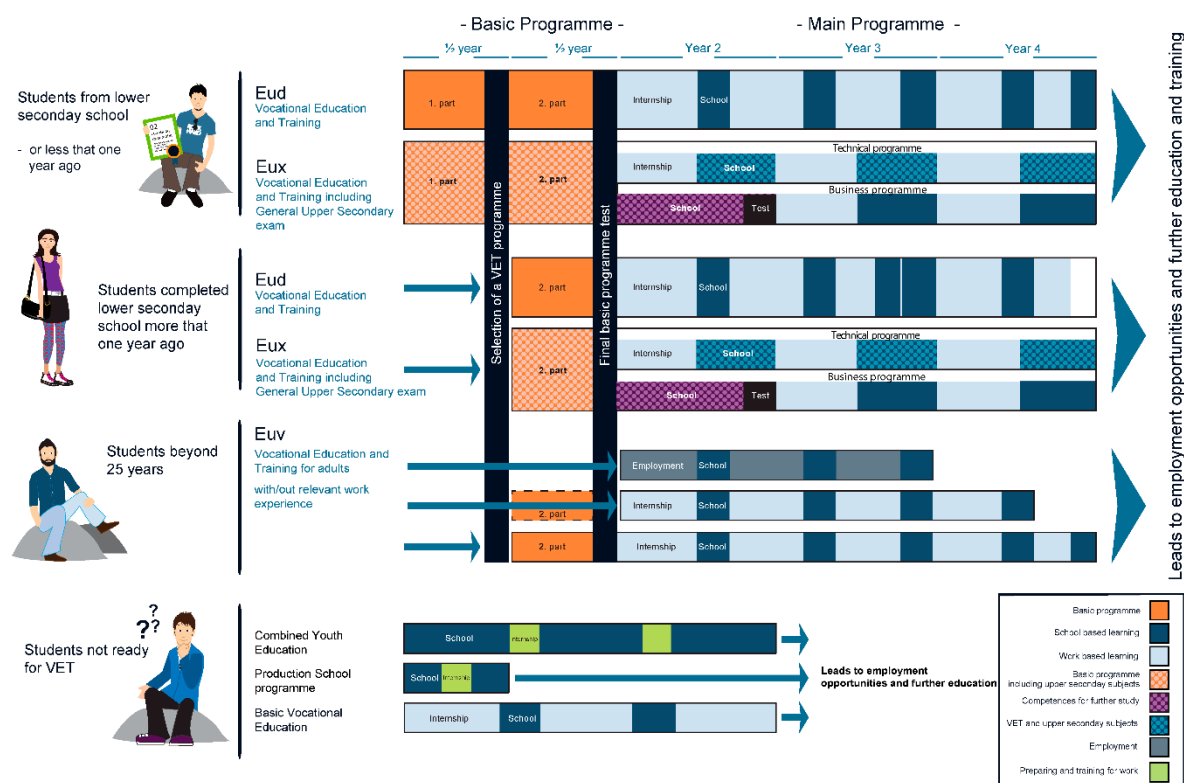
Some Danish context related to in-company training
Three conditions influence strongly the creation of in-company learning outcomes and their practice:
First of all, it has to be underlined that the Danish VET system is a genuine dual system. For more than six decades, the parties within the labour market – employer organisations and trade unions – have jointly decided on the vocational programs. The state takes part as a counsellor and contributor with the school-based part of the vocational programs, approximately 25 %.
This cooperation is run professionally both at national and at local levels, and in all cases with formally settled parietal organs and always consensus-seeking.

Secondly, the Danish autonomy of the trades seems to be quite unique in the international context. The 'trade committees' are the decision-makers regarding in-company training as the main part of the vocational programs, each within their trade-specific field. Thus, a high degree of practice-based authenticity and engagement has emerged, but also, at the same time, many differences across the trades have become apparent. Among many other things, the description and the practice of in-company learning outcomes differ widely not only among trades but also geographically. During the last decade, a movement towards an increasing transparency and quality assurance across trades has started to grow slowly.

Thirdly, the Danish work with in-company learning outcomes relates to the basic principle of individual study plans and individualised learning. Both VET schools and training companies promote student-centred learning. In this way, in-company learning outcomes and their assessments are part of a context fully related to individual development in a professional context.

2.3.2. Defining in-company learning outcomes (the procedure)

Conceptualisation of learning outcomes

Decisions on in-company learning outcomes are undertaken de-centrally within the respective trade committees. This implies creating, renewing or out-fading learning outcomes. The learning outcomes are integrated into the guiding regulations ("uddannelsesordning") for each of the approximately 105 educational programs.

A theoretical framework for writing learning outcomes is neither instructed on nor given as a guideline. Thus, each trade committee has over time developed its own methods and procedures, without making the theoretical basis, references or understanding of basic terms transparent.

In 2010 the Danish trade committees agreed to place all educational programs within the EQF levels. During this process, the Ministry of Education published a formal common understanding of the terms knowledge, skills and competences (in English: The European Qualifications Framework for Lifelong Learning and in Danish: explanation of terms).

Ministry of Education, 2015

skills — Færdigheder — Viden — knowledge

Kompetencer
at bruge viden og færdigheder
relevant i en given situation

competencies
using knowledge and skills
appropriately in a given situation
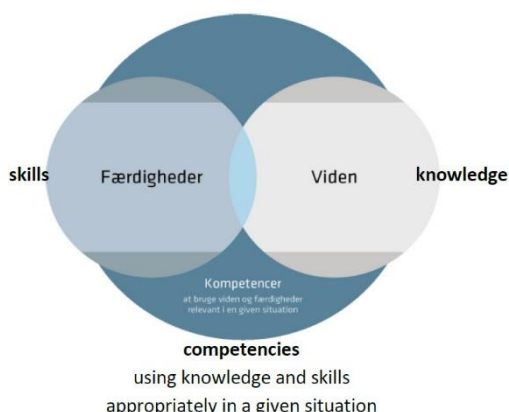
The term 'competence' is formally defined in Denmark as a more open construct, where learning outcomes are also included. Broad competences can be found in the regulations designing the framework for the curricula (with also the in-company learning outcomes as "training goals") in the

guiding regulations. Nevertheless, it has not yet been researched how experts in trade committees interpret the term 'competence'.

In practice, many students, in-company trainers and possibly also experts from VET schools express difficulties in relating to in-company learning outcomes. In trades that "translate" and apply the formal learning outcomes according to training practices (such as gastronomy, social and health, construction work), a positive impact can be identified. In some trades, local VET schools and companies have invented their own methods, when the national learning outcomes did not seem to be practicable.

When analysing in-company learning outcomes in various guiding regulations, it can be stated that they are pedagogically formulated in widely different ways, such as regarding approach, language, complexity, number per educational program and allocated taxonomy. In some technical trades, soft skills are still not mentioned as in-company learning outcomes. In addition, the focus can differ: in some programs, learning outcomes are formulated from a learner's focus ("the student can…"), while, in other programs, they are formulated instrumentally with a focus on a work task (execution of a given technical task).

2.3.3. Who is involved in defining learning outcomes?

The Danish development processes are characterised by an intensive dialogue among all stakeholders and as highly flexible. The stakeholders have occupation-specific competences relating to the individual educational programs. They belong to:
- Social partners - trade committees, parietally participating from employer organisation(s) and trade union(s) (50 % representatives from trade unions, 50 % from employer organisations)
- Consultants from the Ministry of Education, who are part-time employed at VET schools in various positions (practitioners of expertise)

Thus, there is not only a high degree of involvement of "labour market voices", but also of social partners themselves as decision-makers, as initiators of the processes and responsible for keeping the in-company learning outcomes updated.

