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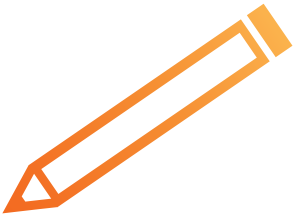
Defining, writing and applying learning outcomes



A EUROPEAN HANDBOOK

CEDEFOP

Defining, writing and applying learning outcomes

A European handbook

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Foreword

Learning outcomes, or statements of what a learner is expected to know, be able to do and understand at the end of a learning sequence, play an increasingly important role in efforts to improve the quality and relevance of education and training in Europe. Learning outcomes statements help to clarify programme and qualifications intentions and make it easier for those involved – learners, parents, teachers or assessors – to work towards these expectations.

The increased transparency offered by learning outcomes also provides an important reference point for policy-makers, making it easier to judge the match between society's needs and the programmes and qualifications offered within education and training.

Learning outcomes, however, can be written in many different ways and it is not a given that they will add value as expected. While promoting the overall use of learning outcomes, this handbook seeks to identify not only the opportunities but also the challenges involved when writing and defining them. It provides a link to an extensive collection of international and national resources, allowing stakeholders to consult experiences gained throughout (and beyond) Europe.

The handbook was written for individuals and institutions actively involved in defining and writing learning outcomes in education and training in general, and in vocational training in particular.

I hope that this publication helps to promote the learning outcomes approach in ways which directly improve the quality and relevance of learning processes across Europe. I would like to see this handbook as a reference point for cooperation and creation of a network that could play a key role in taking learning outcomes forward as a language bridging education and training and the world of work.

Joachim James Calleja
Director

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Executive summary

Cedefop's European handbook on *Defining, writing and applying learning outcomes* addresses three main aims. First, it demonstrates the added value of using learning outcomes to support education and training policies and practices. Achieving this added value, however, requires an understanding of the strengths and weaknesses of the approach. The handbook provides a reference point for a more systematic exchange of experiences and cooperation at European level. Second, this handbook argues that the writing and articulation of learning outcomes must be followed by implementation, through teaching, learning and assessment. Learning outcomes cannot stand alone: their potential can only be released when interacting with practice, which the handbook illustrates with reference to teaching, learning and assessment. Third, the handbook provides an overview of, and a direct link to, existing guidance and research material in this area. This resource will make it possible for stakeholders go in depth on issues relevant to their particular institutional or national priorities.

To achieve these aims, the handbook is organised as follows.

The first part (Chapter 2) outlines the purposes for which learning outcomes are used and is supported by examples. It provides a more in-depth discussion of particular aspects related to the definition, writing and use of learning outcomes.

The second part (Chapters 3 to 5) discusses in some depth the issues confronted when working with learning outcomes. Starting from a discussion of the learning outcomes concept and the terminological challenges involved in capturing the depth and breadth of learning, this part concludes with a presentation of criticism commonly raised over the use of learning outcomes.

The third part of the handbook (Chapters 6 and 7) sets out several basic steps – 'rules of thumb' – to be taken into account when defining and writing learning outcomes. These 'rules of thumb' are further illustrated by examples of how the abstract principles can be put into practice. This part also outlines how European cooperation on learning outcomes can be taken forward through common principles for presenting them, to be used for comparability purposes.

The handbook concludes with an extensive overview of guidance material already available across Europe in different languages. This material is a useful source of information for policy-makers, social partners and practitioners; it will be regularly updated as the ambition of the handbook is to become a living document. This part also contains an extensive list of research material that has been developed in recent years and acts as an 'entry point' to the research that can inspire and inform the learning outcomes approach.

CHAPTER 1

Introduction

Learning outcomes state what a learner is expected to know, be able to do and understand at the end of a learning process or sequence. The way such outcomes are defined and written orients teaching and learning, and influences the quality and relevance of education and training. The way learning outcomes are defined and written matters to individual learners, the labour market and society in general.

This handbook was written for individuals and institutions actively involved in defining and writing learning outcomes in education and training in general, and in vocational training in particular. It is launched at a time of broad political agreement among European policy-makers and stakeholders on the need for, and usefulness of, learning outcomes. This strong political commitment, however, does not guarantee that learning outcomes are written and applied in ways which benefit end-users such as learners, teachers, parents or employers. It is important not only to identify the added value of learning outcomes but also to point to limitations and possible negative implications.

Cedefop recognises that a significant amount of guidance material has already been developed in this area ([1]), offering advice on how to write and use learning outcomes for different purposes. We also observe that a considerable amount of research has been carried out, over a long period of time and in a wide range of disciplines. An important aim of this handbook, therefore, is to present this material more systematically. The handbook will serve the following main purposes:

(a) provide an overview of existing guidance and research material supporting the definition and writing of learning outcomes;
(b) show concrete examples of how learning outcomes can be written for different purposes;
(c) serve as a tool for better understanding the opportunities as well as the dilemmas and challenges faced when defining, writing and using learning outcomes.

([1]) See Part III of this handbook for an extensive overview.

The handbook builds on material from different parts of the education and training system. While the relevance of learning outcomes to vocational education and training is of particular importance to Cedefop, we also recognise the potential of this approach to bridge institutions and sectors, and to aid the dialogue between education and training, and the labour market. To ensure continuity of guidance provided at European level, this handbook integrates elements from the 2011 European qualifications framework (EQF) guidance note *Using learning outcomes* (European Commission, 2011).

A key message of this handbook is that the writing and articulation of learning outcomes must be followed by implementation, through teaching, learning and assessment. As Biggs and Tang (2007) underline, alignment between statements of learning outcomes, the teaching/learning activity and assessment is critically important: it decides whether learning outcomes add value or not. Our ability to move from statements of intended learning outcomes to actually achieved outcomes depends on this alignment. This handbook argues that this alignment must support open and active learning; learning outcomes should not be used in ways which prevent learners from reaching their full potential (e.g. Hussey and Smith, 2003).

1.1. The handbook context

Recent Cedefop (2009; 2016) studies document that learning-outcomes-based approaches are becoming increasingly influential in European education and training policies. While explicitly introduced in European policy documents as late as 2003, national learning-outcomes-based initiatives date further back, exemplified by reforms in the UK and Finland in the 1980s and 1990s. Most European countries now use learning outcomes to express what they expect a student or pupil to know and be able to do and understand at the end of a programme or learning sequence.

Learning outcomes are commonly used to define the levels of qualifications frameworks, set qualification standards, describe programmes and courses, orient curricula, and define assessment specifications. Learning outcomes are also influencing teaching methods, learning environments and assessment practices. At European level, both in the Bologna and Copenhagen processes, learning outcomes are viewed as the 'glue' binding diverse policy initiatives and instruments together. The use of learning outcomes is also seen as contributing to permeable education and training systems, such as supporting links between vocational and

academic programmes. This growing influence of learning outcomes in most European countries, and in (almost) all education and training sectors, reflects a strong political consensus on the perceived usefulness of this approach.

Far from progressing in a vacuum, European developments are directly influenced by broader international ones, exemplified by the 'outcome-based education' movement in the US from the 1960s and onwards. Lines can also be drawn back to various education reform movements promoting outcome-based approaches under headings such as 'scientific curricula', 'instructional objectives', 'criterion-based assessment' and 'learner-centred education'.

1.2. The handbook structure

The first part of the handbook (Chapters 2 and 3) outlines the purposes for which learning outcomes are used, and how the statements used for qualifications frameworks, qualification standards, curricula and assessment criteria should be interlinked but will vary in specificity and generality.

The second part (Chapters 4 to 6) discusses in some depth the issues confronted when working with learning outcomes. Starting from a discussion of the learning outcomes concept and how this relates to terms such as learning objectives and competence, the handbook examines the conceptual and terminological challenges involved in capturing the depth and breadth of learning. This part of the handbook concludes with a discussion of the perceived negative implications of using learning outcomes.

The third part of the handbook (Chapters 7 and 8) sets out several basic steps – 'rules of thumb' – to be considered when defining and writing learning outcomes. These 'rules of thumb' are supported by concrete examples illustrating how the abstract principles can be put into practice. This part also outlines how European cooperation on learning outcomes can be taken forward through common principles for presenting them, to be used for transparency purposes.

The fourth part of the handbook contains an extensive overview of existing guidance material in this area. This material can mostly be directly accessed through integrated web-links and provides an important resource for policy-makers and practitioners.

PART I.
Learning outcomes: purposes

This first part of the handbook outlines the main purposes for which learning outcomes are used. Supported by examples, this part demonstrates how learning outcomes have to be defined, written and applied differently for different purposes, and that no single ‘fit for all’ approach exists.

CHAPTER 2

Main purposes and perceived added value of learning outcomes

Learning outcomes are used for a wide range of purposes, directly influencing the way we define and write outcome statements. The level of detail varies in moving from qualifications framework to teaching and assessment. While qualifications frameworks provide a general reference for comparing qualifications and distinguishing levels, learning-outcomes-based qualifications standards, curricula and assessment specifications have to be defined and written in a way that 'speaks to' learners and teachers and adds value to the learning process.

2.1. Learning outcomes for different purposes

There is no single way of defining and writing learning outcomes; the approach has to reflect the particular purpose and context in question. As documented by Cedefop (2016) the following purposes are common across Europe.

2.1.1. Qualifications frameworks

Qualifications frameworks play an increasingly important role at international, national and sector level. Learning-outcomes-based frameworks seek to increase transparency and allow for comparison of qualifications across institutional and national borders. The learning outcomes descriptors of qualifications frameworks are normally designed using a horizontal axis identifying learning domains (such as knowledge, skills and competence) and a vertical dimension indicating how the complexity of learning increases from level to another. Table 1 shows the level descriptors as used by the Polish qualifications framework, illustrating how these horizontal and vertical dimensions have been addressed.

Table 1. **Learning outcomes level descriptors (level 4s and 5) used in the Polish qualifications framework**

Level 4	Level 5
KNOWLEDGE **In the areas of learning, creativity and professional activities, a person has knowledge and understanding of:**	
• a broadened set of basic facts, moderately complex concepts and theories as well as the dependencies between selected natural and social phenomena and the products of human thought; • a broader scope of selected facts, moderately complex concepts, theories in specific areas and the dependencies between them; • the basic conditions of conducted activities	• a broad scope of facts, theories, methods and the dependencies between them; • the diverse conditions of conducted activities.
SKILLS **In the areas of learning, creativity and professional activities a person is able to:**	
• complete moderately complicated tasks, partially without instruction, often under variable conditions; • solve moderately complex and somewhat non-routine problems often under variable conditions; • learn autonomously in a structured form; • understand complex statements, formulate moderately complex statements on a broad range of issues; • understand and formulate simple statements in a foreign language.	• complete tasks without instruction under variable, predictable conditions; • solve moderately complex and non-routine problems under variable, predictable conditions; • learn autonomously; • understand moderately complex statements, formulate moderately complex statements using specialised terminology; • understand and formulate very simple statements in a foreign language using specialised terminology.
SOCIAL COMPETENCE	
• assume responsibility for participating in various communities and functioning in various social roles; • act and cooperate with others autonomously under structured conditions; • evaluate one's own actions and those of persons one is directing; • take responsibility for the results of one's own actions as well as those of the persons one directs.	• assume basic professional and social responsibilities, evaluate and interpret them; • independently act and cooperate with others under structured conditions, direct a small team under structured conditions; • evaluate one's own actions and those of others and the teams one directs; assume responsibility for the results of those actions.

NB: The Polish qualifications framework (PQF http://www.infor.pl/akt-prawny/DZU.2016.008.0000064,ustawa-o-zintegrowanym-systemie-kwalifikacji.html) forms an integrated part of the Polish qualification system formally adopted by the Polish Parliament on the 22 December 2015 and came into force in January 2016.

Source: Sławiński, (2013, p. 38).

The descriptors of qualifications frameworks, as illustrated in Table 1, are normally written at a high level of generality, allowing them to inform and interact with the wide diversity of qualifications and qualifications types forming part of sectoral, national and/or international qualifications systems. According to the European Commission, 'the definition and development of [framework] descriptors needs to be carefully linked to political visions and aims and be based on an inclusive process of dialogue and consultation. If the main objective of an NQF is to support lifelong learning and to include different types of learning, a comprehensive and broad set of level descriptors – spanning all levels of the national system – need to be developed. A qualifications framework designed to address more restrictive objectives, for example concerning a limited part of the national qualifications system (VET or higher education for example), will tend to operate with less generic and more specialised descriptors. The descriptors will also have to reflect whether a framework has a prescriptive or a more limited guiding function' (European Commission, 2011, pp. 38-39).

2.1.2. Qualification profiles and/or standards

Qualification ([2]) standards ([3]) define the expected outcomes of the learning process, leading to the award of a full or partial qualification. In vocational education and training, profiles or standards normally answer questions such as 'what does the student need to learn to be effective in employment' and 'what does the learner need to learn to become an active citizen, supporting basic human and democratic values?' A qualification standard is not exclusively about promoting skills relevant to the labour market, but must address a broader set of competences relevant to life and society in general. It must also consider the changing nature of the labour market and society and clarify the role of transversal skills and competences, for example related to communication, social skill and problem-solving. Many qualification standards or profiles are articulated at national level, reflecting input from various stakeholders

([2]) The recommendation on the establishment of the EQF for lifelong learning defines qualification as 'formal outcomes of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to a given standard' (European Parliament and Council of EU, 2008, p. 4).

([3]) The term qualification standard is not used in all countries, the function described in this chapter can, however, be recognised in most countries. The term qualification standard, as used here, can refer to either stand-alone documents (as in the UK and Ireland) or to programme documents at national or institutional level indicating the overarching ambitions for a qualification (e.g. a national *Fagplan* in the Norwegian vocational education and training system).

