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**Defining and writing learning outcomes for vocational  
education and training - *A European handbook***

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**DRAFT for discussion at Cedefop 2<sup>nd</sup> Policy Learning Forum 13-14  
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## 1. THE PURPOSE OF THE HANDBOOK

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 these learning outcomes are defined and written is of key importance to the orientation of education and training and – eventually – to the relevance of the resulting qualifications and programmes to individual learners, the labour market and society in general.

This handbook is written for individuals and institutions actively involved in the definition and writing of learning outcomes in education and training in general and in vocational training on particular. The handbook is launched in a situation where there is broad political agreement among European policy makers and stakeholders on the need for and usefulness of the learning outcomes approaches. This strong political commitment, however, does not guarantee that learning outcomes are written and applied in ways which benefit end-users, be these learners, teachers, parents or employers. More than before is it important to identify not only the added value of learning outcomes but also point to limitations and possible negative implications.

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

- It will act as an ‘entry point’ to existing guidance and research material on the definition and writing of learning outcomes.
- It will serve as a tool for better understanding the possibilities as well as the dilemmas and challenges faced when defining, writing and using learning outcomes.

The handbook should help to identify the choices faced by practitioners in this area, subsequently pointing to existing alternatives. For Cedefop it is of particular importance to clarify what learning outcomes means for vocational education and training. Much of the guidance material and research focus on the role of learning outcomes in higher, academically oriented education. One purpose of this handbook is to identify the

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<sup>1</sup> See part III of this handbook.

particular challenges and opportunities facing the definition, writing and implementation of learning outcomes in vocational education and training.

### **1.1. The context of the handbook**

Recent Cedefop studies (2009 and 2016) document that learning outcomes based approaches are becoming increasingly influential in European education and training policies and practices (most visibly expressed by the rapid introduction of learning outcomes based qualifications frameworks since 2005). 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 set qualification standards, to describe programmes and courses, to orient curricula and set assessment standards. Learning outcomes are also – to some extent – influencing teaching methods, learning environments and assessment practises. At European level, both in the Bologna and Copenhagen processes, learning outcomes are viewed as the ‘glue’ binding diverse policy initiatives and instruments together. This growing influence of learning outcomes in a majority of European countries and in (almost) all education and training sectors reflects a strong political consensus on the conceived usefulness of this approach. Far from developing in a vacuum, European developments are directly influenced by broader international developments, exemplified by the ‘outcome based education’ movement in the US from the 1960s and onwards. Lines can also be drawn back to a wide diversity of educational research and reform movements, some of them dating back to the early 20<sup>th</sup> century, promoting outcome based approaches under (diverse) headings like ‘scientific curricula’, ‘instructional objectives’, ‘criterion-based assessment’ and ‘learner-centred education’. As will become clear throughout the handbook, the writing and articulation of learning outcomes must be followed by implementation – through teaching, learning and assessment. As Biggs and Tang (2007) underlines, an alignment between statements of learning outcomes, the teaching/learning activity and assessment is critically important and 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 and high quality teaching and learning.

## 1.2. The structure of the handbook

The first part of the handbook outlines a limited number of basic steps, 'rules of thumb', to be taken into consideration when defining and writing learning outcomes. This part is practically oriented and summarises concrete experiences in this field. The following issues and questions are addressed:

- Which basic perspectives underpin the writing of learning outcomes and which are the choices and challenges arising for these?
- Which are the rules of thumb supporting the practical writing of learning outcomes?
- Which are the rules of thumb supporting the use of learning outcomes, notably for assessment?

The second part of the handbook provides a more in-depth discussion on the issues addressed above and seeks to identify the dilemmas and choices faced by practitioners in this area. This part seeks to integrate findings from research and is divided into a number of sub-chapters, addressing the following issues:

- How is the learning outcome concept defined and what is the relation to concepts like competence, learning aims and learning objectives (draft included)?
- Which are the main purposes of learning outcomes and what added value is perceived (draft included)?
- Which are the perceived negative implications of using learning outcomes and why is it by some considered it to be a threat (draft included)?
- Which are the key terminological issues to be addressed when writing learning outcomes; how to use action verbs how capture the context and increasing complexity of the learning process (draft included).
- How can learning outcomes be written so as to best align with teaching, learning and assessment practices to learning outcomes (draft yet to be developed).
- How can qualifications frameworks support the definition, writing and reviewing of learning outcomes. This is linked to the collaborative character of writing learning outcomes and how the dialogue between education and training and labour market is critical to the overall quality and relevance of the learning outcomes (draft yet to be developed).

- Could a common European format for presenting learning outcomes provide a practical step towards increased transparency of qualifications and increased cooperation between countries (draft included)?

The third part of the handbook contains an extensive overview and list of existing guidance material and research in this area. As far as possible direct web-links are provided, making it possible to access this material when needed.

All parts will be further developed in close dialogue with practitioners and researchers in the coming period. As far as possible the handbook should become a living document subject to continuous updates and improvements.

## **PART I. PERSPECTIVES AND RULES OF THUMB INFORMING THE WRITING AND DEFINITION OF LEARNING OUTCOMES**

The following 'rules of thumb' have been extracted from guidance material currently in use across Europe, at national level, in institutions and as part of projects. Covering various aspects of the learning outcomes 'process, from the actual writing to their use, these rules of thumb provide an important reference point for stakeholders and practitioners in this area.

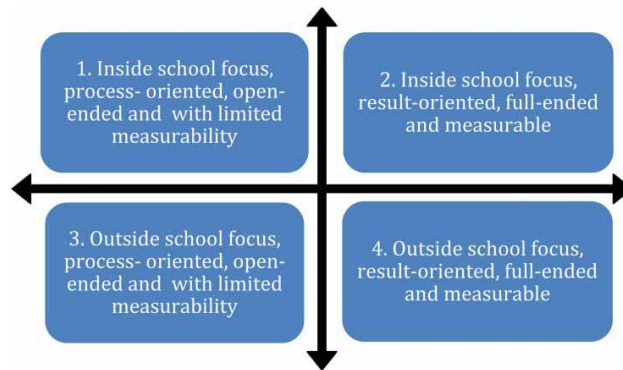
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## **2. BASIC PERSPECTIVES AND RULES OF THUMB FOR THE DEFINITION AND WRITING OF LEARNING OUTCOMES**

### **2.1. Basic perspectives**

- ✓ Using learning outcomes represents a perspective and a mode of thinking (Kennedy et.al. 2006). Learning outcomes statements as found in programme and qualification documents only represents the visible surface of this perspective and thinking; it is wrong to assume that all aspects and facets of learning can be capture through learning outcomes. Learning outcomes cannot stand alone; their potential can only be released when interacting with teaching, learning and assessment.
- ✓ We distinguish between intentional and actually achieved learning outcomes. The former are statements and expressions of intentions, the latter can only be identified following the learning process, through (criterion referenced) 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.
- ✓ Writing learning outcomes is not a purely technical and neutral activity but requires a reflection on the political and practical implications of the activity. Learning outcomes (and competence) based approaches have different origins and have been influenced by different schools of thought.
- ✓ It is possible to observe a main tension between what can be described as behaviouristic and constructivist schools of thought. 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, somewhat limiting measurability. This tension is illustrated by the following figure developed by Prøytz (2014)



- ✓ Learning outcomes are written for different purposes. The learning outcomes descriptors used by a national qualifications framework differs significantly from those used in a qualification profile/standard, a programme description, a curriculum or in an assessment standard. Learning outcomes have to be 'fit for purpose' and the level of detail/granularity and generality/specificity will have to reflect this.
- ✓ Not all learning can be 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 (Hussey and Smith, 2003). Researchers ask how to escape 'what we know now' and how to remain open to what has yet to be experienced and articulated.
- ✓ Learning outcomes need to be defined and written in a way which allows for local adaptation and interpretation. Too detailed and prescriptive statements can undermine and lead to a 'dumbing down' of the learning and assessment process. There is a need to balance autonomy and regulation.
- ✓ We need to be careful about treating 'knowledge' as information that can be divided into bits and selected and combined at will. This can ignore the extent to which knowledge is organised in bodies of hierarchical conceptual relationships and neglect the conditions in which such knowledge is acquired (Allais, 2012, 2014).
- ✓ When writing learning outcomes, learners and students are put at the centre. A key question is whether learners and students see outcome-descriptions as meaningful and can relate to them. The role of the student and learner, however, is limited in the sense that 'only those

who have already obtained a specific qualification can fully understand this qualification'. (Young 2011, p.97).