The ministry is involved in the approval of the education-specific (renewed) guiding regulations or as a supplier of new major initiatives and legislative developments, such as in the case of reforms. Indirectly, schools are also represented, as the ministry's consultants have their roots in schools. In many cases, VET schools may initiate processes, when presenting innovative proposals to the trade committees.

For a visual impression of the flow, see http://moeve.dk/blog/standards-in-danish-vet/
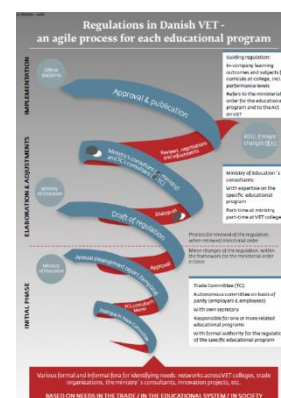
There are no formal templates to formulate in-company learning outcomes. Trade committees implement their own systems and each with their own consistency. Thus, learning outcomes for the programs follow the different logics of trade committees.

Reviewing and renewing learning outcomes

The trade committees fill in annual reports to be delivered to the Ministry of Education for a review. These reports are based on trade-specific analyses regarding the development of trades, the needs for skilled workforce, the necessity for revising learning outcomes of the educational program, for inventing new programs or for out-fading existing programs.

The reports are also the basis for ongoing dialogue and important decisions.

Local adaptation can, and in most cases is, be undertaken according to the companies' work conditions, work flow, equipment, order income, etc. If a company cannot offer the entire range of in-company learning outcomes in a given educational program, the VET school will supplement with school-based training or will provide a shorter-lasting placement in another training company.

All in all, it has to be assured that students will reach the entire range of the formal in-company learning outcomes. Transparency is highly important.

2.3.4. Assessment

In Denmark, there is no predefined taxonomy for in-company learning outcomes, as the trade-specific taxonomies have grown out of trade-specific traditions. There are approximately 20 different taxonomies in use, some of them even with a complex point system of quantification.

On national level a taxonomy is mentioned as "performance standards" in the main regulation (§ 34, "beginner, experienced, advanced, expert"), This taxonomy follows the principles of Dreyfus and Dreyfus´ taxonomy (Novice, advanced beginner, competent, proficient, expert, 1986), which is applicable preferably for competency-based approaches.

Each trade committee has its own taxonomy. A few of them are presented below:

Construction	Not worked with the task yet	Can work with the task under supervision	Can, in collaboration with others, participate in the execution of the task	Is able to work with the task on his own with satisfying results	Is fully familiar with independent planning and executions of the tasks
Social & health	Beginner	Experienced	Advanced	Expert (only on EUX-level)	-
Industry	Often	Rarely	Never	-	-

Some taxonomies relate to student's performance and learning, others to the quantity of conducted work tasks or to the required instruction level.

The intention is that the trainers/training managers conduct an assessment, based on the students' self-assessments, at the end of each training period. The results are ticked off in a "training declaration" and sent to the school.

Progression of learning outcomes in the occupation

Another aspect for allocating learning outcomes to the in-company training is the taxonomy of sets of learning outcomes themselves: When can students work with specific learning outcomes during their educational program? This does not only depend on individual aspects and the company's disposal,

but also on the logic of the work tasks and the conditions in the trade. For example, a driver must have a driving license before been allowed to drive, while he/she can learn to load a truck before the license. There are different logics in different trades for this question. In some trades, students can work with the same work fields during all periods, and they will advance with each work field over time. In other trades, they must have conducted certain work fields, before they can continue with others.

The progression of sets of learning outcomes during an educational program can be illustrated as iterative, as linear or as modular, and in most cases with an overlap of some of the learning outcomes:

- Iterative: The same learning outcomes for all training periods. Increasing complexity and difficulty.
- Linear: Some learning outcomes must be achieved before starting with others.
- Modular: The same learning outcomes for all training periods, more or less independent from each other. Companies choose freely which work fields to offer during specific training periods.

2.3.5. Quality assurance of learning outcomes

Work-based learning in Denmark, at its most committed and formal level, is a well-paid apprenticeship for students, under protecting labour market rules and as a formally accredited part of their vocational program. Thus, apprenticeships as a whole are quality-assured when students pass their final trade tests.

The Danish legislation (main regulation, 12-§77) contains paragraphs on the in-company training of vocational programs. There is a reference to the rules of the so-called "guiding regulations" (uddannelsesordninger) for a training plan, dialogue with the school, the students' individual study plans and the progression of learning. Furthermore, a framework with supportive information materials, a virtual infrastructure and responsible key persons (VET consultants) is available. Best practices are identified, such as in TænerGuide (www.traenerguide.dk), as well as a range of other trade-specific materials.

However, in-depth research is lacking on how far all trades do actually follow the legislation and guiding regulations.

Further quality control is undertaken as self-obligatory initiatives by trade committees.

2.4. PORTUGAL

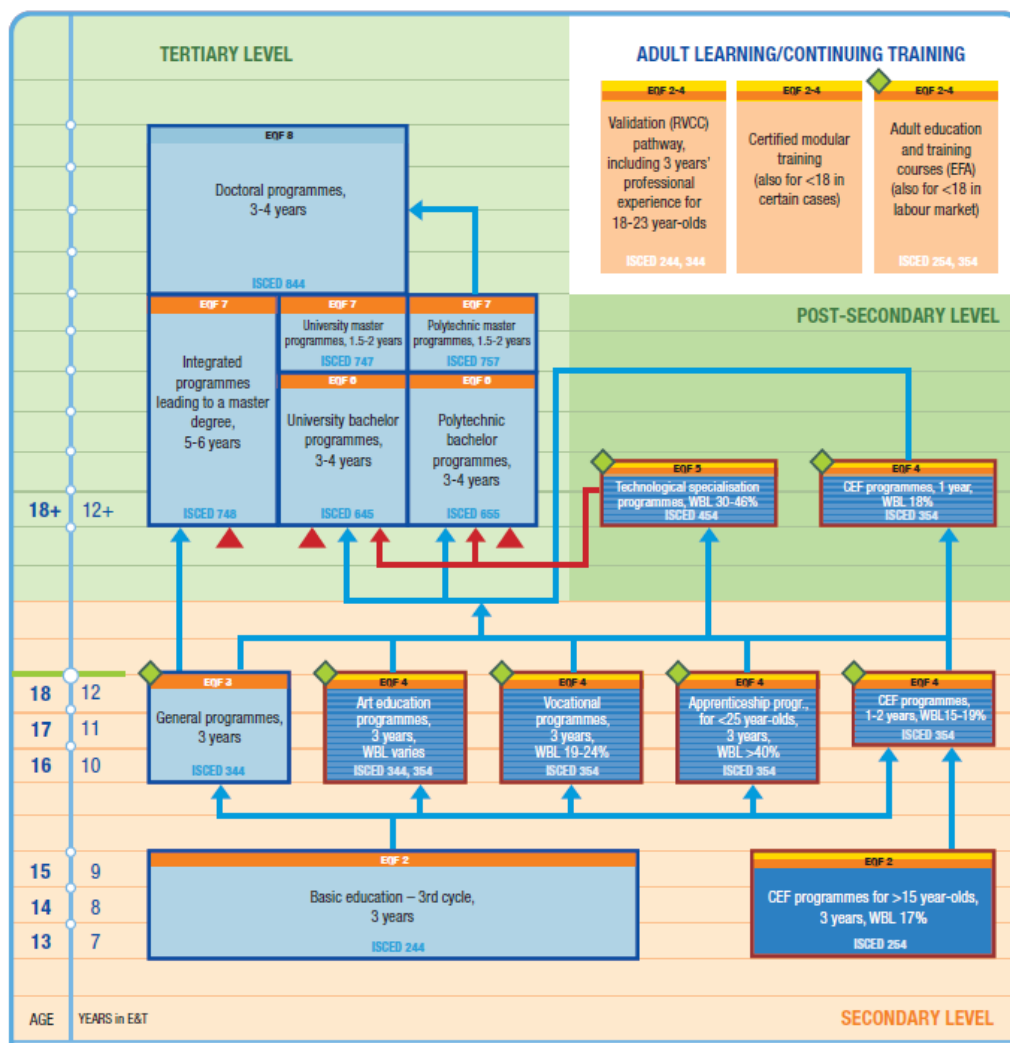### 2.4.1. General information on Portuguese VET[6]