(depending on the qualification type). Box 1 illustrates how the learning outcomes have been defined for a national qualification in the area of welding (EQF level 4). The example illustrates the effort to balance learning outcomes statements addressing occupational specific and broader (transversal or basic) skills and competences.

Box 1. **Example (selection) of learning outcome statements (in national *Fagplan*) for Norwegian welding qualification (EQF level 4)**

Basic skills

In Welding, basic skills are understood as follows:

- being able to express oneself orally involves discussing and elaborating on professional solutions with colleagues;
- being able to express oneself in writing involves describing deviations, preparing measurement reports, documentation and safety and repair reports;
- being able to read involves understanding procedures, instructions, reports, standards and drawings;
- numeracy involves calculating heat supply, use of materials and welding consumables;
- digital literacy involves using digital measuring instruments and the company's control systems.

Planning and preparation

The aims of the training are to enable the apprentice to:

- plan working process according to technical drawings and documents, procedures, job permit systems and current rules and regulations;
- perform safe job analyses;
- plan welding sequences;
- give an account of the requirements for welding certifications;
- give an account of NDT methods and their areas of use;
- select materials, tools, equipment and consumables (solder, flux, etc.) suited to the work tasks;
- give an account of the company's organisation and one's own tasks and functions;
- give an account of factors that can influence profitability;
- perform work in line with control systems for production and quality;
- evaluate the economic consequences of methods and the selection of materials;
- discuss and elaborate on professional solutions and cooperate with other professionals;
- perform source separation and the handling of waste in line with current rules and regulations.

Welding techniques

The aims of the training are to enable the apprentice to:

- perform work in line with working instructions, WPS welding procedures and current standards;
- use automated welding methods based on current standards;
- give an account of the possibilities that existing welding methods have for mechanisation;

- use welding consumables according to instructions provided by suppliers;
- troubleshoot and do maintenance on welding equipment;
- do welding based on drawings, welding procedures, specifications and instructions;
- perform carbon arc chiselling;
- calculate and interpret the parameters for heat supply;
- give an account of the significance shielding gases have on the result of welding work;
- give an account of the advantages and disadvantages of the selection of welding methods;
- measure preheating and interpass temperatures, and calculate heat supply.

Source: Norwegian Directorate for Education and Training: *Curriculum for welding Vg3/in-service training at a training establishment* https://www.udir.no/kl06/SVE3-01?lplang=eng

In some countries these qualification profiles and standards will be divided into modules or units with separate and specific learning outcomes statements. The European credit system for VET (ECVET) has paid particular attention to the identification of units of learning outcomes; it sees these as critical for promoting transfer and accumulation of vocational skills and competences across Europe. To support this process, a toolkit has been put in place, allowing for the identification of qualification units across Europe ([4]).

2.1.3. Occupational standards

Occupational profiles or standards ([5]) are normally set outside the education and training system, by labour market stakeholders, but can have significant impact on the way learning outcomes statements are defined and written. Occupational profiles or standards specify 'the main jobs that people do', describing the professional tasks and activities as well as the competences typical of an occupation. Occupational standards signal what students must be able to do in employment and can ideally serve as a link between education and training and the needs of the labour market. Box 2 shows (part of) an occupational standard for an executive assistant. It is worth noting that the standard says nothing about the training required to achieve these outcomes.

([4]) *ECVET toolkit:* http://www.ecvet-toolkit.eu/ecvet-toolkit/ecvet-toolkit

([5]) As with qualifications standards, the term occupational standard is not used everywhere but refers to a function which can be identified in most countries. In some countries, for example Germany, the functions of qualifications and occupational standards are closely interwoven (in the German VET-sector candidates will be awarded a qualification containing *Berufsbezeichnung* (occupational title), signalling a close relationship between occupation and qualification).

Box 2. **Example of occupational standard: set up and maintain retail food operations**

Prepare for retail operations

You must be able to:

- agree and confirm standards and targets for retail operations to meet business requirements;
- provide sufficient and relevant supervision and support to enable your team to meet specified targets and standards;
- allocate resources to ensure that standards and targets are met;
- allocate tasks and instruct relevant person(s) to ensure that standards are met.

Maintain the effectiveness and efficiency of retail operations

You must be able to:

- monitor that standards and targets are being met;
- identify and sort out problems in retail operations within the limit of your responsibilities;
- measure work outputs and achievements against targets;
- ensure that all records and documentation are legible, accurate and complete.

Source: UK national occupational standards: *IMPSO419Sv2: set up and maintain retail food operations*, p. 2. http://www.ukstandards.org.uk/PublishedNos/IMPSO419Sv2.pdf

An occupational standard will normally differ significantly from a qualification standard. A qualification standard needs to look beyond the specific functions of a single job or occupation and prepare learners for various jobs and occupations which inevitably will change over time. The way occupational standards are developed also matters, directly influencing how broad or narrow are the functions included in the standard ([6]).

2.1.4. Curricula

Curricula set the framework for planning learning experiences. Depending on the country, the type of education and training, and the institution, learning outcomes statements form an important part of curricula. They guide teachers in the teaching process, for example supporting the choice of methods, and they inform learners about what they are expected to know/do and understand after a given learning activity. Learning outcomes in curricula can differ in detail; sometimes defining outcomes of an entire programme, sometimes focusing on specific outcomes of a module. Box 3 illustrates the learning outcomes specified in a module 'managing teams in the construction industry'.

([6]) For a detailed discussion of alternative approaches see Erpenbeck and von Rosenstiel, 2003.

Box 3. **Curricula addressing high level module about managing teams in the construction industry**

This unit is about identifying the team resources that are needed to deliver a particular project and how the significant factors will impact on your team selection, you will:

- select the project team following contractual and statutory rules and recognised industry processes;
- be able to demonstrate knowledge of the working culture and practices of the industry and how you can work within these practices to understand people's needs and motivations;
- have an active knowledge of the recruitment and the retention of employees;
- confirm the work required in your area and ensure that the work is allocated to the appropriate individuals;
- demonstrate how you will monitor and motivate the individuals, show knowledge of formal appraisal systems and review and update plans of work in your area;
- identify stakeholders and establish working relationships with them and your colleagues. You will consult with them in relation to key decisions, fulfil agreements made, promptly advise them of any difficulties encountered and resolve any conflicts with them;
- produce evidence to show that you have monitored and reviewed the effectiveness of working relationships.

Source: European Commission (2011, pp. 23-24).

2.1.5. Assessment specification and/or standards

Assessment specifications identify the methods and the criteria underpinning assessments. These criteria, using learning outcomes statements, are often formulated as threshold levels which have to be met by the candidate. Assessment standards and the criteria they use are more detailed than qualifications standards and curricula in the sense that they have to describe the requirements precisely to the learner. These requirements normally support summative assessments at the end of the learning process, but can also orient formative assessments taking place throughout the learning process ([7]).

([7]) The goal of summative assessment is to evaluate student learning at the end of an instructional unit by comparing it against some standard or benchmark. This contrasts formative assessment where the purpose is to monitor student learning to provide feedback that can be used by instructors to improve their teaching and by students to improve their learning. Formative assessment helps students identify their strengths and weaknesses and helps teachers and trainers support student progress. Learning outcomes should be written in ways which also support formative assessment, a point discussed in Part III of this handbook.

Table 2. **Learning outcomes for qualification module 'Communicate in a business environment', UK-England (extract, three of eight ILO areas)**

Learning outcomes The learner will:	**Assessment criteria** The learner can:
understand the purpose of planning communication	1.1 explain the benefits of knowing the purpose of communication (…..) 1.4 describe different methods of communication and when to use them
understand how to communicate in writing	2.1 identify relevant sources of information that may be used when preparing written communication (…….) 2.11 describe organisational procedures for saving and filing written communications
be able to communicate verbally	7.1 verbally present information and ideas to others clearly and accurately (……) 7.6 summarise verbal communication(s) and make sure that the correct meaning has been understood

Source: Everything you need to know about your nvq.course.co.uk: *NVQ courses in Business management:* http://www.nvqcourse.co.uk/business-management.html

Assessment standards play a critical role in deciding the orientation of the learning outcomes approach. Table 2 illustrates the relationship between learning outcomes written for a qualification module and their associated assessment criteria. Assessment specifications can also indicate how a learning experience is to be graded, indicating how learning can be achieved at different levels of complexity and proficiency.

CHAPTER 3

The perceived added value of learning outcomes

Learning outcomes are perceived as adding value for several purposes, as outlined in previous chapters. However, they are not to be taken for granted: any benefits eventually depend on the way learning outcomes are understood, defined, written and applied. Different uses will emphasise different benefits:

(a) for the learner: learning outcomes statements clarify what a learner is expected to know and be able to do and understand having completed a learning sequence, a module, a programme or a qualification. They support initial choice of education, training and/or learning paths; they help to orient the learning process itself; and they clarify what to expect during assessment. For learning outcomes statements to make any difference to learners, they must be visible not only in (written) qualification standards and programme descriptions. Their visibility in practice, throughout the teaching and learning process as well in assessment arrangements, is of critical importance and decides whether or not they add value to the individual learner;

(b) for the teacher/instructor: the learning outcomes approach helps to orient teaching, to select methods and to support the learning process. Learning outcomes, through their focus on levels of, and requirements to, learning are crucial for promoting a more systematic reflection on assessment criteria and methods and how these interact with and support the learning process;

(c) for the assessor: the learning outcomes approach supports assessment by clarifying the criteria for success/failure and performance. While most frequently linked to summative assessments, learning outcomes can help with formative assessment throughout the learning process;

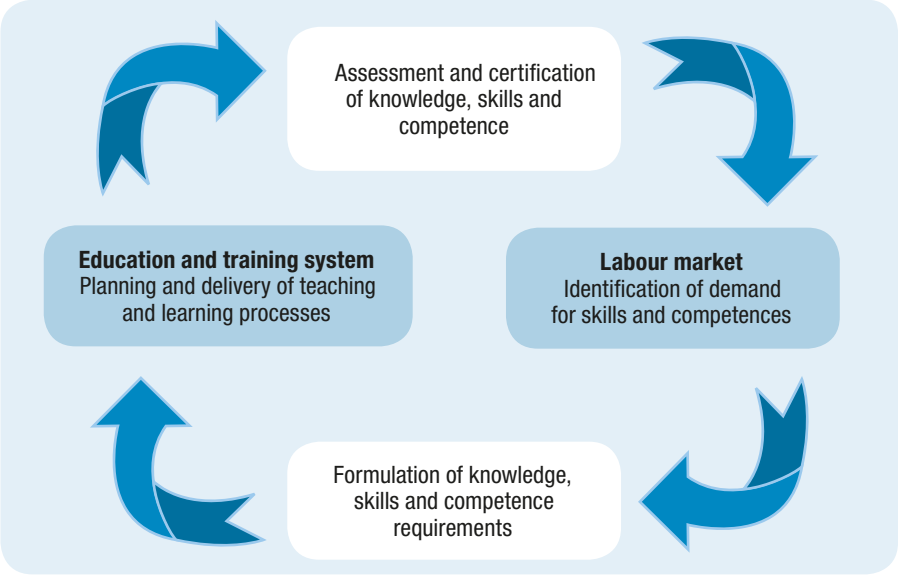
(d) for the education and training institution: learning outcomes provide an important instrument for planning, and for internal and external dialogue. The perspective helps to determine the purpose and orientation of a course, a programme or qualification and to clarify how it relates to and/or overlaps with other courses/programmes and qualifications. Learning outcomes can provide an important reference point for quality

assurance; the relationship between intended and actual learning outcomes (as identified through assessments) provides important input to the continuous review and development which is expected from education and training institutions. The learning culture in institutions can change with a learner-focused approach;

(e) for society and labour market: learning outcomes provide a common language allowing different stakeholders in education and training, as well as the labour market and society at large, to clarify skills needs and to respond to these in a relevant way. If used systematically, this allows for systematic review of the quality and relevance of education and training, focusing on the relationship between intended and actually achieved learning outcomes. The definition of learning outcomes requires systematic reflection on the use of labour market intelligence and how this will be balanced with the needs of the education and training system and of teachers, to support education, training and learning. The initial definition, and the continuous review and renewal of education and training, depend on a 'feedback loop' where the intentions expressed by the education and training system are constantly challenged by experiences from the labour market and society. This feedback loop, exemplifying the interaction between education and training and the labour market ([8]), is illustrated by Figure 1.

([8]) Learning-outcomes-based qualifications will normally not be exclusively based on information from the labour market. Important, labour market information will usually have to be combined with input from other stakeholders, for example linked to broader objectives linked to citizenship, democracy, etc.

Figure 1. **The feedback loop education-training and labour market**



Source: Cedefop, 2013.

In recent years learning outcomes have increasingly been seen as a way to increase overall qualifications transparency and reduce barriers to transfer and progression across institutional and national borders. This social and/or political perspective (also termed a 'governance perspective') is seen by some as a way to strengthen the accountability of education and training institutions, making it possible for external stakeholders to judge what is actually delivered by these institutions.

All this illustrates that learning outcomes are not a politically neutral instrument but can be used for different purposes ([9]). While the arguments in favour of the learning outcomes approach are strong, such an approach should never operate in isolation. Teachers and trainers must be able to interpret the learning outcomes and apply them in environments beneficial to the learners themselves. This is why this handbook points to the need for aligning learning outcomes statements to teaching, learning and assessment. Without such alignment, the intentions expressed will not be transformed into concrete outcomes.

([9]) See Chapter 5 for a discussion on possible limitations of the approach.