- ✓ When writing learning outcomes for vocational education and training it should be kept in mind that most VET profiles/standards will balance and combine general knowledge subjects (languages, math, history etc.) with generic and transversal skills and occupation specific knowledge, skills and competences. This balance and combination is of critical importance to the profile and relevance of a programme or qualification to individuals, the labour market and society in general.
- ✓ Defining and writing learning outcomes in VET and the balancing of general, transversal and occupational specific aspects, will in most cases be the outcome of a collaboration process and involvement of different stakeholders – state, employers, trade unions, teachers. This is reflected in the balance between occupation specific, transversal and broader competences.
- ✓ Defining and writing learning outcomes is a continuous process requiring systematic updating and reviews. In vocational education and training it is of particular importance to ensure systematic feed-back between stakeholders in education and training on the one hand and in the labour market on the other hand.
- ✓ Learning outcomes statements should not be written in isolation, but be articulated (calibrated) with a reference to the national qualifications frameworks and to 'related or neighbouring' qualifications and programmes.
- ✓ Learning outcomes never operate in isolation but have to be defined and written within a broader context where learning inputs are taken into consideration. The balance between learning outcomes and other aspects depends on the context and purpose of a qualification.

## **2.2. The writing of learning outcomes statements**

- ✓ Simplicity is important when writing learning outcomes; avoid too much detail and seek a balance between specificity and generality.
- ✓ In general there should not be more than one action verb for each learning outcome.

- ✓ When writing learning outcomes, focus on the learner and start with an action verb, continue with the object of the verb and complete with an indication of the context (which can be related to learning and/or work). The tables below illustrate this

Table 1. The basic structure of learning outcomes statements

The basic structure of learning outcomes statements			
It should address <u>the learner</u>	It should use an <u>action verb</u> to signal the level of learning expected	It should indicate the object and scope of learning, notably by identifying relevant learning domains	It should clarify the occupational and/or social context in which the qualification is relevant

Table 2. Examples of applying the basic structure of learning outcomes statements

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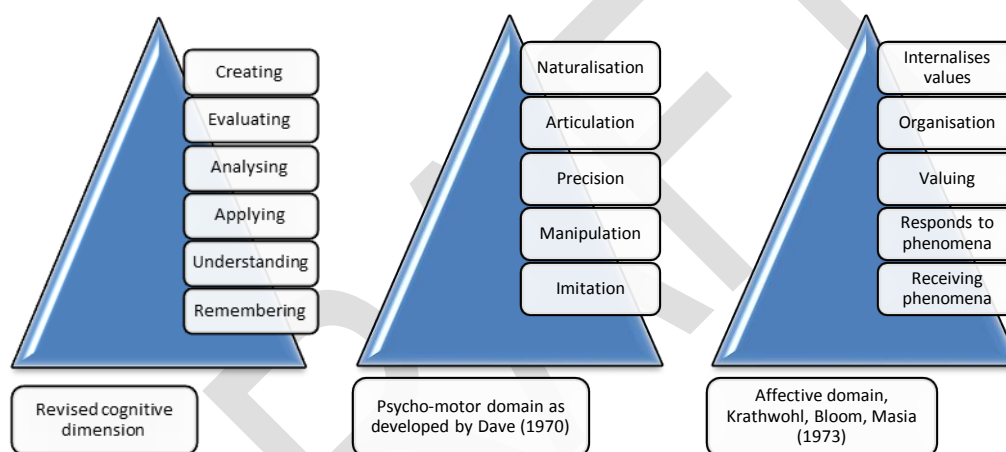


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- ✓ Learning outcomes statement - combining action verb/object/context - need to be articulated along a vertical and a horizontal dimension.
- ✓ Introducing the vertical dimension of learning outcomes statements is about indicating the level and complexity of learning. This will normally require referring to a (implicit or explicit) hierarchy of intended learning outcomes and achievements. Action verbs will play a key role in defining and articulating this level but need to be supported in this by specifying the occupational and/or social context in which the learning takes place and where the outcomes are to be used.
- ✓ The introduction of learning outcomes based qualifications frameworks support this levelling and can be used as a 'yard-stick' to ensure consistency across institutions and programmes.
- ✓ Action or activity verbs play a particularly important role in writing learning outcomes statements. Most guidelines on writing learning outcomes makes an explicit reference to the taxonomies developed

by Bloom and colleagues from 1956 and onwards. In most cases reference is made to action verbs associated with the cognitive dimension of learning, only exceptionally to the psycho-motor and affective domains, also forming part of this approach. From the perspective of vocational education and training, all three domains are of relevance. An important question is whether one taxonomy can be used to describe learning outcomes in all three domains or different taxonomies can better capture progression in knowledge, skills and competences. Figure 1 provides an overview over these three domains:

Figure 1. **Bloom’s taxonomy: cognitive, psycho-motor and affective domains**



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

- ✓ As far as possible avoid ambiguous verbs. The following verbs are commonly presented as ambiguous and precise:

Ambiguous	Unambiguous
Know	Distinguish between
Understand	Assemble
Determine	Adjust
Appreciate	Identify
Grasp	Solve
Become familiar with	Write
Enjoy	Recite
Believe	Construct
	Compare

- ✓ What counts as an ambiguous verb differs according to school of thought. A 'constructivist' approach to the definition and writing of learning outcomes (see for example Biggs and Tang 2007) will emphasise the need for learning outcomes to be process-oriented and open-ended as opposed to being objectively measurable and observable.
- ✓ 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 the facts and theories referred to above is 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 have to operate.

Declarative verbs	Procedural/ relational verbs
Repeat Describe Identify Memorise Recall	Reflect Hypothesize Solve unseen problems Generate new alternatives

- ✓ 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 focussing mainly on theoretical knowledge or are we addressing practical or analytical skills? Action verbs play a role when describing the horizontal dimension but needs to be supported by a clarification of the object of learning, notably the learning domains to be addressed.
- ✓ The object and the scope of the learning outcomes statement can be described in different ways. Some countries and institutions have chosen to use pre-defined domains when writing learning outcomes (for example knowledge, skills and competence, as commonly used by qualifications frameworks), others avoid pre-defined domains (Cedefop 2016, forthcoming) and insist that the

description should be 'holistic' and evolve from the task at hand and not be steered by pre-defined categories.

- ✓ When writing learning outcomes for a unit, programme or qualification, take into account the time available and effort required. Learning outcomes statements can easily be overloaded and lose their relevance as tools supporting the learning process.
- ✓ Given that learning outcomes provide a reference point for the recognition and validation of non-formal and informal learning, focus should be on the efforts required, not on a particular time required. The term 'notional time' as used for the ECTS, can be helpful here.

### **2.3. Using learning outcomes statements**

- ✓ The definitions and descriptions of learning outcomes as used in qualifications frameworks, qualification standards and curricula are statements and expressions of intentions. 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.
- ✓ Involve all relevant stakeholders in the development and review of learning outcomes, teachers and trainers as well as external stakeholders, notably social partners. Learning outcomes needs to be a 'living thing' and continuously reviewed and improved.
- ✓ The application of learning outcomes is a question of aligning learning outcomes statements with teaching and learning. Learning outcomes statements should assist teachers in identifying and combining teaching methods.
- ✓ The implementation of 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) are related to each other and not operates as isolated and seprated elements.