Central government has overall responsibility for education and training. The Ministry of Education is responsible for most types of education, including school-based vocational education and training (VET), while the Ministry of Employment is responsible for the apprenticeship system, CVET and active labour market policies. The ministries share responsibilities for school-based VET and develop key policies, while the respective regional bodies are responsible for implementation. The national qualifications system (SnQ) reorganised VET within the remits of the education and employment authorities into a single system.

Young people can choose different types of VET programmes if they meet the admission requirements in terms of age and educational background. Permeability is ensured between general and VET programmes.

- VET programmes at basic education level (VET programmes for young people, "cursos de educação e formação de jovens" (CEF), iSCEd-P 254) are school-based and include work-based learning (WBL), referred to as "practical training" in the national context. Learners need to be over 15 and should have completed the first 3 cycles of basic education. In some courses it is possible for students to have only the 8 years of basic school. These VET programmes provide qualifications at level 2 of the national (QnQ) and the European qualifications framework (EQF). They are designed for young people at risk of leaving school early or who have already left the school system before completing their compulsory education. The programmes at basic level allow progression to several types of programmes, including other CEF programmes available at secondary and post-secondary level. Since 2012, vocational programmes for youngsters aged 13 or older have been introduced in some schools as pilot projects. These programs ("cursos vocacionais básicos ou secundários") ended up with the current government.

- VET programmes at secondary education level (vocational programmes, CEF and art education programmes, iSCEd 3) are school-based and include WBL, except for some art education programmes. Learners need to be over 15 and should have completed basic education. Successful learners are granted both a secondary level education certificate and an occupational qualification at EQF level 4, which may lead either to employment or further education, including higher education.

- Apprenticeship programmes (iSCEd-P 354) include 40% workplace training. A contract between the enterprise and the apprentice is compulsory, being the training centre responsible for organising the training company and the in-company training. Access is possible for learners below 25 who have completed basic education. Courses are designed specifically to help young people enter the labour market, although they also allow further studies in higher education. Successful learners are granted a double certification at EQF level 4.

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[6] From CEDEFOP's Spotlight on VET (2015)

- Programmes at post-secondary non-tertiary level combine general, scientific and technological training in schools with work-based learning. WBL is 30 to 46% in technological specialisation programmes (CET) and 18% in post-secondary CEF. Learners need to be over 18, have acquired EQF level 4 or be in the last year of secondary education or have a higher education diploma. These programmes award qualifications at EQF level 4 (CEF) or 5 (CET), as well as a technological specialisation diploma, and can also be provided in higher education institutions.
- Over the past decade, policy developments have aimed at raising adults' qualifications by widening access to VET to increase participation.
- Adult education and training courses (EFA, iSCEd-P 254, 354) are flexible training schemes available for people over 18 who wish to complete basic or secondary education and/or obtain an occupational qualification (EQF levels 2-4).
- Certified modular training courses are credit-based and allow learners to select individual units. They generally address people over 18 who have not completed basic or secondary education/training or are in risk of losing their job or are unemployed. Upon successful completion of each module and of an assessment by a technical committee, a final certificate and diploma are issued (EQF levels 2-4).
- Recognition, validation and certification of competences (rVCC, iSCEd-P 244, 344) is based on the principle of lifelong learning and targets people over 18. The two different rVCC processes (general "academic" and vocational) can lead to either a basic, a secondary-level education certificate (at EQF levels 2-4) or an occupational certificate (VET qualification at EQF levels 2-4). Adults lacking competences required for a qualification are guided to relevant training programmes to acquire them.

TERTIARY LEVEL

ADULT LEARNING/CONTINUING TRAINING

EQF 2-4	EQF 2-4	EQF 2-4
Validation (RVCC) pathway, including 3 years' professional experience for 18-23 year-olds	Certified modular training (also for <18 in certain cases)	Adult education and training courses (EFA) (also for <18 in labour market)
ISCED 244, 344		ISCED 254, 354

POST-SECONDARY LEVEL

EQF 8
Doctoral programmes, 3-4 years
ISCED 844

EQF 7
Integrated programmes leading to a master degree, 5-6 years
ISCED 748

EQF 7
University master programmes, 1.5-2 years
ISCED 747

EQF 7
Polytechnic master programmes, 1.5-2 years
ISCED 757

EQF 6
University bachelor programmes, 3-4 years
ISCED 645

EQF 6
Polytechnic bachelor programmes, 3-4 years
ISCED 655

EQF 5
Technological specialisation programmes, WBL 30-46%
ISCED 454

EQF 4
CEF programmes, 1 year, WBL 18%
ISCED 354

18+	12+

EQF 3
General programmes, 3 years
ISCED 344

EQF 4
Art education programmes, 3 years, WBL varies
ISCED 344, 354

EQF 4
Vocational programmes, 3 years, WBL 19-24%
ISCED 354

EQF 4
Apprenticeship progr., for <25 year-olds, 3 years, WBL >40%
ISCED 354

EQF 4
CEF programmes, 1-2 years, WBL 15-19%
ISCED 354

18	12
17	11
16	10

EQF 2
Basic education – 3rd cycle, 3 years
ISCED 244

EQF 2
CEF programmes for >15 year-olds, 3 years, WBL 17%
ISCED 254

15	9
14	8
13	7

AGE	YEARS in E&T

SECONDARY LEVEL

2.4.2. Defining in-company learning outcomes (the procedure)

The Portuguese National Catalogue of Qualifications

The National Agency for Qualification and Vocational Education and Training (ANQEP) is a public body under the joint supervision of the Ministry of Education and the Ministry of Employment, Solidarity and Social Security in coordination with the Ministry of Economy. ANQEP's mission is to coordinate the implementation of policies regarding the vocational education and training of young people and adults, as well as to ensure the development and management of the National System for the Recognition, Validation and Certification of Competences.

ANQEP's main contributions are:
➢ To develop and manage the RVCC system – academic and/or professional (VNFIL) and to coordinate the network of Centres for Qualification ("Centros Qualifica").
➢ To coordinate and promote the design of pathways, curricula development and specific methodologies and materials for VET (both for young people and adults).
➢ To cooperate with other public or private, national or international stakeholders, in order to foster the development of quality lifelong learning.
➢ To promote the design and continual updating of the National Catalogue of Qualifications (NCQ).