PART II.

Learning outcomes: opportunities and dilemmas

This part of the handbook provides a more in-depth discussion of particular aspects related to the definition, writing and use of learning outcomes. Departing from a definition of the concept (Chapter 3), an effort is made to clarify some of the challenges and opportunities involved in the writing of learning outcomes (Chapter 4). This part concludes with a presentation of criticism commonly raised towards the use of learning outcomes (Chapter 5).

CHAPTER 4

The definition of learning outcomes

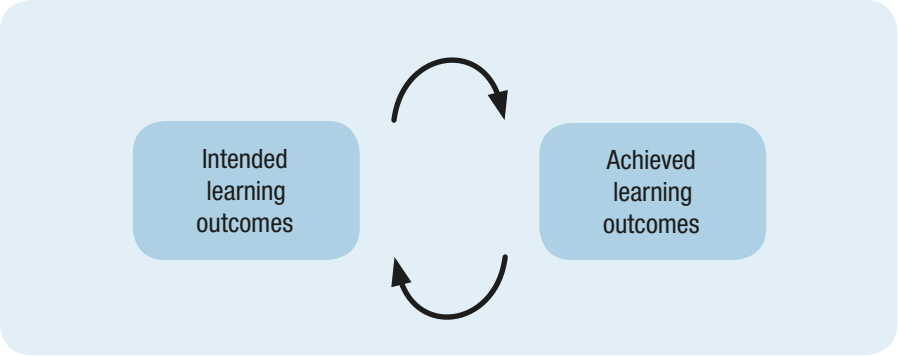
Throughout Europe, the term 'learning outcomes' is increasingly embedded in the vocabulary of education and training policies (Prøitz, 2014). Cedefop (2014) provides two interrelated definitions of this concept:

(a) learning outcomes are defined as 'statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence' (Cedefop, 2014, p. 74);

(b) learning outcomes are defined as 'sets of knowledge, skills and/or competences an individual has acquired and/or is able to demonstrate after completion of a learning process, either formal, non-formal or informal' (Cedefop, 2014, p. 73).

This relationship can be expressed as a loop where the interaction between what is intended and what has actually been achieved feeds into a continuous improvement process.

Figure 2. **Relationship between intended and achieved learning outcomes**



Source: Cedefop.

The definitions and descriptions of learning outcomes as used in qualifications frameworks, qualification standards and curricula are statements and expressions of intentions. They are not outcomes of learning, but desired targets. Achieved learning outcomes can only be identified following the learning process, through assessments and demonstration of achieved learning in real life, for example at work. Consistent application of learning outcomes requires continuous dialogue between intended and actual outcomes, seeking to improve stated expectations (intended learning outcomes) based on the actually achieved outcomes. Dialogue between the world of education and work, and society at large, is crucial to successful implementation – and continuous review and renewal – of the learning outcomes approach. Table 3 points to some of the most important differences between intended and achieved learning outcomes:

Table 3. **The relationship between intended and actually achieved learning outcomes**

Intended learning outcomes	Achieved learning outcomes
• are related to principles and concepts • might be observed: NQF's descriptors, curricula, qualification descriptions, standards • have formal meaning • people involved in developing learning outcomes are defining their shape. Those people are specialists in writing learning outcomes in general. They include researchers, specialists from national/regional authorities for education	• are related to theory and practice • might be observed (or rather are the result of) training and assessment process • have practical meaning • people involved in developing learning outcomes are defining their content. Those people are specialists in defining and providing learning outcomes for a particular sector/occupation. They include practitioners, education providers, social partners, sector's representatives
Balance and comparability between intended and achieved is ensured when they are working together. In this way, flexibility and adaptability of learning outcomes as well as fulfilment of different aims of using learning outcomes is also ensured.	

Source: Cedefop.

4.1. Competence

The focus on actually achieved learning outcomes brings in the concept of competence, defined by Cedefop as the 'ability to apply learning outcomes adequately in a defined context (education, training, work or professional development)' (Cedefop, 2014, p. 47).

Competence can be understood as actually achieved learning outcomes, validated through the ability of the learner autonomously to apply knowledge and skills in practice, in society and at work. Learning outcomes are validated by their relationship to competences (Cedefop, 2012, p. 35). While the term competence is widely used throughout Europe, and in several countries substitutes the term learning outcomes, there are many different definitions and interpretations, creating some confusion when operating internationally. The definition provided by the 2008 recommendation on the EQF can be seen as a compromise pointing towards a shared approach: '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' (European Parliament and Council of EU, 2008, p. 4).

When countries use the term competence-based qualification, they normally underline the role of the learning (and working) context and how this influences the transformation of intended into actually achieved learning outcomes. 'The learning or working context has a strong influence on the range of learning outcomes that are considered important, the interaction between them, the way the learner learns, how the outcomes are assessed and most importantly, the value attached to qualifications in the field. Competence-based qualifications thus states that a person is qualified to work in a specific field or occupation. The competence approach is closely associated with a view of individuals as (potential) parts of the labour force and a commitment to optimising the individual's efficiency in a job. In contrast, the term learning outcomes may also embrace general knowledge and ethical, cultural, and social skills that go beyond the needs of the labour market. Some types of learning outcomes may not be able to satisfy this requirement for contextual specification. For this reason, it is important to see the defining of learning outcomes as one key step towards defining competence-based qualifications. In other words, competence-based qualifications are one example of how learning outcomes-based approaches are used' (European Commission, 2011, pp. 12-13).

4.2. Learning aims and objectives

Related to the above concepts are terms such as learning aims and learning objectives. These are sometimes used interchangeably, potentially creating confusion. Kennedy et al. (2006, p. 5) understand learning aims and learning

objectives in the following way: a learning aim is 'a broad statement of teaching intention, i.e. it indicates what the teacher intends to cover in a block of learning. Aims are usually written from the teachers' point of view to indicate the general content and direction [of a programme]'; a learning objective is 'usually a specific statement of teaching intention, i.e. it indicates one of the specific areas that the teacher intends to cover in a block of learning' (Kennedy et al., 2006, p. 5).

The described move towards a more explicit, outcomes-based expression of learning is supported by many theoretical positions. Meyer (1997) offers a detailed insight into the evolution of this research and points out that the term learning objective dates back to the first half of the 20th century (Bobbit, 1918; Tyler, 1949) and is clearly oriented towards clarification of teachers' intentions. The term learning outcomes is introduced from the 1970s and onwards, signalling a more learner-centred approach. The distinction between objectives and outcomes can also be captured through the distinction between 'product' and 'process' models for curriculum development. Tyler (1949) presents one of the first rational curriculum design models, also known as 'means-end' or 'product' model. To some extent influenced by behaviourism (see also Chapter 4), the focus is very much on defining precise and observable results of teaching. Stenhouse (1975) questions whether curriculum and pedagogy could be oriented by logic other than the means-end model. He saw the model as not beginning with behavioural objectives but focusing on the learner, the learning process and the conditions of instruction and learning to be created.

This tension between 'product' and 'process' models and approaches still influences the debate on learning outcomes and their application. Part of the problem lies in the fact that this distinction is not always made clear to practitioners working with learning outcomes. While the topic is well covered in the research literature, much of the guidance material produced over the past few years fail to address this tension. The practical implication of this is that available options are not clearly communicated.

CHAPTER 5

Writing learning outcomes: how to capture progression in and complexity of learning?

Learning outcomes are best understood as an approach that can be adapted to and applied in different policy, teaching and learning settings. It follows that there is no single correct or apt way of approaching them. The term can have a range of connotations and denotations, precisely because it is used in different contexts (Cedefop, 2009). However, as alluded to in Chapter 4, the conceptual basis for the definition of learning outcomes can directly influence the character and quality of the learning process as experienced by the individual learner.

5.1. Learning outcomes and learning progression

The EQF guidance note on using learning outcomes (European Commission, 2011, p. 8), states that the definition and writing of learning outcomes refers to taxonomies of learning based on a hierarchy of conceptual stages of learning processes that learning outcomes can be used to describe ([10]). In the world of employment, the processes to define occupational standards ([11]) are based on making explicit the components of a professional activity; these look similar to expected learning outcomes. The theory of communities of practice (Lave and Wenger, 1998), for example, requires clear understanding of what is to be learned and how it is best learned. When using this theory, cognition, personal growth and professional development will be supported by clear learning outcomes statements of what is expected of the workers/learners.

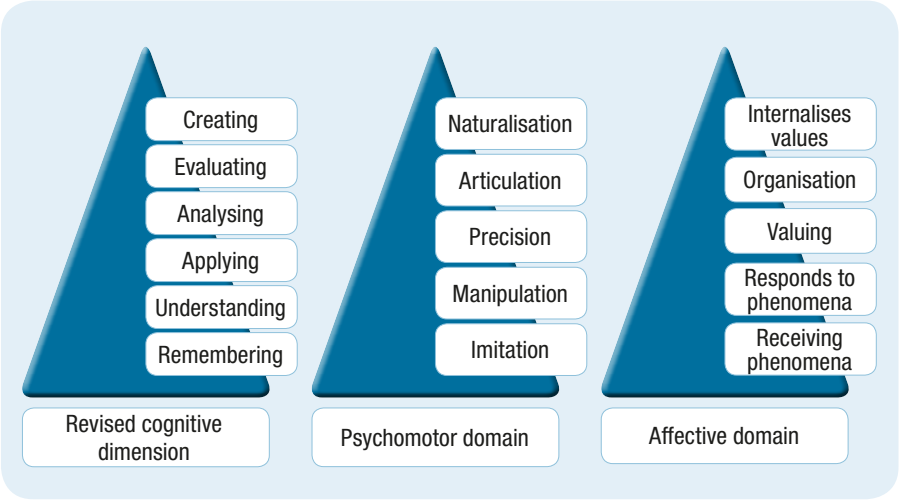
Bloom's taxonomy is one of the most important theoretical influences on thinking about learning outcomes and progression. The earliest iteration

([10]) See Kolb and experiential reflection (Kolb, 1984); and constructivist theories first introduced by Vygotsky (zones of proximal development) (Vygotsky, 1978).

([11]) Such as functional analysis of jobs within occupations (Mansfield and Mitchell, 1996).

of the taxonomy (Bloom et al., 1956) sets out a hierarchical categorisation of cognitive learning, moving from basic (knowledge and comprehension) to increasingly complex skills (application, analysis, synthesis and evaluation of concepts, processes, procedures, and principles). Anderson et al. (2001) revised the cognitive domain of the taxonomy by changing the nouns used in the original version to verb form (knowledge was changed to remembering; comprehension to understanding) and placing synthesis (creating) above evaluation (evaluating) in the highest order of complexity. A second publication (Bloom et al., 1964) set out a hierarchy of learning for the affective domain, starting with the basic (receiving, responding) and moving to more complex levels (valuing, organisation, characterisation by a value or value complex). A further development introduced a hierarchy describing the psychomotor domain (skills), starting with imitation and moving via manipulation precision to articulation and naturalisation. The three hierarchies are shown in Figure 3.

Figure 3. **Bloom's taxonomy: cognitive, psychomotor and affective domains**



Sources: Bloom et al. (1956); Dave (1970); Anderson et al. (2001).

This approach has been subject to various criticisms. Bereiter and Scardamalia argued that '… we need ways to think about knowledge that allow us to be reasonably clear and definite about what we are trying to achieve yet do not require reducing knowledge to itemisable objects in the

mind …' (Bereiter and Scardamalia, 2005, pp. 12-13). Depth and coherence of knowledge in the development of expertise, they argue, requires '… getting beneath the surface, making contact with the underlying patterns and principles that give meaning and support intelligent action' (Bereiter and Scardamalia, 2005, p. 10). The inclusion of increasingly complex verbs in three hierarchies, some of which are process-oriented, can possibly be seen to prevent such a reductionist bias in the application of learning outcomes, as illustrated by a range of taxonomies developed (partly) in response to Bloom.

5.2. Alternative taxonomies and potential impact on defining and writing learning outcomes

Two alternative learning outcomes taxonomies, with deeper roots in constructivist theories, have emerged in the past few decades. The first, the Dreyfus taxonomy, describes learner progression from 'novice to expert'.

Box 4. **From novice to expert**

- Novice learners have incomplete understanding and approach tasks mechanistically. Novice learners need supervision.
- Advanced beginners have a working understanding of concepts. They tend to see actions as a series of steps. Advanced beginners can complete simple tasks without supervision.
- Competent learners are able to understand context. They may complete work independently to an acceptable standard.
- Proficient learners have deeper understanding and are able to see actions holistically. They are consistently able to achieve a high standard.
- Expert learners have an authoritative, deep and holistic understanding. They are able to deal with routine matters 'intuitively', to go beyond existing interpretations. They consistently achieve excellence.

Source: Dreyfus, 1981; Dreyfus and Dreyfus, 1986.

An important research tradition has developed from this starting point, including work on 'situated learning' (Lave and Wenger, 1998). This demonstrates how the increasing complexity of learning is intrinsically linked to context and setting, where the individual learner moves from a peripheral to a more central and involved position in the relevant community of practice. This underlines the key role played by context in writing learning outcomes

and stresses the initial comment in Chapter 2 that learning outcomes need to coexist with input factors, including the learning setting.

The SOLO (structure of observed learning outcomes) taxonomy (Biggs and Collis, 1982; Biggs, 1999; 2014) similarly describes progressively complex levels of understanding. Within the SOLO taxonomy, understanding is described as an increase in the number and complexity of connections learners make as they progress from low to high levels of competence. Learning is shaped by prior knowledge, misconceptions, learning intentions and strategies. The focus is on depth and quality of understanding, rather than quantity of information.