- ✓ The application of learning outcomes is a question of aligning learning outcomes statements with assessment As Ramsden (1992) puts it '...the assessment is the curriculum...', as far as the students are concerned. They will learn what they think they will be assessed on, not necessarily what the learning outcomes in the programme or curriculum states. The trick, according to Biggs (2003), is to make sure the assessment tasks mirror the learning outcomes.
- ✓ Learning outcomes must promote reflection on assessment and development of assessment criteria and more effective and varied assessment. Much depends on how they are constructed and whether they introduce rigid and closed criteria or whether they open up for a wider interpretation of the diverse learning experiences of individuals.
- ✓ The link between learning outcomes statements and assessment points to a tension between reliability and validity. While reliability, assuring that the same assessment outcomes are achieved independently of the time and location of the assessment, validity requires that the assessment is able to capture the essence of the learning experiences of the individual and compare these to the assessment criteria. Too rigid and narrow assessment criteria can 'dumb down' the assessment process in a way which do not respect the experiences of the learner.
- ✓ It is commonly stated that learning outcomes needs to be written as threshold statements - as minimum requirements to be met by the learner.
- ✓ It should be made clear that learning outcomes, written as threshold statements, do not prevent learners to go beyond these thresholds. Learning outcomes orient a learning process; they should not contain or restrict it. Some of the criticism towards learning outcomes seems to be linked to this point, implying that the process of stating outcomes dumbs down the learning process and prevents learners to go beyond these minimum expectations.
- ✓ The link between learning outcomes and quality assurance is of key importance; the following should be noted:



- Do the learning outcomes reflect and balance the interests and requirements of both the internal staff (pedagogy) and external stakeholders (labour market and society requirements)
- Is there a systematic feed-back between education and training and labour market/society stakeholders organised; is this dialogue organised regularly; what kind of information is exchanged; can we observe 'breaks' in this loop.
- Are learning outcomes reviewed from a perspective of 'control' or a perspective of development?

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## **PART II. LEARNING OUTCOMES – OPPORTUNITIES AND DILEMMAS**

This part of the handbook provides a more in-depth discussion of particular aspect related to the definition, writing and use of learning outcomes. An important purpose of this part is to identify existing opportunities and dilemmas, building on existing research in this area.

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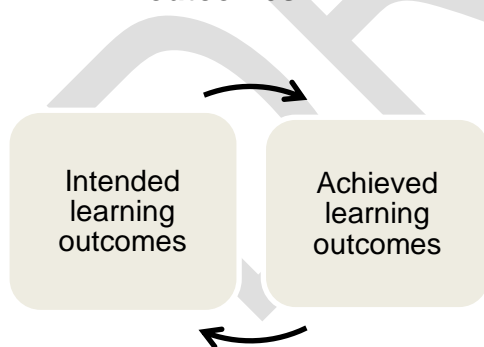
### 3. THE DEFINITION OF LEARNING OUTCOMES

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

- 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;
- 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.

These two definitions point to the relationship between intended and actually achieved learning outcomes. As we will see in later chapters, this relation 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 is crucial to successful implementation – and continuous review and renewal - of the learning outcomes approach. The focus on actually achieved learning outcomes brings us to the concept of competence, which is defined by Cedefop (2014) as follows:

- ✓ Competence is defined as the ability to apply learning outcomes adequately in a defined context (education, training, work or professional development).

Competence can thus 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, many different definitions and interpretations exist, creating some confusion when operating at international level. 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.

Related to the above concepts are terms like learning aims and learning objectives<sup>2</sup>. These are sometimes used interchangeably, potentially

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<sup>2</sup>) Allen (1997) offers a detailed insight into the evolution of these concepts. The term learning objective date back to the first half of the 20<sup>th</sup> 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, op.cit) 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 the definition of 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

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 a 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'.

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*with behavioural objectives but by focussing on the learner, the learning process and the conditions of instruction and learning to be created.*

## **4. THE MAIN PURPOSES AND THE PERCEIVED ADDED VALUE OF LEARNING UTCOMES**

### **4.1. Learning outcomes for different purposes**

Learning outcomes are used for a wide range of purposes and at many levels. There is thus not one 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:

- ✓ Qualifications frameworks play an increasingly important role at international, national and sector level. Their learning outcomes based levels provide a an important reference point for qualifications, enhancing transparency, allowing for comparison and provide a reference point for review and reform of qualifications. The learning outcomes descriptions of qualifications frameworks are described according to the horizontal and vertical dimensions described above, but normally at a very general and level. This latter is necessary in order to be relevant to the big diversity of individual qualifications forming part of national or international qualifications systems.
- ✓ Qualification profiles or standards may define the expected outcomes of the learning process, leading to the award of a full qualification In VET a qualification standard or profile normally answers the question 'What does the student need to learn to be effective in employment?' These standards or profiles will normally be articulated at national level, seeking to address the different purposes of initial education and training, notably by balancing between general knowledge, occupational specific and transversal skills and competences. In some countries these qualification profiles and standards will be divided into modules or units with separate and specific learning outcomes statements. In many cases this will mean that the level of detail and specificity of the learning outcoms will increase,
- ✓ Occupational profiles or standards are normally set outside the education and training system but can have a 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 answer

the question 'What does the student need to be able to do in employment?'

- ✓ 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; normally combined a specification of teaching methods
- ✓ Assessment criteria and standards may specify the general orientation of the assessment, assessment methods and – notably – the criteria for the assessment itself, normally formulated as concrete threshold levels which have to be met by the candidate. Assessment standards answer the question: How will we know what the student has learned and is able to do in employment? Assessment criteria and standards will be more detailed than qualifications profiles/standards and curricula in the sense that they have to precisely describe the requirements to the learner. Assessment standards play a critical role in deciding the orientation of the learning outcomes approach; a too detailed and rigid approach can limit the learning process.

A main difference between these different purposes is the level of detail applied in the learning outcomes description. While qualifications frameworks provide a general reference for comparing qualifications and defining levels, qualifications standards, curricula and – not least – assessment standards have to be directly relevant to the learner and the concrete learning process he or she is going through.

#### **4.2. The perceived added value of learning outcomes**

Learning outcomes are perceived as adding value for these different purposes and for a number of reasons. While these benefits cannot be taken for granted, they eventually depend on the way the approach is interpreted and adopted, many see the added value of the learning outcomes approach as significant:

- ✓ For the learner: Learning outcomes statements clarify what a learner is expected to know and be able to do and understand when having complete learning sequence, a module, a programme or a qualification. They support his or her 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 present

and visible not only in (written) qualification standards and programme descriptions. Their visibility in practise, throughout the teaching and learning process as well in assessment arrangements is of critical importance and decides whether they will make a difference to the learner.

- ✓ For the teacher/instructor: The learning outcomes approach helps to orient teaching, to select methods and to facilitate 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 assessment methods and how these interact with and support the learning process.
- ✓ For the education and training institution: Learning outcomes provides an important instrument for planning, for internal as well as 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/programs and qualifications. Learning outcomes can provide an important reference point for quality assurance, the relationship between intended and actual learning outcomes (as expressed through assessments) provides important input to the continuous review and development which is expected from education and training institutions.
- ✓ For society and labour market: Learning outcomes offers a meeting place for different stakeholders and education and training users. If used systematically, this allows for a systematic review of the quality and relevance of education and training, focussing on the relationship between intended and actually achieved learning outcomes. The definition of learning outcomes requires a 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 teachers to facilitate and support education, training and learning.

In recent years learning outcomes are increasingly seen as a way to increase overall transparency of qualifications and as a way to improve comparability of qualifications across national borders. The development of learning outcomes based qualifications frameworks play a key role in this respect, seeing learning outcomes as the common language allowing for transparency and comparison. This 'governance perspective' is by some also seen as a way to strengthen the accountability of education and



training institutions; making it possible for external stakeholders to judge what is delivered by these institutions. This illustrates that learning outcomes are not politically neutral, but can indeed be used for different purposes.

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## 5. QUESTIONING THE ADDED VALUE OF LEARNING OUTCOMES

Not everybody agrees in the added value of learning outcomes. A number of researchers have criticised the conceptual basis of the approach and questioned its practical and political implications. An important purpose of the handbook is to present the main elements of this criticism and consider whether and how it can influence future practises. We can distinguish two main lines of criticism towards learning outcomes; a conceptual/ideological and a technical/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 over research in this area, the chapter seeks to identify the most important issues currently addressed and debated.