National Catalogue of Qualifications is a dynamic tool for:
➢ the strategic management of national non-higher qualifications
➢ the regulation of VET (double certification pathways)
➢ the promotion of the effectiveness of public funding

Coverage of the NCQ today

40 areas of education and training

308 qualifications

2 referential of key competences for adult education

About 6825 Short Duration Training Modules

156 standards for the recognition, validation and certification of professional competences (RPL)

22 qualifications adapted to disabled people

NCQ for each qualification it defines professional profile, training standard of double certification and RYCC standard.

```
┌─────────────────┐   ┌──────────────────────┐        ┌─────────────────┐
│ Professional    │   │ Training standard of │        │  RVCC standard  │
│   profile       │   │ double certification │        │                 │
└────────┬────────┘   └──────────┬───────────┘        └────────┬────────┘
         │                       │                  ┌──────────┴──────────┐
┌────────┴────────┐   ┌──────────┴───────────┐  ┌───┴────┐      ┌─────────┴──────┐
│ ▪Mission        │   │ ▪Organization of the │  │ Basic  │      │ Technological  │
│                 │   │  standard:           │  │(school)│      │ (professional) │
│ ▪Activities     │   │  - School standard   │  └────────┘      └────────────────┘
│                 │   │    (school)          │        │
│ ▪Competences    │   │  - Technological     │  ┌─────┴──────────────┐
│ -Knowledge      │   │    training standard │  │ ▪Units of competence│
│ -Skills         │   └──────────────────────┘  │                    │
│ -Attitudes      │                             │ ▪Criteria of evidence│
└─────────────────┘                             └────────────────────┘
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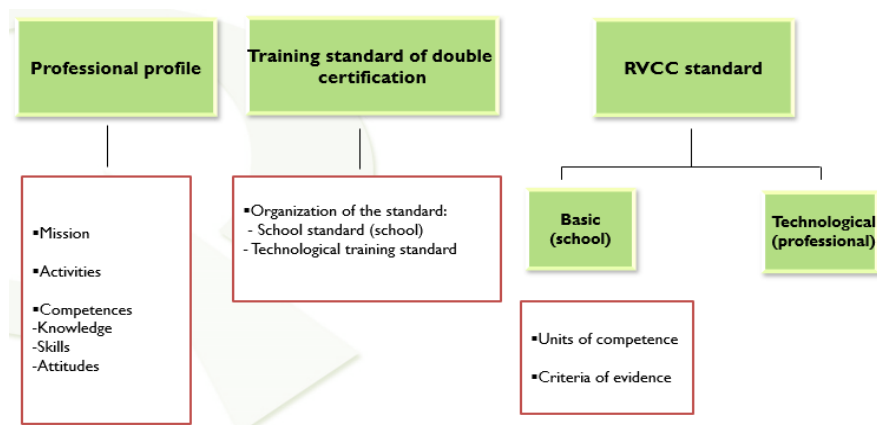
Development and updating of NCQ

The "Sector Councils for Qualification" are working groups with technical and advisory competences, created by ANQEP, to participate in the updating and development of the Catalogue. The aim of these procedures is to reduce the gap between the education and training system, labour market qualifications and competences needs.

The main competences of the Sector Councils for Qualification are:
➢ Identify the developments in the different economic sectors of activity
➢ Identify qualifications and competences needs
➢ Present suggestions to update/develop the Catalogue
➢ Facilitate and support the processes of articulation/cooperation among relevant entities as far as qualifications are concerned in each sector of activity

There are 16 Sector Councils for Qualification:

• Personal services	• Building and urban services
• Tourism and leisure	• Services to enterprises (finance activities, consulting activities, secretariat services)
• Craft and jewellery	
• Wood, furniture and cork	• Energy and environment
• Healthcare and services to the community	• Culture, heritage and production of contents
• Fashion	• Trade and marketing
• Transports and distribution	• Metallurgy and metalworking
• Computers, electronics and telecommunications	• Chemical industries, pottery, glass and others
• Agriculture and food industry	

2.4.3. Who is involved in defining learning outcomes?

The members of the Sector Councils for Qualification:
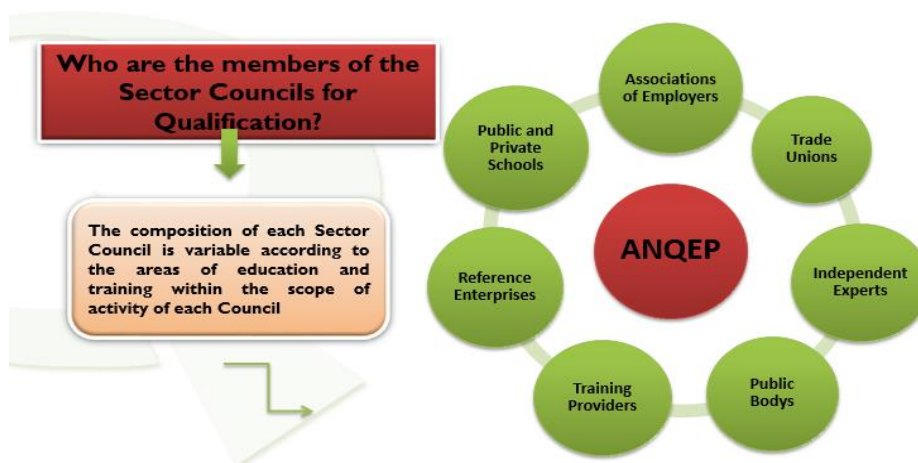
They use the "Open Model of Consultation". This model is a new means of permanent consultation with the different entities, which allows the reception of proposals to update the National Catalogue of Qualifications, thus enlarging the participation in the updating process to a wider range of entities. The updating proposals can include not only the integration of new qualifications, but also the revision or extinction of actual qualifications of the National Catalogue of Qualifications.
The proposals should follow the models made available by the National Agency for Qualification and Vocational Education, according to the methodological principles of the Catalogue.

The proposals can be done by:
➢ All the entities of the training network belonging to the National Qualifications System (state and private schools, training centres from the Ministry of Employment, Solidarity and Social Security, Centres Specialised in the Qualification of Adults, private training entities…).
➢ Competent bodies responsible for the access to regulated professions.
➢ Associations of employers and trade unions.

The role of the Sector Council in the update of the National Catalogue of Qualifications
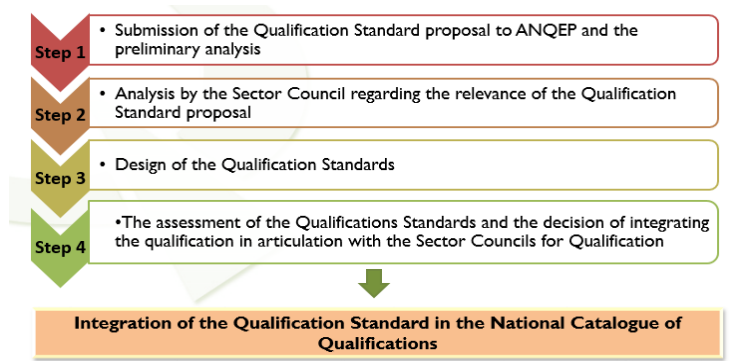
2.5. SLOVENIA

2.5.1. General information on Slovenian VET[7]

Formal vocational education and training (VET) programmes in Slovenia are generally provided by public schools. Together with private providers, public schools also offer continuing VET for adults. The Ministry of Education is the main body responsible for VET. It prepares legislation for upper secondary and higher vocational education, adopts educational programmes, and finances VET providers. The latest VET reform has increased the autonomy of schools, by transferring significant decision-making powers regarding curricula and management from national to school level. Social partners are involved in VET at all levels by:

- preparing vocational standards as a base for formal VET programmes;
- participating in the council of experts for VET (consulting body for the Ministry);
- cooperating at local level in preparing 'open curricula' (employers);
- helping organise practical training for students.

While the Ministry of Education deals with VET at systemic level, the Institute of the Republic of Slovenia for VET (CPI) is responsible for VET at the practical level: it monitors and guides the development of VET, provides in-service teacher training and vocational standards. The CPI also acts as a link between ministries, schools and social partners.

VET programmes

After completing compulsory basic education, VET students can enrol in the following upper secondary, programmes:

- **Technical programmes (ISCED-P 354)**: four-year programmes that lead to a vocational "matura" (two general and two vocational – theoretical and practical – exams). These programmes consist of at least 40% of general subjects and 4 to 12 weeks of practical training at a workplace. After passing vocational "matura", students can enrol in higher post-secondary, non-tertiary vocational education (ISCED-P 554, two years) or in first-cycle tertiary professional education (ISCED-P 655, three to four years). Graduates also have an opportunity to access most academic tertiary programmes if they pass one additional general "matura" exam;