Table 4. **The structure of observed learning outcomes (SOLO)**

Levels of understanding displayed	Phase of learning	Indicative verbs
Extended abstract: conceptualises at level extending beyond what has been dealt with in the actual teaching and learning process. Can generalise to new areas.	Qualitative phase	Theorise, generalise, hypothesise, reflect, generate.
Relational: indicates orchestration between facts and theory, action and purpose. Understanding of several components which are all integrated conceptually. Can apply the concept to familiar problems and work situations.		Compare, contrast, explain causes, integrate, analyse, relate, apply.
Multistructural: indicates understanding of boundaries but not of systems. Understanding of several but discreet components. Disorganised collection of ideas or concepts around an issue. Not relating items in list.		Enumerate, classify, describe, list, combine, do algorithms.
Uni-structural: concrete, minimalistic understanding of an area, focuses on one conceptual issue in a complex case.		Identify, memorise, do simple procedure.
Pre-structural; no understanding demonstrated.	Quantitative phase	Misses the point.

Source: Adapted from Biggs (1999).

5.3. The behaviourist bias

There is tendency (e.g. Campbell, 2014), to argue against and oppose the shift to learning outcomes due to what is seen as a (negatively perceived) behaviouristic bias. According to this criticism, the learning outcomes approach risks reducing the richness of learning by imposing a simplistic

stimulus-response paradigm of learning where only observable and measurable outcomes counts. This, according to critics, assumes a linear and overly simplistic learning process where complex activity verbs (such as understand) should be avoided and replaced by narrower, terms with clear borderlines. Allais (2012; 2014), repeats this criticism with reference to the way knowledge is treated '…. as information that can be divided into little bits that can be selected and combined at will' (Allais, 2014, p. 39). She believes that this 'ignores the extent to which knowledge is organised in bodies of hierarchical conceptual relationships, the value of such knowledge' (Allais, 2014, p. 39) does not respect the conditions in which knowledge is acquired. Others (Dobbins, 2014) argue against the assumption that the shift to learning outcomes by default implies reductionism. Learning outcomes can, to the contrary, focus on a wide range of knowledge, skills and competences; while some of these may be behavioural in character (using a particular tool for a particular purpose), others imply more complex and ambiguous processes (linked to the critical evaluation of arguments supporting a policy decision) (Dobbins, 2014, p. 2).

Biggs (1999; 2014) pursues this point and states that in the design of learning outcomes and assessment tasks teachers are free to use open-ended verbs such as 'design', 'create', 'hypothesise', 'reflect' and so on; that this is a way to avoid predetermined or rigid design of teaching and assessment. A key question is how to define and apply learning outcomes in ways which avoid the reductionism attributed to behaviourism. We have previously warned in this handbook (see for example Section 3.2) against broad terms such as 'understand' and 'appreciate' and recommend, replacing them with terms such as 'describe', 'formulate', and 'identify'. Biggs argues against this advice, stating that, at an advanced level, appropriate verbs for learning outcomes would include 'hypothesise', 'reflect', and apply to unseen domains or problems. These higher order learning outcomes require open-ended tasks, allowing for emergent and unintended outcomes (Hussey and Smith, 2008). Following this, it can be argued that complex verbs such as 'understanding' will be at the core of most skills and activities; it forms part of the definitions of learning outcomes cited above. Learning outcomes can help learners to articulate what they will be doing about their understanding, and how this reflects different levels of understanding.

CHAPTER 6

Questioning the added value of learning outcomes

Not everybody agrees in the added value of learning outcomes. Several researchers have criticised the conceptual basis of the approach and questioned its practical and political implications. We can distinguish two main lines of criticism; a conceptual and (partly) ideological; and a technical and practical. While the first line of criticism tends to argue against the approach as a whole, the second is more pragmatic and points to weaknesses in its current understanding and application. While not pretending to give a full overview of research in this area, the chapter seeks to identify the most important issues currently addressed and debated.

6.1. Learning outcomes as 'dumbing down' of education and training

Allais (2014) stands out as a vocal representative of conceptual and (partly) ideological criticism ([12]). Based mainly on experiences from South Africa and the UK, she questions the added value of learning outcomes, arguing that they can potentially undermine the development of high quality education and learning. Focusing mainly on the (perceived failed) role of qualifications frameworks in these countries, her contributions connect to a research tradition arguing that the shift to learning outcomes can inhibit and restrict the learning process and 'dumb down' teaching and assessment. The learning process, which is always context-bound, can be harmed by introducing too concrete and specific outcome statements. The focus on observable and assessable outcomes, it is argued, links back to a behaviouristic tradition seeking to reduce complex (personal and social) learning processes into measurable and delimited objects. This tradition according to Allais, assumes the learner to be passive and (exclusively)

([12]) O'Brien and Brancaleone (2011, p. 8) discusses the epistemological and pedagogical validity of learning outcomes approach – pointing to the gap between conceptual origins and intended action.

responding to environmental stimuli (Schuman and Ritchie, 1996). Focusing on the 'conditioning' and 'reinforcement' of individuals, attention is given to the external change in behaviour. Critics point out that this perspective has profound implications as it requires outcomes to be described in specified, unambiguous, quantifiable, full-ended and measurable terms. The approach is seen as fundamentally clashing with liberal traditions, notably in higher education, which emphasise the open character of learning (as a condition for research and innovation). The criticism of learning outcomes has grown stronger as the approach has gained more political support across Europe. Seen by some as the embodiment of a neo-liberalist, market-driven philosophy, the shift to learning outcomes, as exemplified by the rapid growth in national qualifications frameworks, is seen as 'policy hype' and as a threat to high quality education and training. Not questioning the overall relevance and usefulness of learning outcomes, several researchers (Meyer, 1997; Biggs, 1999) have raised questions regarding particular aspects of the approach. While addressing some of the same issues as listed above, these contributions seek to identify ways in which to improve existing practices.

6.2. Addressing the imperfections of learning outcomes

It can be argued that learning outcomes can inhibit the learning process, for example when indicating (too) restricted a threshold level. Too much specificity and detail, it is argued, also makes it difficult to give room for innovation and exploit the unexpected present in any situation. Researchers influenced by constructivism (e.g. Hoskins and Deakin Crick, 2010, p. 122) have made an effort to establish an alternative based on an understanding of learning as deeply contextualised and not to be separated from social identity, values and relationships. It puts the learner at the centre of the learning process, as an active constructor of knowledge and not just a passive receiver, who not only 'assimilates' but also 'accommodates' knowledge, skills and competences based on previous experiences, mental structures and beliefs. According to this school of thought, knowledge, skills and competences cannot be treated as isolated or decontextualised entities and/or subjects, but need to be addressed in the context where they are situated (Lave and Wenger, 1991). The implication of this for defining and applying the learning outcomes approach is that learning outcomes statements are descriptive (not prescriptive), holistic and defined from a

perspective of an individual and his/her abilities (Cedefop, 2010; Anthony, 1996). They are process and context-oriented and need to avoid a too rigid definition of outcomes. This open-ended approach respects individual diversity and the inherent richness of learning processes, but risks reduced measurability (Prøitz, 2014).

One strand of research (Biggs, 1999; Biggs and Tang, 2007) stresses the importance of aligning learning outcomes statements to teaching and learning practices as well as to assessment tasks. The potential impact of the learning outcomes approach depends on this alignment, or as Biggs and Tang express it: 'the alignment in constructive alignment reflects the fact that the learning activity in the intended outcomes, expressed as a verb, needs to be activated in the teaching/learning process if the outcome is to be achieved and in the assessment task to verify that the outcome has been achieved' (Biggs and Tang, 2007, p. 52). This approach requires that learning outcomes be treated as open-ended: 'Unlike some outcomes-based education, constructively aligned teaching is not a closed loop, focusing only on what is predetermined. We use outcome statements and open-ended assessments tasks that allow for unintended but desirable outcomes' (Biggs and Tang, 2007, p. 53).

6.3. Learning outcomes and governance

Reflecting the rapid expansion of learning-outcomes-based qualifications frameworks in Europe and beyond, several authors have questioned the relationship between learning outcomes and the governance of education and training (Bohlinger, 2012; Lassnigg, 2012; Hussey and Smith, 2003). While acknowledging that learning outcomes can produce important pedagogical results, their impact on policy-making and governance is seen as overstated. Lassnigg (2012, p. 303) argues that most research has focused on pedagogy, with a minor proportion of the literature focused on a policy and governance level; and that in European policy, the emphasis on policies linked to the implementation of the European qualifications framework (EQF), has driven attention on learning outcomes towards the policy level.

There are indications (Cedefop, 2016) that learning-outcomes-based national qualifications frameworks are playing an increasingly important role as 'yardsticks' for review and renewal of national qualifications. An increasing number of countries report that they use the frameworks to check the consistency of qualifications, seeking to clarify levels, avoid overlaps

and support links and progression. All this is based on an assumption that the learning outcomes descriptors developed for different purposes are interlinked and need to be addressed as a totality. This function of the learning outcomes approach is not so much about regulation as it is about developing a common language allowing stakeholders and practitioners at different levels and in different context to work together, in the same direction. While visible in some countries, this use of learning outcomes for 'calibration' and review is not universally adopted across Europe. The years to come will show whether this 'governance' function gains traction.

Not pretending to reflect fully the criticism towards learning outcomes as expressed by research, the above offers an insight into challenges faced by those responsible for defining, writing and applying learning outcomes. Much research is currently focusing on the critical relationship between intended and actually achieved learning outcomes: the key question is how articulation of learning intentions influences the teaching, learning and assessment processes and whether this influence is positive or negative.

PART III.

Rules of thumb

This third part of the handbook presents some basic steps, rules of thumb, to be considered when defining and writing learning outcomes (Chapter 6). Covering the stages from definition and writing to application in teaching and assessment, these rules of thumb provide a reference point for those working with learning outcomes for different purposes. They are illustrated by examples, showing how the approach is being used in practice. This part also addresses how learning outcomes can support European cooperation in education and training: common principles for presenting learning outcomes, to be used for transparency and comparability purposes are outlined (Chapter 8).

CHAPTER 7

Rules of thumb informing the definition and writing of learning outcomes

While learning outcomes promote overall transparency and help to clarify the intentions of learning processes, they do not replace considerations of what are the most accurate inputs to the learning process. Learning outcomes should complement and add value to existing input-oriented perspectives; not fully replace or contradict them.

7.1. The fundamentals

Using learning outcomes represents a perspective and a mode of thinking. The focus is always on the learner and what he/she is expected to know, be able to do and understand:

(a) when writing learning outcomes, the learner is always – irrespective of the purpose and level of detail – put at the centre;

(b) intentional and actually achieved learning outcomes are distinguished. The former are statements of intentions and expectations, the latter can only be identified following the learning process, through assessment and demonstration of achieved learning in real life, for example at work;

(c) improving the way learning outcomes are used requires continuous dialogue (feedback loop) between intended and actual outcomes. The experiences from actually achieved outcomes should be used systematically to improve statements of intentions, as for example found in qualification standards and curricula;

(d) learning outcomes help to clarify intentions and demonstrate actual achievements of learning. Not all learning, however, can be fully defined in learning outcomes. The learning process can rarely be fully predicted and described; it has intended as well as unintended, desirable as well as undesirable outcomes;

(e) learning outcomes must remain open to the explorative and to what has yet to be experienced and articulated;
(f) learning outcomes never operate in isolation but have to be defined and written within a broader context where learning inputs are considered. The balance between learning outcomes and other aspects depends on the context in question and purposes addressed;
(g) avoid copying (cut and paste) learning outcomes from elsewhere. While it will be important to consult experiences from others throughout the process, learning outcome statements should be authentic and reflect the particular context being addressed. Defining and writing learning outcomes should normally start 'from a blank sheet of paper', evolve as an iterative process, and involve all stakeholders/team members.

Writing learning outcomes is not a neutral activity but requires reflection on the purposes addressed, the interests involved and the implications of available alternatives:

(a) learning outcomes are written for different purposes. The descriptors used by a national qualifications framework differ significantly in detail and specificity from those used in a qualification standard, a programme description, a curriculum or an assessment standard. Learning outcomes have to be 'fit for purpose' and the level of detail/granularity and generality/specificity must reflect this;
(b) while written for different purposes and varying in detail, learning-outcomes-based frameworks, qualifications standards and profiles, curricula and assessment criteria should be related and mutually inform each other;
(c) learning outcomes will be written in ways which reflect different interests. While some employers could give priority to tangible outcomes to be applied in a particular occupational context, a national ministry of education may have to give priority to broader learning outcomes preparing learners for a broad range of work and education opportunities and challenges;
(d) learning-outcomes-based approaches have different origins and have been influenced by different schools of thought. It is possible to observe a tension between what can be described as behaviouristic and constructivist schools of thought (Cedefop, 2016);
(e) while the behaviouristic tradition will emphasise learning outcomes as result-oriented, full-ended, clearly observable and (objectively) measurable, the constructivist approach will emphasise the need for learning outcomes to be process-oriented and open-ended, limiting measurability.