### 5.1. Learning outcomes as ‘dumbing down’ of education and training

Allais (2016) stands out as a vocal representative of the conceptual/ideological criticism<sup>3</sup>. Based mainly on experiences from South Africa and the UK, she questions the added value of learning outcomes, arguing that it can potentially undermine the development of high quality education and learning. Focussing 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, assume the learner to be passive and (exclusively) 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

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<sup>3</sup> O’Brien and Brancaleone (20??, p. 8) discusses the epistemological and pedagogical validity of learning outcomes approach – pointing to the gap between conceptual origins and intended action.

described in specified, unambiguous, quantifiable, full-ended and measurable terms. This approach is seen as fundamentally clashing with liberal traditions, notably in higher education, emphasising 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. By some seen as the embodiment of a neo-liberalist, market-driven philosophy, the shift to learning outcome, 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, a number of researchers (Allen 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 practises:

## **5.2. Addressing the imperfections of learning outcomes**

It is acknowledged that learning outcomes, for example when indicating precise threshold level, actually can inhibit and restrict the learning process. Too much specificity and detail, it is argued, makes it difficult to give room for innovation and exploit the unexpected present in any situation. Researchers influenced by constructivism (see for example 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 de-contextualised 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).

An important strand of research (Biggs 1999 op.cit., Biggs and Tang, 2007) stresses the importance of aligning learning outcomes statements to teaching and learning practises as well as to assessment tasks. The potential impact of the learning outcomes approach depends on this alignment, or as Biggs and Tang expresses it (Biggs and Tang 2007, p.52); '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 outcomes is to be achieved and in the assessment task to verify that the outcome has been achieved'. This approach requires that learning outcomes are treated as open-ended: 'Unlike some outcomes based education, constructively aligned teaching is not a closed loop, focussing only on what is pre-determined. As explained later, we use outcome statements and open-ended assessments tasks that allow for unintended but desirable outcomes' (Biggs and Tang, op.cit. p.53).

### **5.3. Learning outcomes and governance**

Reflecting the rapid expansion of learning outcomes based qualifications frameworks in Europe and beyond, a number of 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 have important pedagogical results, their impact on policy-making and governance is seen as over-stated. Lassnigg (op.cit., p. 303) argues that the majority of research has focused on pedagogy and the minor proportion of the literature focuses on a policy and governance level; and that in European policy, the emphasis on policies linked to the implementation of the EQF - has driven attention on learning outcomes towards the policy level.

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

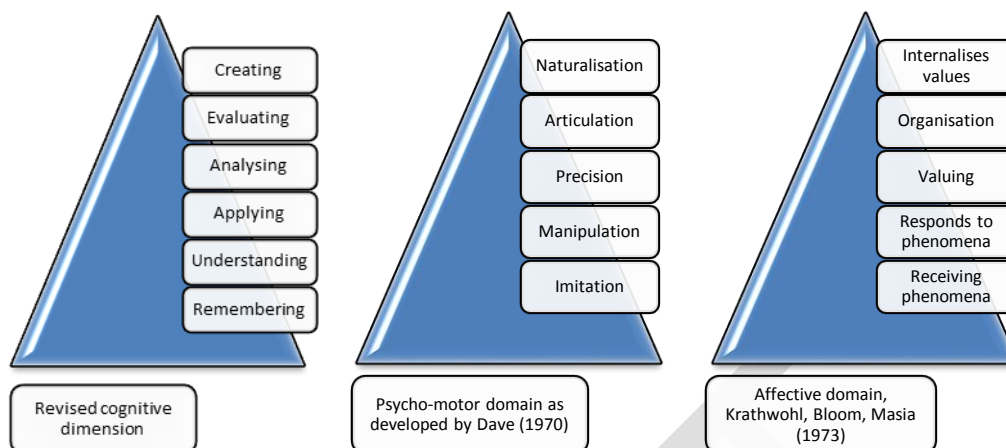
## **6. WRITING LEARNING OUTCOMES – HOW TO CAPTURE PROGRESSION IN AND COMPLEXITY OF LEARNING?**

Learning outcomes are best understood as a 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, 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.

### **6.1. Learning outcomes and learning progression – The dominant position of Bloom’s taxonomy**

Bloom’s taxonomy is one of the most important theoretical influences on thinking about learning outcomes and progression. The earliest iteration 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 and Krathwohl (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 psycho-motor 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, psycho-motor and affective domains**



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

Additionally, Anderson and Krathwohl (2001) have created a matrix combining the elements of the hierarchy with levels of knowledge (Figure 4).

Figure 4. **Bloom's revised taxonomy: the cognitive process dimension and dimensions of knowledge**

The knowledge dimension	Remember	Understand	Apply	Analyse	Evaluate	Create
Factual						
Conceptual						
Procedural						
Metacognitive						

Source: Anderson and Krathwohl (2001).

This approach has been subject to a variety of criticisms. Beretier and Scardamalia (2005) 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 ...’<sup>(4)</sup>. 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’<sup>(5)</sup>. This mirrors the criticism of

<sup>(4)</sup> Ibid. pp. 12-13.

<sup>(5)</sup> Ibid. p. 10.

behaviourism discussed above and warns against a reductionist approach narrowing down the scope of expected (and assessed) learning. The inclusion of increasingly complex verbs in the three hierarchies argues against this, and points to more open-ended statements allowing for unintended outcomes.

## **6.2. Alternative taxonomies and their potential impact on the definition and writing of learning outcomes**

Two alternative taxonomies, with deeper roots in constructivist theories, have emerged in recent years. The first, the Dreyfus taxonomy, describes learner progression from 'novice to expert' (Dreyfus, 1981; Dreyfus and Dreyfus, 1986):

- 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.

The SOLO taxonomy (Structure of Observed Learning Outcomes) (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 the depth and quality of understanding, rather than the quantity of information.

Table 1. 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
Multi-structural: 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)

There is tendency, see for example 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 the critics, assumes a linear and overly simplistic learning process where complex activity verbs (for example '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). This, according to her 'ignores the extent to which knowledge is organised in bodies of hierarchical conceptual relationships, the value of such knowledge' (idem) does not



respect the conditions in which knowledge is acquired. Others (Dobbins, 2014), however, 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 and while some of these may be behavioural in character (for example, using a particular tool for a particular purpose), others imply more complex and ambiguous processes (for example, 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 and 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. Some guidelines on writing learning outcomes warn against broad terms like 'understand' and 'appreciate' and recommend to replace them with terms like '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 like '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.

### **6.3. Capturing the vertical dimension of learning outcomes – key questions**

When defining, writing and applying learning outcomes it is essential to be aware of these dilemmas. Two key questions stand out:

- ✓ is it possible to write learning outcomes reflecting the constructivist ambition of holistic and active learning outlined above?
- ✓ will we, by striving for clearly defined and observable outcomes of learning, risk focus on isolated and entities of learning poorly reflecting the diversity and richness of learning strived for by policy-makers?

The practical definition and writing of learning outcomes, and how we respond to the dilemma outlined above, is influenced by a limited number

of taxonomies seeking to clarify how individuals progress in their learning. Unpacking the way these taxonomies have been constructed and evolved can help us to understand better the conditions for defining and writing learning outcomes fit-for purpose.