- **Vocational upper secondary programmes (ISCED-P 353)**. For the three-year labour market-oriented programmes, there are two paths:
  - school path: approximately 20% (at least 24 weeks) of the programme is carried out with an employer and the rest of the programme at the school (consisting of general subjects and VET modules);
  - apprenticeship path: a minimum 50% of the programme is carried out at an employer, while at least 40% – general subjects and VET modules – is carried out in schools.

  Changing paths midway is possible. After final exams, students from both paths can enter the labour market or enrol in two-year vocational technical education programmes at ISCED-P 354 that lead to vocational "matura";

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[7] From CEDEFOP's Spotlight on VET (2018)

- **Short VET programmes (ISCED-P 353)**: two-year programmes that include work-based learning that prepare and qualify learners for less demanding occupations, for example, at assistant level. Alternatively, they can choose to continue their education in upper secondary VET programmes.
- Public and private VET providers also offer **higher VET programmes at post-secondary level**, which include 40% of work-based learning in companies. Learners with vocational or general "matura" can enrol in these two-year programmes.
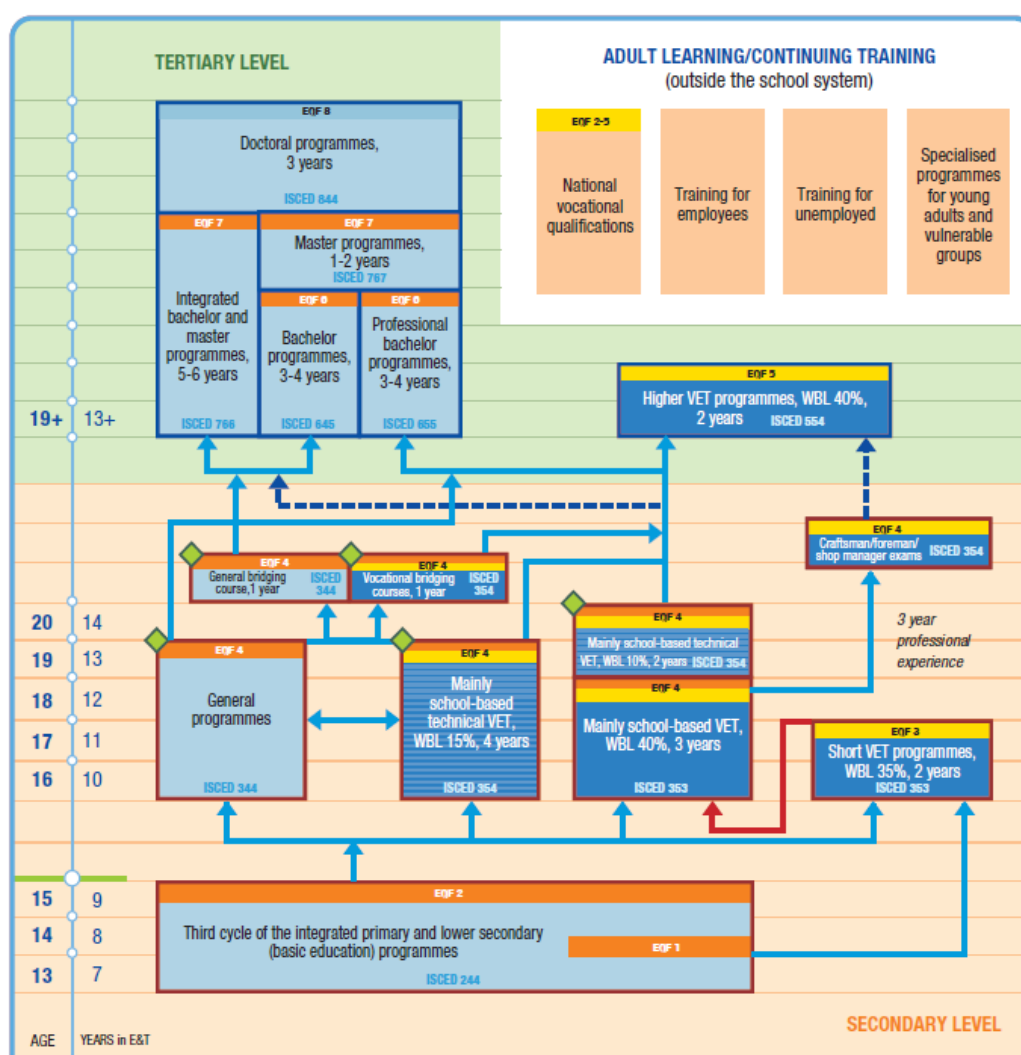
2.5.2. Challenges and policy responses in VET in the last few years

Improving VET response to labour market needs has been at the heart of the development of competence-based curricula since 2006. The implementation period has brought changes in school curriculum planning, school-company cooperation culture, didactic and student assessment approaches and VET attractiveness. Significant efforts were made through investing in new training facilities (intercompany training centres) and reinforcing practical training in companies. Integrating in-company training into the learning process and competence-based assessment remains a challenge.

The development of career guidance services, as well as promoting more flexible and individualised paths, are current development priorities. Offering a new way to enter the labour market and to reinforce the competences required in working life are the main reasons for reintroducing the apprenticeship path of vocational upper-secondary education. The Ministry of Education decree a decision on the introduction of an apprenticeship pilot for upper-secondary vocational education, and tasked the Institute of Republic of Slovenia for VET (CPI) with the preparation of a plan to pilot the apprenticeship. The pilot will last for 3 school years from 1 September 2017 to 30 August 2020. Besides the apprenticeship path, also a school-based path for upper-secondary VET programs will be carried out. The major difference between these two paths lies in the duration of practical training in companies: the school-based path has 24 weeks, while the apprenticeship path has at least 55 weeks (at least 50% and no more than 60% of the entire education program). The educational programs included in the apprenticeship pilot were proposed by the Ministry of Economic Development and Technology, in cooperation with social partners. Pilot schools were selected by the Ministry of Education, taking into account the geographical distribution of schools, enrolment data, school initiatives, availability of employers and the CPI's opinion. In 2017/18, seven schools and four education programmes (stonemason, gastronomic and hotel services, joiner and metal shaper – toolmaker) were selected for the pilot. For the following school year 2018/19, new programmes (Painter-Signpainter, Industrial Machinery Mechanic, Papermaker, Glassmaker) and schools were added to the list.

The development and piloting of apprenticeship will be carried out through the ESS project "Reform of Vocational upper secondary education" implemented by the CPI. In addition to other activities, the project includes the following activities that will support the pilot introduction of the apprenticeship:

- development of the apprenticeship path in VET;
- development of catalogues for Work-Based Learning (WBL), where goals of WBL will be defined;
- development of recommendations for the preparation of school curricula;
- development of a new concept of assessment, including the assessments during final examinations;
- development of training programs for the in-company mentors;
- training of education providers in schools and enterprises;
- developing handbooks and other supporting tools for providers in schools and enterprises;
- developing a model of support and advice to enterprises for the implementation of WBL;
- preparation of materials for counselling in VET with emphasis on WBL;
- register of training places;
- monitoring the apprenticeship path of Vocational upper secondary education.

2.5.3. Support to new policies with international projects

Development of in-company training for apprenticeship and school-based path of VET is also supported through several EU projects. Some of these projects support national policy reform (Erasmus + Key Action 3 and Interreg) while others enable cooperation for innovation and the exchange of good practices (Erasmus + Key Action 2).

One of the projects that support development of in-company training is the project "**See the goal: In-company learning outcomes as video recordings**", having in mind that one of the current key challenges is the quality and transparency of in-company training learning outcomes. The quality of those has a direct impact on the motivation and retention of students, their learning results and scores during their final examinations. Typically, the learning outcomes are included in the official regulations and/or guidelines. Various evaluations have shown that there is a general need to make learning outcomes more transparent and easier to adapt to daily training practice. A convenient approach for addressing the challenge of applying clear and practice-based learning outcomes is video technology. In the project "See the Goal", video-recordings were used to support the design, communication, training and self-assessment of in-company learning outcomes. While other project partners countries (Denmark, Finland, Portugal) have in-company learning outcomes designed at the national level, Slovenia does not. As a consequence, the process of designing in-company learning outcomes for the purposes of preparing videos was developed within the project "See the goal". Experiences from this development process were also later used in the design of national in-company learning outcomes for several VET educational programs.