The relevance of learning outcomes statements to individual learners and other users depends on their ability to specify and balance general knowledge subjects with occupation-specific skills and transversal competences:

(a) the balancing of general subjects, occupational skills and transversal competences will often result from dialogue between different in vocational education and training stakeholders, illustrated through tri-partite dialogue between State, employers and trade unions;

(b) learning outcomes need to be defined and written in a way which allows for individual and local adaptation and interpretation. Learning outcomes should support alternative learning pathways and choices, reflecting differences between individuals and the contexts in which they learn. While learning outcomes provide an important orientation for learners and institutions, they do not aim fully to predict and control the learning process;

(c) too detailed and prescriptive statements can undermine and lead to a 'dumbing down' of learning and assessment. There is a need to balance regulation and autonomy;

(d) we need to be careful about treating outcomes of learning as information bits that can be selected and combined at will. This can ignore the extent to which knowledge, skills and competence are related and interdependent and lead to neglect of the conditions in which they are acquired;

(e) while learning outcomes statements are written for different purposes, relationship should be sought between the learning outcomes written for qualifications frameworks, qualifications standards, programme curricula and assessment specifications;

(f) national qualifications frameworks, defining levels of learning outcomes, can be used as reference points aiding consistent interpretation and application of learning outcomes (calibration);

(g) while national qualifications frameworks provide a good reference point for defining and writing learning outcomes, their descriptions at qualification and programme level will frequently vary in level (spiky profiles). The role of the level descriptors in a framework is to identify the 'centre of gravity' of the programme or qualification, not rigidly force all statements to comply with one particular NQF level.

While learning outcomes represent a mode of thinking directly benefitting learners, this perspective is normally combined with what we can term an input-based approach.

(a) teaching specifications can be supplemented by outcome information;
(b) learning-outcomes-based qualifications can be structured around inputs (such as duration, methodology);
(c) assessments can use both input and outcome criteria.

7.2. Definition and writing

Simplicity is important when writing learning outcomes. Too much detail and overly complex statements prevent learners, teachers and assessors from relating to the statements:

(a) defining and writing learning outcomes should be treated as an iterative process, starting from overall objectives and moving stepwise towards specific statements for units and assessment. Having arrived at specific statements, overall objectives could be reviewed and changed. Soulsby (2009) describes this iterative process as designing backwards (from broad institutional objectives to specific assessment criteria) and delivering forwards (using experiences from teaching learning and assessment to orient and reorient broader institutional objectives);
(b) when writing learning outcomes to orient a qualification/programme or a qualification unit/course, carefully consider the number of statements used. When defining a course or unit it is generally recommended limiting the number of statements (perhaps four to six statements);
(c) when defining and writing learning outcomes for a full qualification or a programme it is generally recommended to keep the number of statements as low as possible. The purpose should be to identify the overall scope and profile, not to list all technical details (Box 1 illustrates this);
(d) limiting the number of statements makes it easier for the learner to relate to the intentions and engage in the learning;
(e) limiting the number of statements makes it easier to plan teaching, to facilitate learning and eventually to carry out assessments;

(f) when writing a learning outcomes statement, focus on the learner and start with an action verb, followed by the object of the verb as well as a statement specifying the depth/breadth of learning to be demonstrated, and complete with an indication of the context (which can be related to learning, work or other relevant social contexts);
(g) in general there should not be more than one action verb for each learning outcome. Table 5 illustrates this.

Table 5. **The basic structure of learning outcomes statements**

The basic structure of learning outcomes statements…			
… should address the learner.	… should use an action verb to signal the level of learning expected.	… should indicate the object and scope (the depth and breadth) of the expected learning.	... should clarify the occupational and/or social context in which the qualification is relevant.
Examples			
The student…	…is expected to present …	…in writing the results of the risk analysis	….allowing others to follow the process replicate the results.
The learner…	…is expected to distinguish between…	…the environmental effects…	…of cooling gases used in refrigeration systems.

Source: Cedefop.

Learning outcomes statements – combining action verb/object/context – need to be articulated along vertical and horizontal dimensions.

Introducing the vertical dimension of learning outcomes statements is about indicating the level and complexity of learning. This will normally require referring to a hierarchy (implicit or explicit) of intended learning outcomes and achievements. The EQF exemplifies such a hierarchy, illustrated by the columns in Table 6.

Table 6. **Exemplifying the vertical dimension of learning outcomes: the increasing complexity of autonomy and responsibility (EQF descriptors)**

	The learner	The action	The object	The context
EQF level 3	Learner is expected…	to take responsibility for	completion of tasks in work or study	adapting own behaviour to circumstances in solving problems
EQF level 4	Learner is expected…	• to exercise self-management • to supervise • take some responsibility • evaluate and improve	• routine work of others • work or study activities	within the guidelines of work or study contexts that are usually predictable, but are subject to change
EQF level 5	Learner is expected…	• to exercise management, supervise, review • develop	performance of self and others	in contexts of work or study activities where there is unpredictable change

Source: European Parliament; Council of the EU (2008).

Learning-outcomes-based qualifications frameworks, as illustrated in Table 6, shift the focus from a (traditional) levelling based on institutional categories (and preconceived notions of institutional hierarchies) to a levelling based on intended and expected knowledge, skills and competence. This means, for example, that vocational qualifications in principle can be awarded at all levels, including level 8 of the EQF.

The learning-outcomes-based levels can be used as a yardstick to ensure consistency across institutions and programmes. Are, for example, bachelor-qualifications delivered by different institutions pitched at the same level or not?

The EQF descriptors illustrate how growing complexity can be expressed through the interaction between action verbs and a specification of object and context.

Qualifications framework descriptors are written as generic statements to fit a wide range of institutions, qualifications and programmes. While valuable for identifying broad 'level corridors', learning outcomes statements written for other purposes need to be more specific.

Action verbs play a key role in defining and articulating this vertical dimension but need to be supported in this by clarifying the object of learning and the occupational and/or social context in which the learning takes place and where the outcomes are to be used.

The choice of action verbs frequently refers to the taxonomies developed by Bloom and colleagues from 1956 and onwards.

When the Bloom taxonomy is used, reference is often made exclusively to action verbs associated with the cognitive dimension of learning. The psychomotor and affective domains also form part of this approach and should be considered (see Chapter 3 for a detailed overview).

Writing precise learning outcomes requires that ambiguous verbs be avoided. Verbs in Table 7 exemplify the differences between ambiguous and less ambiguous.

Table 7. **Ambiguous and precise verbs**

Ambiguous		Precise	
• Know • Understand • Enjoy • Determine • Appreciate	• Grasp the significance of • Become familiar with • Believe • Be aware of • Comprehend	• Distinguish between • Differentiate • Assemble • Adjust • Identify • Solve	• Write • Recite • Construct • Contrast • Compare • List

Source: Cedefop.

What counts as an ambiguous verb differs according to school of thought. A 'constructivist' approach to the definition and writing of learning outcomes (e.g. Biggs and Tang, 2007) will emphasise the need for them to be process-oriented and open-ended as opposed to being objectively measurable and observable. Table 8 shows the practical implications of operating with ambiguous action verbs.

Table 8. **The issue of ambiguity**

	The learner	The action	The object	The context
Creating ambiguity	The learner is expected	• understand • be aware of	• the tools and methods • problems related to tools and methods	applied in CNC milling
Reducing ambiguity	The learner should	be able to describe	the basic principles	applied in CNC milling
		be able to solve	a problem related to tools and methods	

Source: Cedefop.

The issue of ambiguity is also illustrated in Table 9. Here we can observe an effort to replace ambiguous statements with more precise statements, clarifying the intentions underpinning teaching, learning and assessment:

Table 9. **Before and after examples of course learning outcomes**

Broad and ambiguous	**Direct and achievable** By the end of the semester, successful students will be able to:
Students will become familiar with plant and animal species in southern Ontario (Comment: level of achievement/sophistication expected unclear)	Identify and describe 15 common plant and animal species found in the Carolinian Forest Region through field study and the development of an identification guide
Students will critique works of art (Comment: additional detail required)	Critique contemporary works of art based on an appropriate set of criteria through studio critiques and an independent essay
Students will be taught various decision-making models (Comment: teacher-centred, level of sophistication expected unclear)	Apply appropriate decision-making models in business and marketing through participation in a collaborative group project
Students will appreciate the ethical responsibilities of social scientists (Comment: too broad, unclear how this can be measured)	Assess the ethical implications of research in the social sciences through in-class discussion and an independent written report
Students will learn about research proposals (Comment: ambiguous, level of sophistication expected unclear)	Develop and present a research proposal (including appropriate research methods and a review of literature) on a relevant topic in primary or secondary education, through an independent presentation and written report

Source: Kenny, 2013.

A good way to distinguish between the different categories of verbs is to reflect on the difference between declarative knowledge (knowing what) and procedural knowledge (knowing how). Declarative knowledge is about recalling and representing theories and facts. Procedural knowledge requires that facts and theories be turned into use in increasingly complex occupational and social settings. Verbs must be able to indicate the relational character of knowledge and skills, pointing to the growing complexity of the context in which the learner has to operate.

Table 10. **Declarative and procedural verbs**

Declarative verbs	Procedural/relational verbs
• repeat • describe • identify • memorise • recall	• reflect • hypothesise • solve unseen problems • generate new alternatives

Source: Cedefop.

Introducing the horizontal dimension of learning outcomes statements is about clarifying the object and the scope of the intended learning, notably by specifying the learning domains being addressed. Are we, for example, focusing mainly on theoretical knowledge or are we addressing practical or analytical skills?

Action verbs play a role when describing the horizontal dimension but need to be supported by clarification of the learning domains to be addressed. These domains are sometimes inspired by taxonomies like the one developed by Bloom, but are frequently adapted to national and institutional needs. The introduction of qualifications frameworks inspired by the EQF has led to the adoption of nationally specific learning domains in almost all European countries (Table 1 exemplifies this).

Predefined domains are analytical constructions that are sometimes difficult to keep apart in practice. We frequently observe interaction between these domains and a blurring of borderlines (Harden, 2002; Soulsby, 2009).

The vertical dimension of learning outcomes can be described using different action verbs for different domains, as illustrated in Table 11.

Table 11. **Domains of learning, with example levels of sophistication and common verb associations**

Domain of learning	Levels of sophistication	Common verb associations
Cognitive (knowledge) What will students know?	remembering, understanding, applying, analysing, evaluating, creating	define, identify, describe, differentiate, explain, apply, analyse, resolve, justify, recommend, judge, create, design
Psychomotor (skills) What will students be able to do?	imitation, manipulation, precision, articulation, naturalisation	adapt, arrange, build, calibrate, construct, design, deliver, demonstrate, display, dissect, fix, mimic, operate, sketch, use, perform
Affective (attitudes, values or habits of mind) What will students value or care about?	receive, respond, value, organise, characterise	ask, challenge, demonstrate, discuss, dispute, follow, justify, integrate, practise, judge, question, resolve, synthesise

Sources: Marzano and Kendall (2007); Kennedy et al. (2006); Anderson et al. (2001); Bloom et al. (1956; 1964).

While the knowledge and skills domains (cognitive and psychomotor) can be identified (explicitly and implicitly) in almost all national qualifications frameworks, less agreement exists for the third domain. While almost directly applied in some countries, most now focus on personal or social competences as a third domain, emphasising autonomy and responsibility (in a study or work context).

The reluctance to use the affective dimension reflects that these are personal attitudes and values partly belonging to a private sphere and are not always the responsibility of formal teaching and learning.

Table 12 shows the approach chosen by the German qualifications framework when differentiating between domains.

Table 12. **Exemplifying the horizontal dimension: German qualifications framework**

Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy

In some countries, the predefined domains used in qualifications frameworks are directly informing the writing of learning outcomes for qualifications. This is illustrated by the Belgian-Flemish qualification in Table 13.

Table 13. **Exemplifying the horizontal dimension: domains informing Flemish vocational qualifications**

Knowledge	Cognitive skills	Problem solving skills	Motoric skills	Context (external and activity contexts)	Autonomy	Respon-sibility

Many countries do not use this kind of predefined domain when writing learning outcomes for qualifications or modules. Sometimes described as a 'holistic' approach, these descriptions evolve from the task at hand, although frequently making implicit references to domains (notably knowledge and skills).

Parts of the guidance and research literature (e.g. Biggs and Tang, 2007; Soulsby, 2009) explicitly warn against using predefined domains when describing programmes and courses as these are hard to address and replicate in teaching, learning and assessment. Too rigid application of predefined domains could create artificial distinctions not found in real life.

While learning domains, as used in qualifications frameworks, are valuable reference points for clarifying the horizontal dimension of learning outcomes statements, a too rigid and 'mechanistic' application can create problems.

7.3. Using learning outcomes statements to support learning and assessment

Intended learning outcomes can only be made visible as actually achieved learning outcomes following assessment and/or through demonstration of achieved learning:

(a) when writing learning outcomes for a programme or a course – and the associated qualifications and qualification units – the effort ([13]) required by the learner should be considered. Learning outcomes statements

([13]) In formal education and training (classroom) settings, available learning-time is limited and specified. This needs to be reflected by the learning outcomes statements. When gaining a qualification through validation of non-formal and informal learning, in contrast, this time limitation/specification is less relevant. The term 'notional time' can be used to indicate an abstract measure of required effort, but at the same time acknowledge that learners follow different pathways and therefore accomplish learning at different speeds.

can easily be (and are frequently) overloaded and lose their relevance as tools supporting the learning process;

(b) given that learning outcomes provide a reference point for the recognition and validation of non-formal and informal learning, focus should be on the learning to have been achieved, not on a particular time required;

(c) consistent application of learning outcomes requires continuous dialogue between intended and actual outcomes, seeking to improve stated expectations (intended learning outcomes) based on the actually achieved outcomes;

(d) involve all relevant stakeholders in the development and review of learning outcomes, teachers and trainers as well as relevant external stakeholders. Learning outcomes need to be a 'living thing' and continuously reviewed and improved.

7.3.1. Aligning learning outcomes to teaching and learning

The application of learning outcomes is a question of aligning learning outcomes statements with teaching and learning. The statements should assist teachers in identifying and combining teaching methods.