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## **7. A COMMON EUROPEAN FORMAT FOR PRESENTING LEARNING OUTCOMES BASED QUALIFICATIONS**

The EQF, and the related national qualifications frameworks, seek to strengthen transparency of qualifications by introducing commonly understood, learning outcomes based levels. For many, the information on levels is important but insufficient. As countries present their qualifications in very different ways, comparing the content and profile of qualifications is difficult. The 2016 proposal by the European Commission on the revision of the EQF therefore states the following:

*'(The Commission) in cooperation with Member States and stakeholders (should develop) a standard format for the description of learning outcomes to be used for comparison purposes.'*

### **7.1. Principles to be applied**

A common format for presenting learning outcomes can be seen as deepening the approach to increased transparency of qualifications started by the EQF in 2008, and is particularly relevant for future developments of qualifications supplements and national databases on qualifications. A common format could be developed according to the following principles:

- ✓ It should not replace existing learning outcomes descriptions as used at national or institutional level
- ✓ It should be used as a voluntary supplement
- ✓ It should allow national authorities to present the content and profile of qualifications in their national databases in a concise yet comparable way
- ✓ It should allow national authorities to present the content and profile of qualifications in qualifications and certificate supplements
- ✓ It should allow private and international providers to present their certificates and qualifications in concise and comparable way

Overall, the format can

- ✓ Increase transparency and comparability
- ✓ Further promote the shift to learning outcomes

## 7.2. Technical and conceptual requirements to the format

Initial discussions (in the EQF AG and the ESCO Board) points to the following requirements:

- ✓ It must be short (+/- 1000 characters)
- ✓ It must use a pre-defined structure and syntax
- ✓ It must refer to agreed but flexible learning domains
- ✓ It must be supported by guidelines
- ✓ It must be supported by standardised lists of action verbs

The following basic structure could be used as a starting point for developments:

Figure xx. A common format for presenting learning outcomes - The basic structure

**The learning outcomes description should be limited to +/- 1000 characters and be written taking the following elements into consideration:**

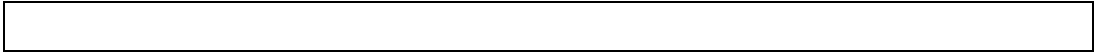
**{learner}>{action verb}>{object and scope with reference to learning domains}> {context}<sup>6</sup>**

1.1. <sup>6</sup> The following example, from Ireland, illustrate how the basic format can be used to present the profile of a national VET qualification in a transparent way:

1.2. *The learner*

- *will be able to demonstrate understanding of a broad range of the main features of both a CNC Milling Machine to include the main console controls, axis configurations, methods of tool changing programming techniques, thread cutting and tool mounting;*
- *will be able to demonstrate a broad range of skills and tools in the use of a CNC Milling Machine and CNC Lathe to include the use of part programming functions, the correct starting and termination functions, using a tool library, producing parts, mounting and positioning work pieces and applying programs.*
- *Will be able to demonstrate good practice in using the main consoles to input information, correctly starting and terminating formats, employing risk reduction measures for the use of both machines and setting up, monitoring and maintaining typical types of both machines.*

1.3. *To access programmes leading to this award the learner should have reached the standards of knowledge, skill and competence associated with the preceding level of the National Framework of Qualifications.*



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**PART III. 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 part of the handbook is meant to develop and grow over time and provide a resource to be used by policy makers, practitioners and researchers alike.

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## OVERVIEW OF THE GUIDANCE MATERIAL FOR WRITING LOS

Country	No	Institution	Guidance Material-Titles	Hyperlinks
AT				
		Federal Ministry of Education, Arts and Culture	Educational standards in Vocational Education	<a href="http://www.bildungsstandards.berufsbildendeschulen.at/fileadmin/content/bbs/Handbuch_BIST_25.03.2013.pdf">http://www.bildungsstandards.berufsbildendeschulen.at/fileadmin/content/bbs/Handbuch_BIST_25.03.2013.pdf</a>
		Federal Ministry for Science, Research and Economy	How to formulate Learning Outcomes.	<a href="http://wissenschaft.bmwf.gv.at/bmwf/studium/studieren-im-europaeischen-hochschulraum/bologna-prozess/bologna-worum-gehts/curriculumsentwicklung/learning-outcomes-und-der-bologna-prozess/wie-formuliert-man-learning-outcomes/">http://wissenschaft.bmwf.gv.at/bmwf/studium/studieren-im-europaeischen-hochschulraum/bologna-prozess/bologna-worum-gehts/curriculumsentwicklung/learning-outcomes-und-der-bologna-prozess/wie-formuliert-man-learning-outcomes/</a>
		Federal Ministry of Education, Arts and Culture	Booklet Educational Standards Social and Personal Competences 9.-13th grade. Educational Standards in Vocational Education - Competence model, descriptors and selected methodological and lesson samples	<a href="http://bildungsstandards.berufsbildendeschulen.at/fileadmin/content/bbs/AGBroschueren/SozialePersonaleKompetenzen_Broschuere_Oktober2011.pdf">http://bildungsstandards.berufsbildendeschulen.at/fileadmin/content/bbs/AGBroschueren/SozialePersonaleKompetenzen_Broschuere_Oktober2011.pdf</a>
		University of Technology Vienna	Guideline for Curricula Development.	<a href="http://www.tuwien.ac.at/fileadmin/t/rechtsabt/downloads/Leitfaden_zur_Curricula_Erstellung.pdf">http://www.tuwien.ac.at/fileadmin/t/rechtsabt/downloads/Leitfaden_zur_Curricula_Erstellung.pdf</a>
		Development group, 5 pedagogical universities	Foundations and Materials for the Development of Curricula.	<a href="http://www.virtuelle-ph.at/pluginfile.php/43796/coursecat/description/Grundlagen_und_Materialien_zur_Curriculumentwicklung_Druckversion.pdf">http://www.virtuelle-ph.at/pluginfile.php/43796/coursecat/description/Grundlagen_und_Materialien_zur_Curriculumentwicklung_Druckversion.pdf</a>
	University of Vienna	Compendium - Support for a modular curriculum	<a href="http://senat.univie.ac.at/fileadmin/user_upload/senat/Arbeitsbehelfe/Kompendium_2013_v9_Jaenner.pdf">http://senat.univie.ac.at/fileadmin/user_upload/senat/Arbeitsbehelfe/Kompendium_2013_v9_Jaenner.pdf</a>	

	University of Natural Resources and Life Sciences	Assistance for the formulating of learning outcomes	<a href="http://www.boku.ac.at/fileadmin/data/H01000/H10220/studien-zukunft/Richtliniengruppen/Qualit%C3%A4tssicherung/Ergebnisse/Handreichung_Lernergebnisse.pdf">http://www.boku.ac.at/fileadmin/data/H01000/H10220/studien-zukunft/Richtliniengruppen/Qualit%C3%A4tssicherung/Ergebnisse/Handreichung_Lernergebnisse.pdf</a>
	Ibw Austria - Research & Development in VET	Guidelines for the description of Learning Outcomes	<a href="http://ibw4.m-services.at/zoom/pdf/wp2/Leitfaden_DE_final_2.pdf">http://ibw4.m-services.at/zoom/pdf/wp2/Leitfaden_DE_final_2.pdf</a>
	Federal Ministry of Education, Arts and Culture	Learning Outcome orientation in adult education - guidelines for learning outcome oriented curriculum development	<a href="http://erwachsenenbildung.at/downloads/service/Lernergebnisorientierung_Leitfaden_web.pdf">http://erwachsenenbildung.at/downloads/service/Lernergebnisorientierung_Leitfaden_web.pdf</a>
BE/FL	Flemish inter-university Council (VLIR) and Flemish UAS Council (VLHORA)	Manual Writing Domain Specific learning Outcomes Frameworks	<a href="http://www.nvao.net/page/downloads/Learning_outcomes_handleiding_VLIR-VLHORA.pdf">http://www.nvao.net/page/downloads/Learning_outcomes_handleiding_VLIR-VLHORA.pdf</a>
	Katholic University of Leuven	Learning at the KULeuven: vision and implementation	<a href="https://www.kuleuven.be/onderwijs/werken_opl/leerresultaten/leerresultaten-aan-de-ku-leuven">https://www.kuleuven.be/onderwijs/werken_opl/leerresultaten/leerresultaten-aan-de-ku-leuven</a>
	Dutch Flemish Accreditation Organisation	Domain-specific learning outcomes With respect to the Master of occupational therapy studies (master) of Ghent University	<a href="http://www.ond.vlaanderen.be/kwalificaties/structuur/kwalificatiedatabank/onderwijskwalificaties/master-in-de-ergotherapeutische-wetenschap.pdf">http://www.ond.vlaanderen.be/kwalificaties/structuur/kwalificatiedatabank/onderwijskwalificaties/master-in-de-ergotherapeutische-wetenschap.pdf</a>
	Dutch Flemish Accreditation Organisation	Domain Specific Learning Outcomes Framework Education: Bachelor of Nursing (professional Bachelor)	<a href="http://www.ond.vlaanderen.be/kwalificaties/structuur/kwalificatiedatabank/onderwijskwalificaties/bachelor-in-de-verpleegkunde.pdf">http://www.ond.vlaanderen.be/kwalificaties/structuur/kwalificatiedatabank/onderwijskwalificaties/bachelor-in-de-verpleegkunde.pdf</a>
BG	National Agency for Vocational Education and Training	Methodological Guidelines for Development of Learning Outcomes based VET Standards	 <p>Metodicheski ukazania_Doi_28.04.2015.</p> <p><a href="http://www.navet.government.bg/bg/media/Metodicheski_ukazania_Doi_07_04_2015.pdf">http://www.navet.government.bg/bg/media/Metodicheski_ukazania_Doi_07_04_2015.pdf</a></p>