2.5.4. Development of in-company learning outcomes during the project "See the goal"

In the Slovenian VET system, occupational standards are prepared at the national level, based on input from companies. These occupational standards are the basis for the preparation of national curricula for VET programs. VET programs in Slovenia are modular, e.g. each module consists of a list of operational goals included in a document called 'Catalogues of knowledge'. National occupational standards and national curricula were the main basis for the list of in-company learning outcomes of educational programme **Industrial mechanic**.
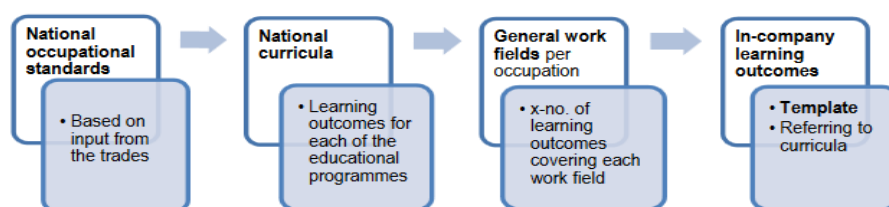

Fig. 1, Slovenia process

Regina Lamscheck-Nielsen – Moeve, 2017

The process of preparing in-company learning outcomes for preparing the videos was conducted in several steps.

- *Step 1: Analysis of core documents for the educational program of industrial mechanic*

These national documents are: (**A**) National occupational standards, (**B**) Catalogues of knowledge for VET modules, (**C**) Catalogues for final examination and (**D**) EUROPASS certificate supplement. For a better understanding of the procedure, a short explanation of the structure of those documents can be read below:

A. Each educational program is based on one or more occupational standards (the educational program of industrial mechanic is based on just one standard). Each **occupational standard** contains:
- ✓ Name and code of the occupational standard;
- ✓ Name and code of the occupation;
- ✓ Proficiency level;
- ✓ Professional competencies and
- ✓ Description of the occupational standard, which consists of: fields of activities, core tasks and professional knowledge and skills.

B. Professional competencies and the description of occupational standards (fields of activities, core tasks and professional knowledge and skills) were part of the occupational standard of industrial mechanic. In this regard, the educational program of industrial mechanic consists of 8 mandatory VET modules and 2 optional VET modules. Each module has his own **catalogues of knowledge for VET modules.** Each of these catalogues consists of:
- ✓ Name of the module
- ✓ Overarching aims
- ✓ Professional competencies
- ✓ Operational goals, comprising informative aims and formative aims

C. At the end of their education, each student has to pass a final examination consisting of a presentation and defence of a project or service and, for so doing, a **catalogue for presenting and defending a project or service** is prescribed. This catalogue includes:
- ✓ Name of educational program
- ✓ Name of the unit that is examined
- ✓ Examination goal
- ✓ Professional competencies that students have to achieve after completion of education
- ✓ Assessment criteria
- ✓ Examples of tasks for final examination

D. After successfully completing their final examination, students get the **EUROPASS certificate supplement**. In this document, the main parts are acquired knowledge, skills and professional competences. Below some elements of the educational program for industrial mechanics are presented.

3. ACQUIRED KNOWLEDGE, SKILLS AND PROFESSIONAL COMPETENCES
The holder of the certificate is qualified to: - carry out supervisory and control functions on the machine or production line; - manage and set process, electrical and mechanic sizes and parameters; - control more complex work process parameters, and chain the machine controller by way of synoptic diagrams and entry-exit control elements; - identify the load of machine elements and their function in the machine; - monitor and record required measurement parameters of the machine or line, identify basic control components of the machine; - prepare the machine for commissioning, detect and locate machine errors, repair machine breakdown and replace damaged components with original spare parts; - monitor machine functioning, fix and insert material in the machine, control work process, repair the machine in the event of a simple standstill in the work process, perform basic maintenance work; - examine a general condition of the machine and energy sources, carry out basic maintenance work (machine cleaning and lubrication); - use computer applications, assess costs and provide for a well-regulated work environment; - use standards, comply with rules and regulations on health and safety at work and environment protection; - elaborate technical documentation and technical instructions by employing ICT technologies. Optional: **Assembly and testing of mechatronic systems** - arrange, assemble and disassemble simple mechatronic systems. **Maintenance and repair of mechatronic systems** - maintain and repair mechatronic systems. In addition, the holder of the certificate also upgraded his/her key professional skills and competences with key general knowledge and skills in line with national standards.

- *Step 2: Selection of goals from national documents and the identification of general work fields for the whole occupation*

After analysing these key national documents, a list of goals that cover the completely educational program (just professional part) was created and general work fields for occupation Industrial mechanic was designed. These goals were gathered into clusters according to general work fields. This phase was also helpful for the creation of the Competence Matrix 'Mechatronics', developed within the European project VQnet (http://www.vocationalqualification.net/).

● *Step 3: Defining in-company learning outcomes inside each general work field*

After agreeing on a list of goals according to general work fields for industrial mechanics, learning outcomes are specified, although their number should not be excessive.

A template, which refers directly to the competencies from the national curricula as well as to the occupational standards, for describing learning outcomes was prepared.