Teachers should consider how general or specific learning outcomes should be. Flexible delivery to reach outcomes is needed, as well as professional autonomy for teachers. Extensive collaboration among teachers from different fields can make positive contributions to flexible learning pathways: teachers have to be prepared for this cultural change.

According to Biggs (2003) the teacher's job is to create a learning environment that supports the learning activities appropriate to achieving the desired learning outcomes. The key is that all components in the teaching and learning system – the curriculum and its intended learning outcomes, the teaching methods used, the resources to support learning, and the assessment tasks and criteria for evaluating learning – are aligned to each other and support achieving the intended learning outcomes.

Aligning learning outcomes to teaching and learning is about connecting the abstract idea of a learning outcome to what teachers actually do to help students learn, and the things that students do to learn.

The outcomes approach requires teachers to pose and answer the questions:

(a) what do I intend students to learn (what learning outcomes do I want them to achieve)?

(b) what teaching methods and curriculum design can be used to encourage students to behave in ways that are likely to achieve these outcomes?

(c) what assessment tasks and criteria will tell me that students have achieved the outcomes I intend?
(d) how can formative and summative assessment be combined to support the learning process and to clarify whether outcomes have been achieved?

Biggs (2003) identifies the main steps in alignment: defining the intended learning outcomes; choosing teaching/learning activities likely to lead to, help and encourage students to attain these intended learning outcomes; engaging students in these learning activities through the teaching process; assessing what students have learned using methods that enable students to demonstrate the intended learning and, in the case of formative assessment, giving feedback to help students improve their learning. Then comes evaluating how well students match learning intentions and, from this, setting grades and/or awarding qualification.

Implementing learning outcomes depends on a clear link being established between the learning outcomes statements and the learning and teaching process. This requires that learning outcomes statements for different purposes (qualifications standards, programme profiles and curricula) be related to each other and do not operate as isolated and separated elements.

7.3.2. Learning outcomes and assessment

The application of learning outcomes, as demonstrated above, is also a question of aligning statements with assessment. Ramsden (1992) states that for students 'the assessment is the curriculum'. By this he means that students will learn what they think they will be assessed on, not necessarily what the learning outcomes in the programme or curriculum state. The trick, according to Biggs (2003), is to make sure the assessment tasks mirror the learning outcomes. Table 14 illustrates how this alignment to teaching/learning and assessment can be understood.

Table 14. **Alignment of teaching/learning and assessment to intended learning outcomes**

Teaching/learning	Intended learning outcomes	Assessment tasks
Designed to generate or elicit desired verbs in large classes, small classes, groups or individual activities. Such activities may be: • teacher managed; • peer managed; • self-managed. As best it suits the ILO	Incorporate verbs that students have to enact as appropriate to the context	Format of tasks such that the target verbs are elicited and deployed in context Criteria specified clearly to allow judgement of student's performance
	The very best outcomes that could reasonably be expected containing verbs such as hypothesise, reflect, apply, relate to principle, etc.	
	Highly satisfactorily outcomes containing phrases such as solve expected problems, explain complex ideas, apply to professional practice	
	Quite satisfactory outcomes containing phrases such as solve basic problems, explain basic ideas and use standard procedures	
	Minimally acceptable outcomes and applications; inadequate but salvageable higher level attempt	

Source: Biggs and Tang, 2007.

The classification of learning outcomes statements into domains (such as knowledge, skills and competence) does not necessarily aid assessment as these elements are often combined.

Learners meet the intended learning outcomes to different degrees. A few only meet minimally acceptable standards, others fall in between and a third group will reach excellence. These levels of performance – articulated through assessment specifications – can be clarified using learning outcomes statements.

It is often said that learning outcomes need to be written as threshold statements, as (minimum) requirements to be met by the learner. Table 14 also shows how assessment criteria can be written to support grading.

Learning outcomes, written as threshold statements, do not prevent learners going beyond these thresholds: they orient a learning process but should not contain or restrict it. Some of the criticism of learning outcomes is linked to this point, implying that the process of stating outcomes prevents learners going beyond minimum expectations. Table 15 illustrates

how different levels of mastery/achievement can be specified, avoiding this limitation.

Table 15. **Levels of mastery in assessment criteria: Finnish vocational qualification (waiter)**

Learning outcomes	Assessment criteria
The student or candidate	The student or candidate
1. serves customers in accordance with the business idea or operating guidelines of the establishment	1. (excellent): 'notes the customer's arrival and serves them politely and on his/her own initiative as a representative of the establishment' 2. (good): 'notes the customer's arrival and serves them politely as a representative of the establishment in accordance with set guidelines' 3. (satisfactory): 'notes the customer's arrival and serves them politely as a representative of the establishment, but occasionally requires assistance'
2. ensures customer satisfaction	1. (excellent): 'actively solicits feedback on services or products, thanks the customer, and forwards the feedback to their supervisors' 2. (good): 'receives customer feedback on services or products, thanks the customer, and forwards the feedback to their supervisors' 3. (satisfactory): 'receives customer feedback on services or products and thanks the customer'

Source: Finnish National Board of Education, 2011, p. 24.

Assessment criteria are generally designed to be more specific than the intended learning outcomes of a qualifications and (even) a module. This is illustrated in Box 5, showing how assessment criteria and method are linked.

Box 5. **Assessment criteria and methods**

The essay will be word-processed and between 1 500 and 2 000 words on a given topic. The essay will relate to its title, will be clearly written and structured and will demonstrate the contribution of further reading and thinking. The student will be able to explain how the essay demonstrates these features and how they contribute to the overall effectiveness:

- grammar and spelling will be accurate;
- there will be reference to at least seven relevant books/papers;
- these will be correctly referenced in the recommended manner;
- there will be some evidence of analysis of ideas;
- there will be some demonstration of synthesis of ideas at least in the summary and conclusion;
- there will be an appropriate structure with evidence of introduction, development and conclusion;
- in addition, in an oral session, with reference to his/her essay the student will discuss the features of an essay that make it effective, and will show how these features work towards the effectiveness of the essay.

Source: Moon, 2002, pp. 89-90; European Commission, 2011, p. 27.

It is commonly stated that learning outcomes should be measurable and that the learner needs to be able to demonstrate achieved learning in an observable way. This measurability requirement should be treated with some caution, as illustrated by the example in Box 6.

Box 6. **The challenge of measurability**

It is possible to state that a learner should have acquired learning outcomes making him/her able to handle a specific emergency. However, how is it possible to be objective about these competences when an emergency can only be simulated in a learning situation? If the individual is to be able to react to an emergency confidently and with authority, how can these attitudes be measured? Some forms of knowledge, skills and competences are difficult to write as measurable learning outcomes, particularly tacit and highly contextualised knowledge and skills.

Source: European Commission, 2011, p. 14.

The link between learning outcomes statements and assessment points to tension between reliability and validity:

(a) strong reliability requires that the same assessment outcomes be achieved independently of the time and location of the assessment;

(b) strong validity implies that the essence of (diverse) individual learning experiences are captured and related to the assessment criteria.

When writing assessment criteria it is necessary to strike a balance between 'closed' and 'open' statements; too rigid and narrow assessment criteria can 'dumb down' the assessment process in a way which does not respect the experiences of the learner.

Assessment criteria need to consider ethical boundaries, such as whether to address personality traits which can be considered 'private'. This is an area which is closely associated with the growing importance of transversal skills and competences, often closely related to the personal characteristics of the learner.

Formative assessment can act as a bridge between the teaching and learning phase and the summative assessment. Formative assessment enables a learner to reflect on progress in relation to intended outcomes, turning these into a critical tool directly supporting the learning process. When used to support formative assessment, reflection (both learner and teacher) becomes possible, potentially avoiding a narrow or 'reductionist' interpretation of the outcomes in question.

7.4. Qualifications frameworks: using learning outcomes to support policy coordination

The introduction of qualifications frameworks in many countries and regions means that learning outcomes play a role in governing education and training systems:

(a) 'their main role is to provide transparent level descriptors that reflect the descriptors of the qualifications that are aligned to each level in the framework;

(b) the levels and their descriptors are used for a number of purposes that go beyond the classification of qualifications, such as aiding the collection and presentation of statistics, acting as a tool for reforming qualifications, offering a coherent picture of the national qualifications system and in some cases to open the national system to external qualifications to allow for transfer/accumulation;

(c) the quality of descriptors can be considered in relation to the objectives of the framework – they should reflect and support the objectives of the framework. The quality of learning outcomes can also be considered in relation to the ways they classify qualifications – they should be sufficiently detailed and relevant for the national situation – to enable credible and valid classification of national qualifications;

(d) level descriptors must reflect the realities of the qualifications system in which the NQF exists (implicit qualifications levels). Often a national qualifications system has evolved through many pressures and stages of development – the result is an implicit understanding by citizens, of the levels of different qualifications and the progression in jobs and learning that they enable'. (European Commission, 2011, p. 32).

'The use of learning outcomes can challenge existing methods of quality assurance that depend on the evaluation of the education process rather than on the learning that actually takes place' (European Commission, 2011, p. 32). The following questions could be asked when setting up or reviewing quality assurance arrangements:

(a) do the learning outcomes reflect and balance the interests and requirements of both internal staff (pedagogy) and external stakeholders (labour market and society requirements);
(b) is there a systematic feedback between education and training and labour market/society stakeholders; is this dialogue organised regularly; what kind of information is exchanged; can we observe 'breaks' in this loop?

7.5. Summing up

The following key points, taking into account conclusions and recommendations of European Commission (2011, pp. 42-43) summarise the messages of Chapter 7:

(a) learning outcomes are always written for particular purposes and applied in a particular national, institutional and/or discipline context. They need to be fit-for-purpose and there is no single fit-for-all solution;
(b) 'the use of learning outcomes needs to strike a balance between rigidity and flexibility. There is an argument that learning outcomes need to be formulated in a way that supports or allows for flexibility in approaches to learning and qualification [especially] if lifelong learning [and/or individually adapted education and training] is to be encouraged' (p. 43);
(c) learning outcomes need to be detailed in a way which reflects context and purpose:
    (i) 'the EQF, as a meta-framework, requires very brief and generalised descriptors;
    (ii) an NQF should have somewhat more detailed descriptors that offer scope to qualifications designers to 'locate' new qualification

types, or enable qualifications authorities to place existing ones' pp. 42-43;

(iii) 'an awarding organisation (depending on the […] national system) [or a providing institution] needs to develop a highly-detailed descriptor for each specific qualification they offer for award' p. 43;

(d) writing learning outcomes is a balancing act seeking to address partially contradictory requirements:

(i) 'if [learning outcomes] are too broad and generic they will need to be complemented by […] more detailed school curricula or assessment standards;

(ii) if learning outcomes 'are too specific it can be difficult for people coming from outside the formal education and training system to fully understand them;

(iii) if qualifications descriptions are too specific (especially if they have a binding aspect) they may hinder evolution and innovation as they would need to be updated too often' (p. 43).

To summarise, 'the use of learning outcomes can bring a strong focus to the purposes of teaching, assessment, validation and certification. Learning outcomes provide the language that enables different (quality assurance) stakeholders to interact and coordinate activities' (p. 42).

CHAPTER 8

Common principles for presenting learning-outcomes-based qualifications

While many countries have made significant progress in using learning outcomes to describe and present their qualifications ([14]) to citizens, existing approaches differ in length and focus and make understanding and comparison difficult. Agreeing on a set of common principles for presenting qualifications, for example to be used in databases ([15]) and in qualification supplements ([16]), would make it easier for learners, employees and employers to understand the content and profile of a particular qualification. These common principles would not be to promote a harmonisation of qualifications but should support end-users, be these individual citizens or employers, to make informed judgements and choices in diverse and complex education and training systems.

([14]) See for example Belgium Flanders, VKS, Vlaamse Kwalificatiestructuur: *Kwalificatiedatabank [qualification database]:* https://app.akov.be/pls/pakov/f?p=VLAAMSE_KWALIFICATIESTRUCTUUR:KWALIFICATIEDATABANK

([15]) Developing common principles is linked to the agreed common 'data model' for the collection, presentation and sharing of information on qualifications in national databases. The description of the learning outcomes plays a particularly important role as it provides a direct insight into the profile and content of the qualifications, as expressed through intended learning outcomes. The data model consists of 15 obligatory fields (title of qualifications; country/region (code); EQF level; NQF level; learning outcomes description; awarding body; further information on qualification; source of information; link to supplements; URL; information language (code); entry requirements; date of expiry and ways to acquire qualification) and four optional fields (link to occupations; credit points; volume of learning and accreditation and other quality assurance processes).

([16]) Common principles for presenting learning outcomes would be particularly relevant to further development of the Europass certificate supplement. These supplements were from the start supposed to present a short description of the content and profile of the qualification in question: 26 countries have developed these supplements but to varying degrees applied a learning outcomes approach. Future developments could benefit from following a set of common principles as outlined in this chapter.

8.1. Principles to be applied

The following requirements could underpin these common principles:

(a) they should not replace existing learning outcomes descriptions as used at national or institutional level for qualifications, curricula or other purposes;
(b) they should be used on voluntarily;
(c) they should support national authorities to present the content and profile of qualifications in a concise and comparable way;
(d) they should support private and international education and training providers to present their certificates and qualifications in a concise and comparable way.

National learning-outcomes-based descriptions of qualifications vary considerably in length and complexity. For short summaries (extracts) of these national descriptions to be accessible and comparable, the following technical requirements can be considered:

(a) for this summary/extract to be used in qualifications databases and/or supplements, it should be short (± 500 to 1 500 characters). This volume-indication, while flexible, reflects existing practices, for example related to Europass certificate-supplements;
(b) it should follow a predefined structure and syntax. This is critical for ensuring comparability of presentations;
(c) it should refer to agreed but flexible learning domains. While some countries may choose to use the EQF domains (knowledge, skills and autonomy/responsibility) as basis for their descriptions, countries and institutions should choose the distinctions they find most appropriate;
(d) it must be supported by a standardised terminology, including lists of action verbs.