CR	Agency for VET and Adult Education	Methodology for developing Standards and curricula	<a href="http://www.asoo.hr/UserDocsImages/projekti/kvalifikacije/eu%20knjige/3%20Metodologija.pdf">http://www.asoo.hr/UserDocsImages/projekti/kvalifikacije/eu%20knjige/3%20Metodologija.pdf</a>
	Agency for VET and Adult Education	Learning outcomes example of a standard	<a href="http://e-kvalifikacije.asoo.hr/pages/search/index.xhtml!">http://e-kvalifikacije.asoo.hr/pages/search/index.xhtml!</a>
	Ministry of Science, Education and Sport	Guidelines for developing standards	<a href="http://www.kvalifikacije.hr/br-bvrednovanje-skupova-ishoda-ucenja-radionica-za">http://www.kvalifikacije.hr/br-bvrednovanje-skupova-ishoda-ucenja-radionica-za</a>
ES	National Agency for Quality Assessment and Accreditation	Support Guide for drafting, implementing and evaluating learning outcomes [official translation].	<a href="http://www.aneca.es/eng/Press-service/News/2013/ANECA-launches-the-Support-Guide-for-drafting-implementing-and-evaluating-learning-outcomes">http://www.aneca.es/eng/Press-service/News/2013/ANECA-launches-the-Support-Guide-for-drafting-implementing-and-evaluating-learning-outcomes</a>
	Ministry of Education, Culture and Sport. National Institute of Qualifications	Basis for the development of the national catalogue of professional qualifications.	<a href="https://sede.educacion.gob.es/publiventa/descarga.action?f_codigo_agc=16748&amp;request_locale=en">https://sede.educacion.gob.es/publiventa/descarga.action?f_codigo_agc=16748&amp;request_locale=en</a>
	Directorate-General of VET. Ministry of Education, Social Policy and Sport.	Learning outcomes	No hyperlink (to be further checked)
FI	University of Applied Science Aachen	Learning outcomes – terminology, relations, application and identification of success. Learning outcomes and imparting of competence as key elements of the Bologna Process.	<a href="http://opus.bibliothek.fh-aachen.de/files/195/schermutzki_bologna_6_a5_sw.pdf">http://opus.bibliothek.fh-aachen.de/files/195/schermutzki_bologna_6_a5_sw.pdf</a>
	The Finnish National Board of Education.	Implementation of the vocational requirements as initial vocational education and training and competence-based qualifications	<a href="http://www.oph.fi/download/142550_Ammatillisten_perustutkintojen_perusteiden_toimeenpano.pdf">http://www.oph.fi/download/142550_Ammatillisten_perustutkintojen_perusteiden_toimeenpano.pdf</a>

<b>FR</b>	Ministry of agriculture	Writing guide of professional diplomas standards	<a href="http://www.chlorofil.fr/diplomes-et-referentiels/formations-et-diplomes/btsa.html">http://www.chlorofil.fr/diplomes-et-referentiels/formations-et-diplomes/btsa.html</a>
<b>GR</b>	EOPPEP Dželalija Mile	Methodology for the design and development of Learning Outcomes	 Methodology for learning Outcomes
<b>HU</b>	NCP Hungary	Guidelines prepared (by the NCP) for VET	<a href="http://www.oktatas.hu/pub_bin/dload/LLL/ekkr/Tanulasieredmenyek_VET.pdf">http://www.oktatas.hu/pub_bin/dload/LLL/ekkr/Tanulasieredmenyek_VET.pdf</a>
	NCP Hungary	Guidelines prepared (by the NCP) for HE	<a href="http://www.oktatas.hu/pub_bin/dload/LLL/ekkr/Tanulasieredmenyek_HE.pdf">http://www.oktatas.hu/pub_bin/dload/LLL/ekkr/Tanulasieredmenyek_HE.pdf</a>
<b>IE</b>	Dublin Institute of Technology	Guide to Writing Learning Outcomes	modularisation.dit.ie/docs/Learning%20Outcomes%20Guide.doc
	University of Limerick	Writing Learning Outcomes - A guide to academics	<a href="http://www.nfqnetwork.ie/fileupload/Image/Writing%20Learning%20Outcomes%20at%20Programme%20and%20Module%20Levels.pdf">http://www.nfqnetwork.ie/fileupload/Image/Writing%20Learning%20Outcomes%20at%20Programme%20and%20Module%20Levels.pdf</a>
	Kennedy D. et al (2012)	Writing and Using Learning Outcomes: a Practical guide	<a href="http://www.tcd.ie/teaching-learning/academic-development/assets/pdf/Kennedy_Writing_and_Using_Learning_Outcomes.pdf">http://www.tcd.ie/teaching-learning/academic-development/assets/pdf/Kennedy_Writing_and_Using_Learning_Outcomes.pdf</a>
<b>LV</b>	Copyright: State Education Development Agency Responsible for content: National Centre for Education	Methodological guidelines for the development of modular vocational education programmes	<a href="http://visc.gov.lv/profizglitiba/dokumenti/metmat/metiet_modul_progr_izstr_2015.pdf">http://visc.gov.lv/profizglitiba/dokumenti/metmat/metiet_modul_progr_izstr_2015.pdf</a>

	National Centre for Education (responsible for education content) subordinate to the Ministry	Methodological materials and sample curricula (including learning outcomes)	<a href="http://visc.gov.lv/profizglitiba/programmas.shtml">http://visc.gov.lv/profizglitiba/programmas.shtml</a>
	Ministry of Education and Science	Amendments (2016/25) to 'Internal regulation for developing vocational education programmes' (2010)	<a href="http://visc.gov.lv/profizglitiba/dokumenti/programmas/izm_noteikumi_20160526_25.pdf">http://visc.gov.lv/profizglitiba/dokumenti/programmas/izm_noteikumi_20160526_25.pdf</a>
<b>MT</b>			
	© Nuffic / TUNING Association	A Tuning Guide to Formulating Degree Programme Profiles Including Programme Competences and Programme Learning Outcomes	<a href="http://core-project.eu/documents/Tuning%20G%20Formulating%20Degree%20PR4.pdf">http://core-project.eu/documents/Tuning%20G%20Formulating%20Degree%20PR4.pdf</a>
	Foundation for vocational education and labour market	Instructions in the development of vocational qualification files, including optional modules and justification.	<a href="http://www.kwalificatiesmbo.nl/files/bestanden/Herziening/Instructies%20bij%20ontwikkeling%20kwalificatiedossiers%20mbo_versie%201%20november%202013.pdf">http://www.kwalificatiesmbo.nl/files/bestanden/Herziening/Instructies%20bij%20ontwikkeling%20kwalificatiedossiers%20mbo_versie%201%20november%202013.pdf</a>
		Dee Fink - A Self-Directed Guide to Designing Courses for Significant Learning	<a href="http://www.deefinkandassociates.com/GuidetoCourseDesignAug05.pdf">http://www.deefinkandassociates.com/GuidetoCourseDesignAug05.pdf</a>
<b>NL</b>		Manual professional bachelor level: Guide to testing, realization and justification of professional bachelor education level.	To be further checked
	Leer- en Innovatiecentrum (LIC)	Assessing competences	<a href="http://lic.avans.nl/service.lic/">http://lic.avans.nl/service.lic/</a>
	University of Twente (Centre of Expertise in learning and teaching)	Competence 1: learning objectives	<a href="https://www.utwente.nl/ces/celt/what-we-do/teacher-development/">https://www.utwente.nl/ces/celt/what-we-do/teacher-development/</a>