TEMPLATE FOR PREPARATION OF WORK TASKS FOR STUDENTS' IN-COMPANY TRAINING

No.	Work task name:	● Educational programme:
Description of work task:		
Methods – procedure for completing work task:		**Tools needed:**
Competences from occupation standard related to this work task:		
Competences from school curricula related to this work task		
Competences from VET modules:		**Key competences:**
Video recording		
Company for shooting films:		
Storyboard number:		

● *Step 4: Discussing and revising in-company learning outcomes*

Step 1 to step 3 are mostly developed within a small group of experts (VET teachers, experts from CPI). In this phase, however, the selected learning outcomes are discussed with few experts from occupational practice (employers). The process results in a document with seven general work fields, with 3-7 learning outcomes allocated respectively. Elaborated as a draft, prepared by CPI and the VET school centre in Celje, this document is adjusted following discussions with experts from occupational practice. One part of this document is presented below:

General work field	Professional competence	Name of video	Learning outcomes shown in video
Maintenance of mechatronic system	Student can perform the basic scheduled maintenance o mechatronic system and adhere to equipment maintenance plans.	Video no. 7: Maintenance of mechatronic systems	1. Student discusses in a team the errors on the mechatronic system 2. Student maintains pneumatic and hydraulic components 3. Student replaces bad mechanical parts 4. Student replaces sensor and actuators 4. Student lubricates mechatronic system

Future challenges regarding in-company training in Slovenia

➢ It is still under discussion how assessment will be undertaken. In addition, assessment criteria still need to be added. For this purpose, a joint (trainer-student-teacher) assessment with VET teachers in the lead position is considered. Inspiration from the Finnish "skills demonstrations" is taken into account in this context.

➢ Furthermore, it is still challenging to involve training companies and social partners, both in daily training and in decision-making on training as a part of formal VET. Thus, the goals and the content of the specific educational programmes, as well as the individual levels of students, are still unclear for many companies.

➢ VET schools have until now been the drivers of vocational education. There are yet no well-established frameworks for a committed dialogue between schools and companies. The professional bodies – chambers and trade unions – do neither represent a sufficient number of companies nor of employees. Nevertheless, there is an urgent need for involving experts from companies, as a way to identify and co-define in-company learning outcomes.

➢ On the other hand, dialogues at national level between employers, VET teachers and experts have resulted in the development of occupational standards and curricula. This continuing process is supported by several parallel initiatives. One of them is the project "See the goal". The process of filming and the direct feedback from trainers and students forces experts to be aware of the selection of work situations and learning outcomes. Vice versa, occupational practice also reveals learning outcomes that still remain undefined.

3. Recommendations on in-company learning outcomes design

As seen in the previous chapter, in-company leaning outcomes can be defined at national, regional or sectoral level. However, each country has its own approach adapted to their national VET systems and cultural specifics. These approaches have helped experts from the project "See the Goal" to advance some transnational recommendations for designing in-company learning outcomes. Besides the results of the "See the goal project", the following recommendations are also based on findings from practice and previous innovation projects in Denmark, Finland, Slovenia and Portugal, as well as on conclusions from several European research papers and reports (from Cedefop, European Commission's papers, ETF papers).

In general learning outcomes should be prepared in such way that are applicable to practice in companies, as a basis for the student's training plan and for the assessment of his/her progression. When designing in-company learning outcomes, the following considerations have to be taken into account:

● **Different stakeholders involved in designing in-company learning outcomes**

Even though the coordinators of the procedure for defining in-company learning outcomes differ from country to country, the main stakeholders that are preparing those learning outcomes are similar: national policy makers for education and/or labour, VET providers, employers or/and their representatives (e.g. employers' organisations, chambers) and employees or their representatives (e.g. trade unions).

● **Inclusive role of stakeholders**

The process itself of elaboration of learning outcomes is as important as the final learning outcomes. A process that supports a genuine commitment of all involved parties means an important step towards broad implementation and ongoing quality assurance. In addition, an inclusive process can increase the occupational validity and maintenance of the learning outcomes.

DESIGNING IN-COMPANY
LEARNING OUTCOMES
NEEDS GENUINE
COMMITMENT OF ALL
STAKEHOLDERS.
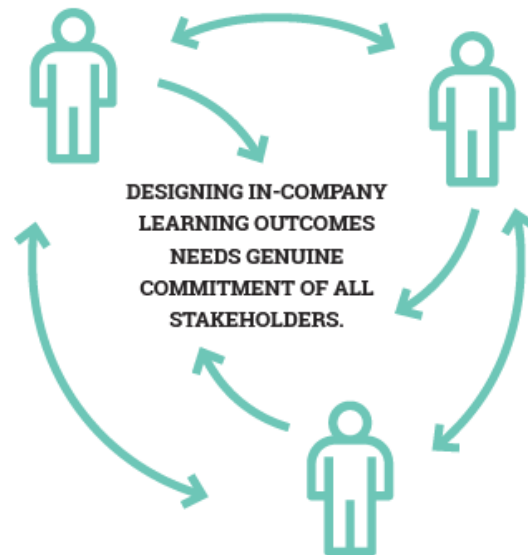
• **In-company learning outcomes designed from the learner's perspective**

The learning outcomes should be designed from the student's perspective. In-company learning outcomes are related to the question of what a student should learn and be able to perform in order to be effective in a specific occupation.

THE LEARNING OUTCOMES
SHOULD BE DESIGNED FROM THE
STUDENT'S PERSPECTIVE

- **Using active verbs that describe the in-company learning outcomes**

In-company learning outcomes are directly related to the assessment of learning achievements. Designers of learning outcomes should use active verbs that describe the learning outcomes (locate, produce, analyse, decide, plan, conduct, build, etc.), which need to be specified and contextualized.

- **Different taxonomies used with in-company learning outcomes**

In-company learning outcomes can rely on already existing taxonomies with different rationales (Bloom's taxonomy, Marzano, Dryfus & Drayfus, Eraut & Hirsch...) or new taxonomies suitable for specific contexts.