Table 16 shows the basic structure that can be used as a starting point for developments.

Table 16. **Principles supporting the presentation of learning outcomes**

The learning outcomes description should be 500 to 1 500 characters and be written considering the following elements			
It should present the qualification from the perspective of the learner and what he/she is expected to know, be able to do and understand.	It should use action verbs to signal the level of learning expected, normally with an (explicit or implicit) reference to the levels of the national qualifications framework and/or the EQF.	It should indicate the object and scope of the expected learning outcomes. This description should capture the main orientation of the qualification and the depth/breadth of the expected accomplishment. It can, if deemed appropriate, use domains as defined by NQFs/EQF.	It should clarify the occupational and/or social context in which the qualification operates.

Source: Cedefop.

Table 17 illustrates how the structure could be used in practice.

Table 17. **Example of presenting learning outcomes**

The learner	The verb	The object and scope	The context
A master of occupational therapy science…	• has insight into	• the organisation of health care	at regional, national and international level
	• can critically test	• these insights in the field	from the perspective of the principles of management and quality assurance of therapeutic interventions
	• can give advice	• on policy for the organisation and progress of occupational therapy	
He/she…	• is able to take responsibility		
To be presented in summary (414 characters) A master of occupational therapy science has insight into the organisation of health care at regional, national and international level and can critically test these insights in the field and give advice on policy. He/she is able to take responsibility for the organisation and progress of occupational therapy from the perspective of the principles of management and quality assurance of therapeutic interventions			

Source: Cedefop.

The above proposal leaves significant room for institutions and countries to present their qualifications. The indicated structure, supported by a clear indication of volume, a set of action verbs and agreed guidance material,

however, will significantly improve transparency. The proposal should also be actively promoted for use by private and international bodies, making it easier to understand and compare the certificates and qualifications so far not covered by national qualifications frameworks.

8.2. Follow-up

Common principles supporting the presentation of learning outcomes would be particularly relevant for further developing Europass certificate supplements. These supplements were intended to present a short description of the content and profile of the qualification in question ([17]). To date, 26 countries have developed supplements but, to varying degrees, applied a learning outcomes approach; future developments could benefit from following a set of common principles as outlined in this chapter. The certificate supplements are currently only used for qualifications awarded by vocational education and training, mainly limited to levels 3-5 of the EQF. Further development of certificate supplements beyond VET could be considered. A modified version of the supplement could also be considered for use by private and international bodies, helping to strengthen transparency of qualifications in an area which, by nature, is diverse and difficult to see as a whole.

([17]) Certificate supplements provide a description of a formal VET qualification. This is different from the Europass diploma supplement which summarises individual achievements in (mainly) higher education.

PART IV.

Resources and sources supporting the definition, writing and use of learning outcomes

This part of the handbook contains links to existing material on learning outcomes, in the form of guidance material presented at national or institutional level and in the form of research. This section is meant to develop and grow over time and provide a resource to be used by policy-makers, practitioners and researchers alike.

Table 18. **Overview over guidance material supporting the writing, definition and use of learning outcomes**

General characteristics of existing guidance material		
Learning context	**Issuing institutions (higher education/regional authority; national authority; or others)**	**Description of guidance material (title of document in the original language, English translation, hyperlink)**
Austria		
HE	University of Applied Science Aachen	(2007) *Lernergebnisse: Begriffe, Zusammenhänge, Umsetzung und Erfolgsermittlung. Lernergebnisse und Kompetenzvermittlung als elementare Orientierungen des Bologna-Pozesses [Learning outcomes: terminology, relations, application and identification of success. Learning outcomes and imparting of competence as key elements of the Bologna Process].* http://opus.bibliothek.fh-aachen.de/files/195/schermutzki_bologna_6_a5_sw.pdf
	Federal Ministry for Science, Research and Economy	(2014) *Wie formuliert man Learning Outcomes? [How to formulate learning Outcomes]* https://wissenschaft.bmwfw.gv.at/bmwfw/studium/der-europaeische-hochschulraum-bologna-prozess/bologna-worum-gehts/curriculumsentwicklung/learning-outcomes-und-der-bologna-prozess/wie-formuliert-man-learning-outcomes/
	University of Technology, Vienna	(2011) *Leitfaden zur Curricula-Erstellung [guideline for curricula development].* http://www.tuwien.ac.at/fileadmin/t/rechtsabt/downloads/Leitfaden_zur_Curricula_Erstellung.pdf
VET	Federal Ministry of Education, Arts and Culture	(2013) *Bildungsstandards in der Berufsbildung: Projecthandbuch [educational standards in vocational education: project manual]* http://www.bildungsstandards.berufsbildendeschulen.at/fileadmin/content/bbs/Handbuch_BIST_25.03.2013.pdf
	Federal Ministry of Education, Arts and Culture	(2011) *Broschüre Bildungsstandards: Soziale und personale kompetenzen, 9.-13. Schulstufe [booklet on educational standards: social and personal competences 9-13th grade].* http://www.berufsbildendeschulen.at/fileadmin/content/bbs/AGBroschueren/SozialePersonaleKompetenzen_Broschuere_Oktober2011.pdf
Belgium/Flanders		
HE	Flemish inter-university Council (VLIR) and Flemisch UAS Council (VLHORA)	(2012) *Handleiding Uitschrijven Domeinspecifieke Leerresultatenkaders [Manual writing domain specific learning outcomes frameworks].* https://www.nvao.net/system/files/pdf/Handleiding%20VLIR-VLHORA%20Uitschrijven%20DLR%202012.pdf

Purpose/intention for writing learning outcomes						
Programme design	Qualification design	Design of teaching/ learning unit (e.g. module, course) –curriculum development	Assessment/ assessment standards	Quality assurance/ accreditation	Geographic mobility of learners/ recognition practices	Adherence to NQF level descriptors
Austria						
x		x	x			
x		x			x	A simple reference
		x				
			x	x		
		x				A simple reference
Belgium/Flanders						
x		x	x	x		

General characteristics of existing guidance material		
Learning context	**Issuing institutions (higher education/regional authority; national authority; or others)**	**Description of guidance material (title of document in the original language, English translation, hyperlink)**
Belgium/Flanders		
HE	Accreditation Organisation of the Netherlands and Flanders, NVAO	(2016) *Assessment and demonstration of achieved learning outcomes: recommendations and good practices.* https://www.nvao.com/system/files/pdf/Report%20Achieved%20Learning%20Outcomes%202016.pdf
	Catholic University of Leuven	*Denkkader rond curriculumontwikkeling [Thinking about curriculum development].* https://www.kuleuven.be/onderwijs/werken_opl/
	Flemish Ministry of Education and Training, Agency for higher education, adult education, qualifications and study grants	(2012) *De Vlaamse kwalificatiestructuur: ontwikkelend, goedgekeurd, geïmplementeerd [The Flemish qualification structure: developed, approved, implemented].* http://vlaamsekwalificatiestructuur.be/wat-is-vks/meer-info-en-downloads/ files/Brochure-Ontwikkeld_Goedgekeurd_Geimplementeerd-(NI)-12-12.pdf
	University College Odisee (merger between Hogeschool-Universiteit Brussel and Katholieke Hogeschool Sint-Lieven)	*ECTS » competence profiles/programme-specific learning outcomes academic year 2016-17: bachelor of nursing four years HDE* (professional bachelor). https://webapps.odisee.be/ECTSCompetenties/Competentieprofiel.aspx?taal=E&OPLID=445&ACJ=2016
	VLUHR, Quality Assurance Unit	*Defining learning outcomes frameworks.* http://www.vluhr.be/default_EN.aspx?PageId=763
Bulgaria		
VET	National Agency for Vocational Education and Training	(2015)*Методически указания за разработване на държавни образователни изисквания за придобиване на квалификация по професии (утвърдени от УС на НАПОО с протокол № 01/18.02.2015 г.) [Methodological instructions for the development of State educational requirements for acquisition of professional qualifications (approved by the NAVET Executive Board with protocol No 01/18.02.2015)].* http://www.navet.government.bg/bg/media/Metodicheskii_ukazania_DOI_07_04_2015.pdf
Croatia		
VET and adult education	Agency for VET and Adult Education	(2011) *Metodologija za razvoj strukovnih standarda zanimanja, kvalifikacija i kurikuluma [Methodology for developing standards and curricula].* http://www.asoo.hr/UserDocsImages/projekti/kvalifikacije/eu%20knjige/3%20Metodologija.pdf
		(2011) Primjeri standarda s ishodima učenja E-qualification (E-kvalifikacije) [Learning outcomes example of a standard]. http://e-kvalifikacije.asoo.hr/pages/search/index.xhtml

Purpose/intention for writing learning outcomes						
Programme design	Qualification design	Design of teaching/ learning unit (e.g. module, course) –curriculum development	Assessment/ assessment standards	Quality assurance/ accreditation	Geographic mobility of learners/ recognition practices	Adherence to NQF level descriptors
Belgium/Flanders						
			x			x
x		x				
x						x
x		x				
	x					x
Bulgaria						
		x				
Croatia						
x	x	x				
x	x	x				

General characteristics of existing guidance material		
Learning context	**Issuing institutions (higher education/regional authority; national authority; or others)**	**Description of guidance material (title of document in the original language, English translation, hyperlink)**
Croatia		
VET	Ministry of Science, Education and Sport	Smjernice za izradu standard [Guidelines for developing standards]. http://www.kvalifikacije.hr/br-bvrednovanje-skupova-ishoda-ucenja-radionica-za
Finland		
VET and adult education	The Finnish National Board of Education.	(2015) *Ammatilliset perustutkinnot ja niitä koskevat säädökset ja määräykset ammatillisessa peruskoulutuksessa [Implementation of vocational requirements as initial vocational education and training and competence-based qualifications].* http://www.oph.fi/download/168861_ammatillisten_perustutkintojen_perusteiden_toimeenpano_ammatillisessa_perusk.pdf
France		
HE and VET	Ministry of agriculture	2009) *Guide d'écriture des référentiels de diplômes professionnels [Writing guide of professional diplomas standards].* http://www.chlorofil.fr/diplomes-et-referentiels/formations-et-diplomes/btsa.html
Germany		
Adult education	University of Munich	(2012) *Leitfaden zur Formulierung von Lernergebnissen in der Erwachsenenbildung [guide for the formulation of learning outcomes in adult education].* https://www.mvhs.de/fileadmin/user_upload/importiert/8748/3125fa33225.pdf
Greece		
VET	National Organisation for the Certification of Qualifications and Vocational Guidance (EOPPEP)	Dželalija Mile (2015). *Methodology for the design and development of learning outcomes.*
Hungary		
HE	National Coordination Point of the European Qualifications Framework (Education Office)	(2017) *Segédlet a tanulási eredmények írásához a felsőoktatási szektor számára [A guide to writing learning outcomes for the higher education sector].* http://www.oktatas.hu/pub_bin/dload/LLL/ekkr/Tanulasieredmenyek_HE.pdf
VET	National Coordination Point of the European Qualifications Framework (Education Office)	(2014) *Hatások és különbségek: másodelemzések a hazai és nemzetközi tanulói képességmérések eredményei alapján [Impacts and differences: domestic and international secondary analyses of the results of students' competency assessments].* https://www.oktatas.hu/pub_bin/dload/unios_projektek/tamop318/Hatasokeskulonbsegek_Masodelemzes.pdf

Purpose/intention for writing learning outcomes						
Programme design	Qualification design	Design of teaching/ learning unit (e.g. module, course) –curriculum development	Assessment/ assessment standards	Quality assurance/ accreditation	Geographic mobility of learners/ recognition practices	Adherence to NQF level descriptors
Croatia						
	x	x				
Finland						
x	x	x	x	x	x	
France						
		x				
Germany						
Greece						
		x	x			x
Hungary						
		x	x			x
		x	x			x

General characteristics of existing guidance material		
Learning context	**Issuing institutions (higher education/regional authority; national authority; or others)**	**Description of guidance material (title of document in the original language, English translation, hyperlink)**
Ireland		
HE	Dublin Institute of Technology	(2007) *Guide to writing learning outcomes* https://www.dit.ie/lttc/media/ditlttc/documents/Microsoft%20Word%20-%20LearningOutcomesGuide.pdf
	University of Limerick	(2008) *Writing learning outcomes: a guide for academics (version 2).* http://www3.ul.ie/ctl/sites/default/files/Learning%20outcomes%202008.pdf
	Kennedy D. et al	(2012) *Writing and using learning outcomes: a practical guide.*
	University sector framework implementation network (FIN)	(2009) *University awards and the national framework of qualifications (NFQ): issues around the design of programmes and the use and assessment of learning outcomes.* http://www.nfqnetwork.ie/A_Guide_to_designing_UNiversity_Awards_for_Inclusion_in_the_National_Framework_of_Qualifications/Default.132.html
	National University of Ireland Galway	Guidance material on learning outcomes. http://www.nuigalway.ie/centre-excellence-learning-teaching/teachinglearning/learningoutcomes/index.html
Latvia		
VET	Education Development Agency. Responsible for content: National Centre for Education	(2015) *Metodiskie ieteikumi modulāro profesionālās izglītības programmu izstrādei [Methodological guidelines for the development of modular vocational education programmes]* http://visc.gov.lv/profizglitiba/dokumenti/metmat/metiet_modul_progr_izstr_2015.pdf
	National Centre for Education (responsible for education content) subordinate to the Ministry	Metodiskie materiāli un programmu paraugi (iekļaujot mācīšanās rezultātus) [Methodological materials and sample curricula (including learning outcomes)]. http://visc.gov.lv/profizglitiba/programmas.shtml
		Modulārās programmas [Module programmes]. http://visc.gov.lv/profizglitiba/programmas_moduli.shtml#en
	Ministry of Education and Science	(2016) *Grozījumi Izglītības un zinātnes ministrijas 2010.gada 11.oktobra iekšējos noteikumos Nr.22 "Profesionālās izglītības programmu izstrādes kārtība" [Amendments (2016/25) to the education and Science Ministry internal regulation No 22 of 11 October 2010 on internal regulation for developing vocational education programmes]* http://visc.gov.lv/profizglitiba/dokumenti/programmas/izm_noteikumi_20160526_25.pdf