	University of Utrecht (Faculty of Humanities) Centre for teaching and learning	What characterizes a good learning objective? About 17 keys	<a href="https://vimeo.com/album/1730051/video/29314808">https://vimeo.com/album/1730051/video/29314808</a>
	University of applied science of Amsterdam	Guide for Testing and Assessment	<a href="https://score.hva.nl/Bronnen/Leidraad%20Toetsen%20en%20Beoordelen.pdf">https://score.hva.nl/Bronnen/Leidraad%20Toetsen%20en%20Beoordelen.pdf</a>
	EIndniveau Associate Degree	Qualifying level Associate Degree	<a href="http://www.leido.nl/publicaties/documents/BeschrijvingvanAd-Eindniveau-LN-Ad-juli2013-versie1.doc">http://www.leido.nl/publicaties/documents/BeschrijvingvanAd-Eindniveau-LN-Ad-juli2013-versie1.doc</a>
NO	Ministry of Education and Research	National qualification framework for lifelong learning	<a href="http://www.regjeringen.no/nb/dep/kd/tema/livslang-laring/nasjonalt-kvalifikasjonsrammeverk.html?id=601327">http://www.regjeringen.no/nb/dep/kd/tema/livslang-laring/nasjonalt-kvalifikasjonsrammeverk.html?id=601327</a>
	The Norwegian Directorate for Education and Training	Guidelines for working with curricula at local level	<a href="http://www.udir.no/Lareplaner/Veiledninger-til-lareplaner/Veiledning-i-lokalt-arbeid-med-lareplaner/">http://www.udir.no/Lareplaner/Veiledninger-til-lareplaner/Veiledning-i-lokalt-arbeid-med-lareplaner/</a>
PL	Ministry of Science and Higher Education	The autonomy of the university curriculum. Qualifications framework for higher education.	<a href="http://www.nauka.gov.pl/g2/oryginal/2013_05/a46de52fb98a0fcc7377f73724f36672.pdf">http://www.nauka.gov.pl/g2/oryginal/2013_05/a46de52fb98a0fcc7377f73724f36672.pdf</a>
	Minister of Science and Higher Education	Regulation of the Minister of Science and Higher Education of 2 November 2011 on the National Qualifications Framework for Higher Education (Journal of Laws 2011, No. 253, item., 1520).	<a href="http://www.nauka.gov.pl/g2/oryginal/2013_05/478e9241dffed3a0bcd4fb28792392a8.pdf">http://www.nauka.gov.pl/g2/oryginal/2013_05/478e9241dffed3a0bcd4fb28792392a8.pdf</a>
	National Centre for Supporting Vocational and Continuing Education	Vocational and continuing education. Vadamecum.	<a href="http://new.koweziu.edu.pl/publikacje/item/57-ksztalcenie-zawodowe-i-ustawiczne">http://new.koweziu.edu.pl/publikacje/item/57-ksztalcenie-zawodowe-i-ustawiczne</a>

PT	National Agency for Qualification and Vocational Education and Training (ANQEP, I.P.)	Methodological handbook on learning outcomes	  Methodological Guide LO_Portugal    Guia metodologico RA
RO	National Centre for the Development of TVET (Centrul National de Dezvoltare a Invatamantulu i Profesional si Tehnic (CNDIPT) – subordinate to the Ministry of Education.	Methodological aspects for the design of training standards in vocational and technical education – part of the Reference framework for TVET curriculum.	<a href="http://www.scriptmedia.ro/crypt-newsletter/docs/aspecte_metodologice.pdf">http://www.scriptmedia.ro/crypt-newsletter/docs/aspecte_metodologice.pdf</a>
	Info sent by the National Qualifications Authority	Information on LO in the Law of National Education	<a href="http://lege5.ro/Gratuit/geztsobvgi/legea-educatiei-nationale-nr-1-2011">http://lege5.ro/Gratuit/geztsobvgi/legea-educatiei-nationale-nr-1-2011</a>
SL	National Education Institute of the Republic of Slovenia for VET	Methodological guide for drafting educational standards and VET curricula.	<a href="http://www.cpi.si/files/cpi/userfiles/Publikacije/kurikul.pdf">http://www.cpi.si/files/cpi/userfiles/Publikacije/kurikul.pdf</a>
UK Sco	Scottish Qualification Authority	Writing National and Higher National Units - Scottish Qualification Authority (2011)	<a href="http://www.sqa.org.uk/sqa/files_ccc/16GuideUnitWritingAugust2012.doc">http://www.sqa.org.uk/sqa/files_ccc/16GuideUnitWritingAugust2012.doc</a>
	UK Commission for Employment and Skills	Guide to developing National Occupational Standards	<a href="https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/304239/nos-guide-for-developers-2011.pdf">https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/304239/nos-guide-for-developers-2011.pdf</a>
	UK Commission for Employment and Skills	Guide to writing National Occupational Standards	<a href="http://www.lantra.co.uk/Downloads/Standards-qualifications/NOS/Guide-for-Writing-NOS-Standards-(Feb-2010).aspx">http://www.lantra.co.uk/Downloads/Standards-qualifications/NOS/Guide-for-Writing-NOS-Standards-(Feb-2010).aspx</a>

<b>USA</b>	University of Connecticut (Eric Soulsby)	Assessment Notes	<a href="http://web2.uconn.edu/assessment/docs/resources/Eric_Soulsby_Assessment_Notes.pdf">http://web2.uconn.edu/assessment/docs/resources/Eric_Soulsby_Assessment_Notes.pdf</a>
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## **OVERVIEW OVER RESEARCH MATERIAL SUPPORTING THE WRITING, DEFINITION AND USE OF LEARNING OUTCOMES**

### ***Teaching for quality education at university***

By Bigg, J and C.Tang, 2007, McGrawHill, New York

[http://www.umweltbildung-noe.at/upload/files/OEKOLOG%202014/2\\_49657968-Teaching-for-Quality-Learning-at-University.pdf](http://www.umweltbildung-noe.at/upload/files/OEKOLOG%202014/2_49657968-Teaching-for-Quality-Learning-at-University.pdf)

### ***Curriculum design in higher education using a learning outcome-led model: Its influence on how students perceive learning***

By Allan, J., 1997, University of Wolverhampton

<http://wlv.openrepository.com/wlv/handle/2436/30415>

### ***Effects of experimental learning - outcomes of an empirical study in the vocational field of structural engineering***

by Bünning, Frank

International Journal of Training Research, 04/2013, Volume 11, Issue 1

### ***Assessing the quality of the learning outcome in vocational education: the Expero model***

by Cervai, Sara Cian, Luca

Journal of Workplace Learning, 03/2013, Volume 25, Issue 3

### ***Learning Outcomes as a Key Concept in Policy Documents throughout Policy Changes***

by Prøitz, Tine Sophie

Scandinavian Journal of Educational Research, 05/2015, Volume 59, Issue 3

### ***Evaluating learning outcomes: in search of lost knowledge***

by O'Brien, Stephen Brancalone, David

Irish Educational Studies, 03/2011, Volume 30, Issue 1

### ***The missing link to connect education and employment: recognition of non-formal and informal learning outcomes***

by Werquin, Patrick

Journal of Education and Work, 07/2012, Volume 25, Issue 3

### ***Learning outcomes of a work-based training programme: The significance of managerial support***

by Ellström, Eva Ellström, Per-Erik

European Journal of Training and Development, 2014, Volume 38, Issue 3

### ***Examining the mediating role of learning engagement, learning process and learning experience on the learning outcomes through localized real case studies***

by Nkhoma, Mathews Sriratanaviriyakul, Narumon

Education + Training, 05/2014, Volume 56, Issue 4

### ***Learning Outcomes — From Policy Discourse to Practice***

by Stanley, Julian

European Journal of Education, 12/2015, Volume 50, Issue 4

***New study aims to compare outcomes-based learning approaches across Europe***

by Elizabeth Eyre

Training Journal, 06/2011

***Governance for Learning Outcomes in European Policy-Making: Qualification Frameworks Pushed through the Open Method of Coordination***

by Odd Bjørn Ure

International Journal for Research in Vocational Education and Training, 12/2015, Volume 2, Issue 4