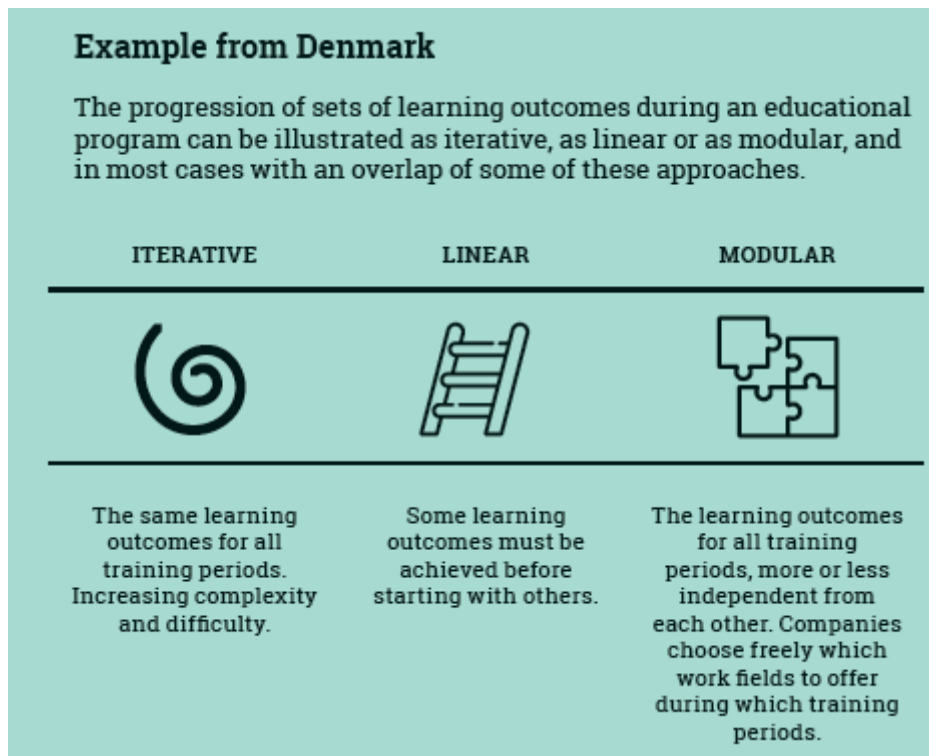
Example from Denmark

There is no given taxonomy for the assessment of in-company learning outcomes in Denmark. Each trade committee has its own taxonomy, and there are approximately 15-20 versions in use in Denmark. A few of them are:

CONSTRUCTION	SOCIAL & HEALTH	INDUSTRY
Not worked with the task yet	Beginner	Often
Can work with the task under supervision	Experienced	Rarely
Can, in collaboration with others, participate in the execution of the task	Advanced	Never
Is able to work with the task on his own with satisfying results	Expert (only on EUX-level)	/
Is fully familiar with independent planning and executions of the tasks	/	/

Some taxonomies relate to the student's learning and performances, others to the quantity of conducted work tasks or to the needed instruction level.

- **Progression of learning outcomes can differ from occupation to occupation**

In certain sectors/occupations, students can work with the same work fields during all periods, and they can advance with each work field over time. In some sectors/occupations, they must conduct certain work fields before they can continue further.

Example from Denmark

The progression of sets of learning outcomes during an educational program can be illustrated as iterative, as linear or as modular, and in most cases with an overlap of some of these approaches.

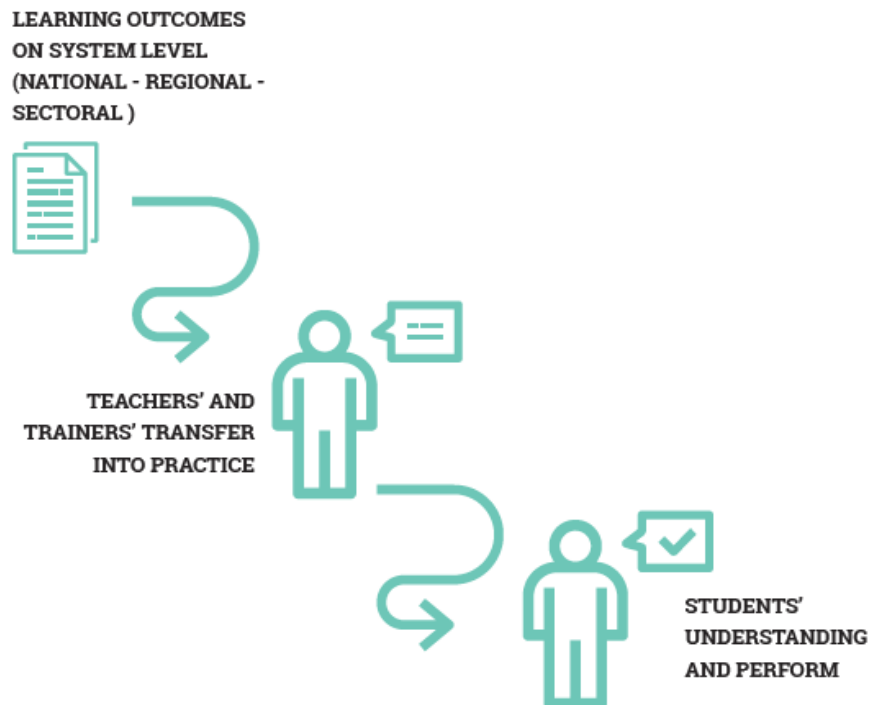| ITERATIVE	LINEAR	MODULAR
The same learning outcomes for all training periods. Increasing complexity and difficulty.	Some learning outcomes must be achieved before starting with others.	The learning outcomes for all training periods, more or less independent from each other. Companies choose freely which work fields to offer during which training periods.

- **In-company learning outcomes correlate with the labour world, as well as with the education world**

Firstly, in-company learning outcomes refer to generic work tasks or/and fields of occupation and should be based on occupational standards (if they exist). Secondly, learning outcomes for in-company training should correlate with the national curricula for specific educational programs.

LABOUR WORLD

EDUCATION WORLD
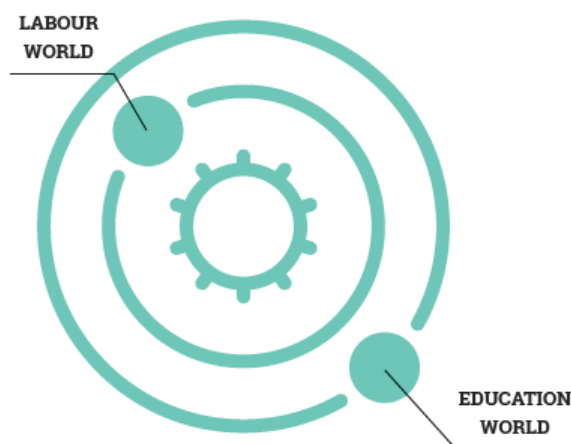
- **In-company learning outcomes understandable to all**

Learning outcomes should be easy to understand to both staff from schools and companies, as well as for students.

LEARNING OUTCOMES
ON SYSTEM LEVEL
(NATIONAL - REGIONAL -
SECTORAL)

TEACHERS' AND
TRAINERS' TRANSFER
INTO PRACTICE

STUDENTS'
UNDERSTANDING
AND PERFORM

In addition, learning outcomes should be designed with a focus on transparency, as a way to promote fair treatment of students.

- **Number of in-company learning outcomes should be manageable**

Even though the in-company learning outcomes must reflect a whole occupation, their number should not be too excessive per educational programme. If there is a high number of learning outcomes, in-company training becomes unmanageable and results into confusion of both the in-company trainer and the student. With too many learning outcomes prescribed, there is also the possibility that students do not learn them in a proper way and that learning outcomes become just a formality. Also, with excessive details, there is the possibility of losing the overview, engagement and personal initiative.

- **International context of in-company learning outcomes**

Well-designed learning outcomes also have a mobility-supportive impact (ECVET). Students from abroad need to be informed on what and how to learn during in-company training periods in foreign countries within formal workplace learning periods. Some challenges include how to identify suitable learning outcomes, how to communicate them and how to assess the achievements for recognition and accreditation in the students' own countries. Translations or even mutual agreements on joint-learning outcomes across borders are considered as best practices.

- **In-company learning outcomes should follow a regularly conducted procedure for quality assurance**

The quality assurance procedures can be in line with EQAVET Guidelines for quality assurance, particularly its Building Blocks:

> ➢ Design: define in-company learning outcomes in accordance with national/regional/sectoral guidelines;
> ➢ Communicate: communication between students, trainers and teachers on learning progress;
> ➢ Assess: assess and report on learner's achievements;
> ➢ Train: Learning outcomes presented in learning and teaching material.

4. Literature

- Curriculum reform in Europe - The impact of learning outcomes (2012). Luxembourg: CEDEFOP.
- Defining, writing and applying learning outcomes - A European handbook (2017). Luxembourg: CEDEFOP.
- Developing apprenticeships (2014): http://www.cedefop.europa.eu/sl/events-and-projects/projects/apprenticeships-work-based-learning
- Denmark – Ministry of Education: http://eng.uvm.dk/upper-secondary-education/vocational-education-and-training-in-denmark
- Eraut, M. & Hirsch, W. (2012). The Significance of Workplace Learning for Individuals, Groups
- and Organisations. SKOPE.
- EURYDICE: https://eacea.ec.europa.eu/national-policies/eurydice/home_en
- Finnish National Board of Education: https://www.oph.fi/english/curricula_and_qualifications/vocational_upper_secondary_education
- Finland - Ministry of Education and Culture: https://minedu.fi/en/frontpage
- Lamscheck-Nielsen, R. (2017). Crossing Boundaries in Vocational Education and Training: Social Dimensions and Participation. Conference paper, Rostock - Germany.
- Learning outcomes approaches in VET curricula - A comparative analysis of nine European countries. (2010). Luxembourg: CEDEFOP.
- Mikulec (Ed.) (2016). Smernice za implementacijo in uporabo slovenskega ogrodja kvalifikacij in učnih izidov v praksi. Ljubljana: CPI
- Moeve: http://moeve.dk/blog/standards-in-danish-vet/
- See the goal: http://www.seethegoal-eu.si/design-of-los/
- Spotlight on VET. (2015). Luxembourg: CEDEFOP.
- The shift to learning outcomes - Policies and practices in Europe. (2009). Luxembourg: CEDEFOP.
- Work-Based Learning in Europe - Practices and Policy Pointers. (2013). European Commission.
- Work-based learning - benefits and obstacles a literature review for policy makers and social partners in ETF partner countries. (2012). European Training Foundation.