Purpose/intention for writing learning outcomes						
Programme design	Qualification design	Design of teaching/ learning unit (e.g. module, course) –curriculum development	Assessment/ assessment standards	Quality assurance/ accreditation	Geographic mobility of learners/ recognition practices	Adherence to NQF level descriptors
Ireland						
x	x	x				
x	x	x				
		x				
x			x			x
		x				
Latvia						
x		x				
x		x	x			
x		x				

General characteristics of existing guidance material		
Learning context	**Issuing institutions (higher education/regional authority; national authority; or others)**	**Description of guidance material (title of document in the original language, English translation, hyperlink)**
Netherlands		
HE	Organisation for international corporation in higher education © Nuffic/Tuning Association	(2010) *A guide to formulating degree programme profiles: including programme competences and programme learning outcomes.* http://core-project.eu/documents/Tuning%20G%20Formulating%20Degree%20PR4.pdf
	Vrije Universiteit (University of Amsterdam)	(2004) *A self-directed guide to designing courses for significant learning.* https://www.deefinkandassociates.com/GuidetoCourseDesignAug05.pdf
	University of Twente (Centre of Expertise in learning and teaching)	The University teaching qualification (UTQ), UTQ Competences https://www.utwente.nl/en/ces/celt/utq/
	University of Utrecht (Faculty of Humanities, Centre for teaching and learning)	(2011) *Wat kenmerkt een goed leerdoel? Alles over toetsen 17 [what characterizes a good learning objective? About 17 keys].* https://vimeo.com/29314808
	University of applied science of Amsterdam	(2013) *Hogeschool van Amsterdam leidraad toetsen en beoordelen [guide for testing and assessment].* https://score.hva.nl/Bronnen/HvA%20Leidraad%20Toetsen%20en%20Beoordelen.pdf
	Dutch Partnership LLP (NPLL)	(2015) *Het formuleren van leerresultaten: praktische handleiding hoger onderwijs [Formulating learning outcomes: a practical guide for higher education].* http://www.leidoacademy.nl/doorzeven/wp-content/uploads/2011/11/Het-formuleren-van-leerresultaten-HO-02042015-def.pdf
		(2013) *Eindniveau: associate degree [qualifying level: associate degree].* www.leidoacademy.nl/doorzeven/wp-content/uploads/2012/04/Beschrijving-van-Ad-Eindniveau-LN-Ad-juli-2013-versie-1.doc
VET	Foundation for vocational education and labour market	(2013) *Instructies bij het ontwikkelen van kwalificatiedossiers mbo, inclusief keuzedelen en verantwoordingsinformatie [Instructions in the development of vocational qualification files, including optional modules and justification].* https://www.s-bb.nl/file/2285/download?token=c7p2YeOn
	Leer- en Innovatiecentrum (LIC)	(2014) Competentiegericht toetsen [assessing competences]. http://lic.avans.nl/service.lic/

Purpose/intention for writing learning outcomes						
Programme design	Qualification design	Design of teaching/ learning unit (e.g. module, course) –curriculum development	Assessment/ assessment standards	Quality assurance/ accreditation	Geographic mobility of learners/ recognition practices	Adherence to NQF level descriptors
Netherlands						
x	x	x	x	x	x	
x		x				
		x				
			x			
			x			
x		x	x	x		
x		x				
	x					x
			x			

General characteristics of existing guidance material		
Learning context	**Issuing institutions (higher education/regional authority; national authority; or others)**	**Description of guidance material (title of document in the original language, English translation, hyperlink)**
Netherlands		
VET	Nederlands partnerschap leven lang leren (NCP NLQF)	(2015) Handleiding voor inschaling: het formuleren van leerresultaten en het onderbouwen van het NLQF-niveau [Manual classification on the formulation of learning outcomes: underpinning the NLQF levels on the basis of the descriptors of the NLQF].
HE/VET	Virtual mobility and European qualifications framework (VIRQUAL)	(2011) *Simple guide for institutions.* http://virqual.up.pt/sites/default/files/map/InstitutionManual.pdf
		(2011) *Simple guide for teachers.* http://virqual.up.pt/sites/default/files/map/TeacherManual.pdf
		(2011) *Simple guide for learners* http://virqual.up.pt/sites/default/files/map/LearnerManual.pdf
Norway		
HE	Ministry of Education and Research	(2011) *Nasjonalt kvalifikasjonsrammeverk for livslang læring (NKR) [National qualifications framework for lifelong learning].* https://www.regjeringen.no/globalassets/upload/kd/vedlegg/kompetanse/nkr2011mvedlegg.pdf http://www.nokut.no/no/Fakta/Det-norske-utdanningssystemet/Nasjonalt-kvalifikasjonsrammeverk-for-livslang-laring/
Poland		
HE	Ministry of Science and Higher Education	(2010) *Autonomia programowa uczelni: Ramy kwalifikacji dla szkolnictwa wyższego [The autonomy of the university curriculum: qualifications framework for higher education].* http://www.nauka.gov.pl/g2/oryginal/2013_05/a46de52fb98a0fcc7377f73724f36672.pdf
		(2011) Rozporządzenie Ministra Nauki i Szkolnictwa Wyższego z dnia 2 listopada 2011 r. w sprawie Krajowych Ram Kwalifikacji dla Szkolnictwa Wyższego (Dz.U. 2011 nr 253 poz. 1520) [Regulation of the Minister for Science and Higher Education of 2 November 2011 on the national qualifications framework for higher education (Journal of Laws 2011, No 253, item 1520)]. http://www.nauka.gov.pl/g2/oryginal/2013_05/478e9241dffed3a0bcd4fb28792392a8.pdf

Purpose/intention for writing learning outcomes						
Programme design	Qualification design	Design of teaching/ learning unit (e.g. module, course) –curriculum development	Assessment/ assessment standards	Quality assurance/ accreditation	Geographic mobility of learners/ recognition practices	Adherence to NQF level descriptors
Netherlands						
x	x			x	x	x
x		x	x			x
Norway						
	x	x			x	x
Poland						
x	x			x	x	x
x	x			x	x	x

General characteristics of existing guidance material		
Learning context	**Issuing institutions (higher education/regional authority; national authority; or others)**	**Description of guidance material (title of document in the original language, English translation, hyperlink)**
Poland		
VET	Instytut Badan Edukacyjnch	(2016) *How to describe market qualifications for the Polish qualifications system: a guidebook.* http://www.kwalifikacje.edu.pl/en/publications/1148-how-to-describe-market-qualifications-for-the-polish-qualifications-system
VET and adult education	National Centre for Supporting Vocational and Continuing Education	(2013) *Kształcenie zawodowe i ustawiczne: vadamecum [Vocational and continuing education: a handbook].* http://kuratorium.kielce.pl/10488/vademecum-ksztalcenie-zawodowe-i-ustawiczne/
Portugal		
VET	National Agency for Qualification and Vocational Education and Training (ANQEP, I.P.)	(2015) *Guia metodológico: conceção de qualificações baseadas em resultados de aprendizagem [methodological guidebook: design of qualifications based on learning outcomes].* http://www.catalogo.anqep.gov.pt/boDocumentos/getDocumentos/554
Romania		
VET	National Centre for the Development of TVET (CNDIPT) – subordinate to the Ministry of Education	(n.d.) Aspecte metodologice privind proiectarea standardelor de pregătire profesională (SPP) din învățământul profesional și tehnic (IPT) și a ofertei curriculare aferente acestora [Methodological aspects for the design of training standards in vocational and technical education: part of the reference framework for TVET curriculum]. http://www.scriptmedia.ro/cript-newsletter/docs/aspecte_metodologice.pdf
	National Qualifications Authority	(2011) *Legea educației naționale nr. 1/2011 [Law of national education No 1/2011]* (containing information on learning outcomes). http://lege5.ro/Gratuit/geztsobvgi/legea- educatiei-nationale-nr-1-2011
Slovenia		
VET	National Education Institute of the Republic of Slovenia for VET	(2006) *Kurikul na nacionalni in šolski ravni v poklicnem in strokovnem izobraževanju-Metodološki priročnik [methodological guide for drafting educational standards and VET curricula].* http://www.cpi.si/files/cpi/userfiles/Publikacije/kurikul.pdf

Purpose/intention for writing learning outcomes						
Programme design	Qualification design	Design of teaching/ learning unit (e.g. module, course) –curriculum development	Assessment/ assessment standards	Quality assurance/ accreditation	Geographic mobility of learners/ recognition practices	Adherence to NQF level descriptors
Poland						
	x					
x	x	x		x	x	x
Portugal						
	x					
Romania						
		x				
		x				
Slovenia						
		x				

General characteristics of existing guidance material		
Learning context	**Issuing institutions (higher education/regional authority; national authority; or others)**	**Description of guidance material (title of document in the original language, English translation, hyperlink)**
Spain		
HE	National Agency for Quality Assessment and Accreditation (ANECA)	(2013) *Guía de apoyo para la redacción, puesta en práctica y evaluación de los resultados del aprendizaje [Support guide for drafting, implementing and evaluating learning outcomes].* http://www.aneca.es/Documentos-y-publicaciones/Otras-guias-y-documentos-de-evaluacion/Guia-de-apoyo-para-la-redaccion-puesta-en-practica-y-evaluacion-de-los-RESULTADOS-DEL-APRENDIZAJE
VET	Ministry of Education, Culture and Sport. National Institute of Qualifications	(2014) *Bases para la elobaracion del catálogo nacional de cualificaciones profesionales [Basis for the development of the national catalogue of professional qualifications]* https://sede.educacion.gob.es/publiventa/descarga.action?f_codigo_agc=16748&requ est_locale=en
UK (England, Wales and Northern Ireland)		
VET	Qualifications and Curriculum Development Agency (England)	(2010) *Guidelines for writing credit-based units of assessment for the qualifications and credit framework.* http://www.linkinglondon.ac.uk/downloads/cats/Writing%20credit-based%20units%20v4.pdf
GE and VET	Office of Qualifications and Examinations Regulation	(2015) *Qualification and component levels requirements and guidance for all awarding organisations and all qualifications.* https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/461637/qualification-and-component-levels.pdf
UK (Scotland)		
GE and VET	Scottish Qualification Authority	(2011) *Writing national and higher national units: guide for writers.* www.sqa.org.uk/files_ccc/16GuideUnitWritingAugust2012.doc
VET and Adult education	UK Commission for Employment and Skills	(2011) Guide to developing national occupational standards. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/304239/nos-guide-for-_developers-2011.pdf

Purpose/intention for writing learning outcomes						
Programme design	Qualification design	Design of teaching/ learning unit (e.g. module, course) –curriculum development	Assessment/ assessment standards	Quality assurance/ accreditation	Geographic mobility of learners/ recognition practices	Adherence to NQF level descriptors
Spain						
x		x	x	x	x	x
	x					
UK (England, Wales and Northern Ireland)						
			x			x
	x					x
UK (Scotland)						
x	x		x			x
x	x		x			([a])

General characteristics of existing guidance material		
Learning context	**Issuing institutions (higher education/regional authority; national authority; or others)**	**Description of guidance material (title of document in the original language, English translation, hyperlink)**
ECVET		
VET	National Agency Education for Europe at the Federal Institute for Vocational Education and Training	ECVET mobility toolkit: collection of learning outcomes developed in past projects and initiatives. http://www.ecvet-toolkit.eu/tools-examples-more/tools-examples-and-more
Erasmus + funded project		
VET	European Welding Federation	(2017) Rainbow Project *Methodology for writing the learning outcomes in the EWF qualifications* http://project-rainbow.eu/project.html

NB: The countries and projects are presented in alphabetical order.

([a]) The national occupational standards do not include levels. These are to be determined by awarding organisations that develop qualifications based on the national occupational standards.

Purpose/intention for writing learning outcomes						
Programme design	Qualification design	Design of teaching/ learning unit (e.g. module, course) –curriculum development	Assessment/ assessment standards	Quality assurance/ accreditation	Geographic mobility of learners/ recognition practices	Adherence to NQF level descriptors
ECVET						
	x	x				
Erasmus + funded project						
	x	x	x	x		

List of abbreviations

EQF	European qualifications framework
ECVET	European credit system for vocational education and training
SOLO	structure of observed learning outcomes

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Defining, writing and applying learning outcomes

A EUROPEAN HANDBOOK

This Cedefop handbook is addressed to individuals and institutions actively involved in defining and writing learning outcomes in education and training. Its ambition is to act as a reference point for cooperation in this area. It offers concrete examples of the use of learning outcomes and provides an overview of existing guidance and research material supporting the definition and writing of learning outcomes. The handbook also aims to promote dialogue between education and training and labour market stakeholders by building on material from different parts of the education and training system, and bridging the gap between institutions and sectors.

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