***Assessment of Learning Outcomes in Finnish Vocational Education and Training***

by Räisänen, Anu Rökköläinen, Mari

Assessment in Education: Principles, Policy & Practice, 2014, Volume 21, Issue 1

***Learning outcomes of a work-based training programme***

by Ellström, Eva Ellström, Per-Erik

European Journal of Training and Development, 04/2014, Volume 38, Issue 3

***Qualifications frameworks and learning outcomes: challenges for Europe's lifelong learning area***

by Bohlinger, Sandra

Journal of Education and Work, 07/2012, Volume 25, Issue 3

***A critical perspective on learning outcomes and the effectiveness of experiential approaches in entrepreneurship education***

by Scott, Jonathan M Penaluna, Andy

Education + Training, 01/2016, Volume 58, Issue 1

***Curriculum on the European policy agenda: Global transitions and learning outcomes from transnational and national points of view***

by Sivesind, Kirsten Wahlström, Ninni

European Educational Research Journal, 05/2016, Volume 15, Issue 3

***Qualifications frameworks and learning outcomes: challenges for Europe's lifelong learning area***

by Bohlinger, Sandra

Journal of Education and Work, 07/2012, Volume 25, Issue 3

***Learning outcomes: good, irrelevant, bad or none of the above?***

by Souto-Otero, Manuel

Journal of Education and Work, 07/2012, Volume 25, Issue 3

***Re-Contextualizing Vocational Didactics in Norwegian Vocational Education and Training***

by Hæge Nore

International Journal for Research in Vocational Education and Training, 12/2015, Volume 2, Issue 3



***Anrechnungspraxis und –potenziale von Lernergebnissen aus humanberuflichen höheren Schulen im hochschulischen Sektor***

by Norbert Lachmayr et al.

Lachmayr Norbert ; Mayerl Martin ;

Wien : ÖIBF, 2014

***Education and training governance through learning outcomes: possibilities and constraints in Italy***

by Frontini, Sara; Psifidou, Irene;

Madrid : Bordon, 2014

<http://recyt.fecyt.es/index.php/BORDON/article/view/Bordon.2015.67110/17187>

***Peer learning activity: the writing of learning outcomes for assessment and validation: 19-20 November 2014, Cork, Ireland: summary report***

European Commission. Directorate General for Employment, Social Affairs and Inclusion; Brussels: European Commission, 2

[http://extendedcampus.cit.ie/contentfiles/PLA%20Cork%2019\\_20%2011%202014%20Report%20final.pdf](http://extendedcampus.cit.ie/contentfiles/PLA%20Cork%2019_20%2011%202014%20Report%20final.pdf)

***Summary report on the Peer learning activity: the writing of learning outcomes for assessment and validation: 19-20 November 2014***

European Commission

Luxembourg: Publication Office, 2014

[http://extendedcampus.cit.ie/contentfiles/PLA%20Cork%2019\\_20%2011%202014%20Report%20final.pdf](http://extendedcampus.cit.ie/contentfiles/PLA%20Cork%2019_20%2011%202014%20Report%20final.pdf)

***Claims vs. practicalities: lessons about using learning outcomes***

by Allais, Stephanie

Abingdon, Oxon, UK: Taylor and Francis, 2012

<http://www.tandfonline.com/doi/pdf/10.1080/13639080.2012.687570>

***Curriculum reform in Europe: the impact of learning outcomes***

Cedefop

Luxembourg : Publications Office, 2012

[http://www.cedefop.europa.eu/EN/Files/5529\\_en.pdf](http://www.cedefop.europa.eu/EN/Files/5529_en.pdf)

***Learning outcomes: good, irrelevant, bad or none of the above?***

by Souto Otero, Manuel

Abingdon: Routledge, 2012

<http://dx.doi.org/10.1080/13639080.2012.689648>

***'Tuning' education for the market in 'Europe'? qualifications, competences and learning outcomes: reform and action on the shop floor***

by Antunes, Fátima

Oxford : Symposium Journals, 2012

<http://www.swetswise.com/eAccess/viewAbstract.do?articleID=167110915>

***A Tunning-AHELO conceptual framework of expected/desired learning outcomes in engineering***

***Tuning Association; Assessment of Higher Education Learning Outcomes; Assessment of Higher Education Learning Outcomes***

Paris : OECD, 2011

<http://dx.doi.org/10.1787/5kghtchn8mbn-en>

***Entität und Relation von Lernergebnissen als Herausforderung bei der Konstruktion von Qualifikationsrahmen***

by Schlögl, Peter

Linz: Trauner Verlag, 2011

***Gestaltungsfeld Anrechnung : Bildung im Wandel***

by Freitag, Walburga Katherina

Münster: Waxmann, 2011

[http://www.his.de/pdf/22/gestaltungsfeld\\_anrechnung.pdf](http://www.his.de/pdf/22/gestaltungsfeld_anrechnung.pdf)

***Mācīšanās rezultātu nozīme ESF projektā Nozaru kvalifikācijas sistēmas izveide un profesionālās izglītības efektivitātes un kvalitātes paaugstināšana***

by Valaine, Sarmite

Riga: Academic Information Centre - National Coordination Point, 2011

<http://www.nki-latvija.lv/wp-content/uploads/2011/10/Valaine.pdf>

***Peer Learning Activity on how the learning outcomes approach, NQFs and quality assurance can best support lifelong learning: summary report***

European Commission

Brussels: European Commission, 2011

[http://www.kslll.net/Documents/Report%20on%20PLA%20Istanbul\\_KSLLL.pdf](http://www.kslll.net/Documents/Report%20on%20PLA%20Istanbul_KSLLL.pdf)

***Peer learning activity on the role of quality assurance in defining, describing and assessing learning outcomes***

European Commission

Brussels: European Commission, 2011

<http://kslll.net/Documents/Helsinki%20PLA%20Report.pdf>

***Rozporządzenie Ministra Nauki i Szkolnictwa Wyższego z dnia 4 listopada 2011 r. w sprawie wzorcowych efektów kształcenia***

Warsaw: MEN, 2011

<http://www.dziennikustaw.gov.pl/DU/2011/s/253/1521>

***Stärkung der Lernergebnisorientierung im Hochschulbereich : Hintergründe, Beispiele und Empfehlungen im Kontext interner und externer Qualitätssicherung. Projekt "Stärkung der Learning-Outcome-Orientierung bei der Curriculumsentwicklung und Akkreditierung im österreichischen FH-Sektor"***

by Luomi-Messerer, Karin; Brandstetter, Genoveva

Vienna: facultas.wuv, 2011

***Empowering teachers to focus on the learner: the role of learning outcomes in curricula***

by Psifidou, Irene  
[unpublished], 2010  
<http://libserver.cedefop.europa.eu/vetelib/2010/75176.pdf>

***Learning outcomes approaches in VET curricula: a comparative analysis of nine European countries***

Cedefop  
Luxembourg: Publications Office, 2010  
[http://www.cedefop.europa.eu/EN/Files/5506\\_en.pdf](http://www.cedefop.europa.eu/EN/Files/5506_en.pdf)

***Leitfaden zur Gestaltung von kompetenzbasierten und lernergebnisorientierten Lehrplänen für Berufsbildende Höhere Schulen (BHS) und Bildungsanstalten (BA).***

Bundeministerium für Unterricht, Kunst und Kultur. BS. Berufsbildende Schulen; Kreiml, Peter et al. (eds.)  
[Vienna]: BM UKK, 2010  
<http://libserver.cedefop.europa.eu/vetelib/2010/73499.pdf>

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