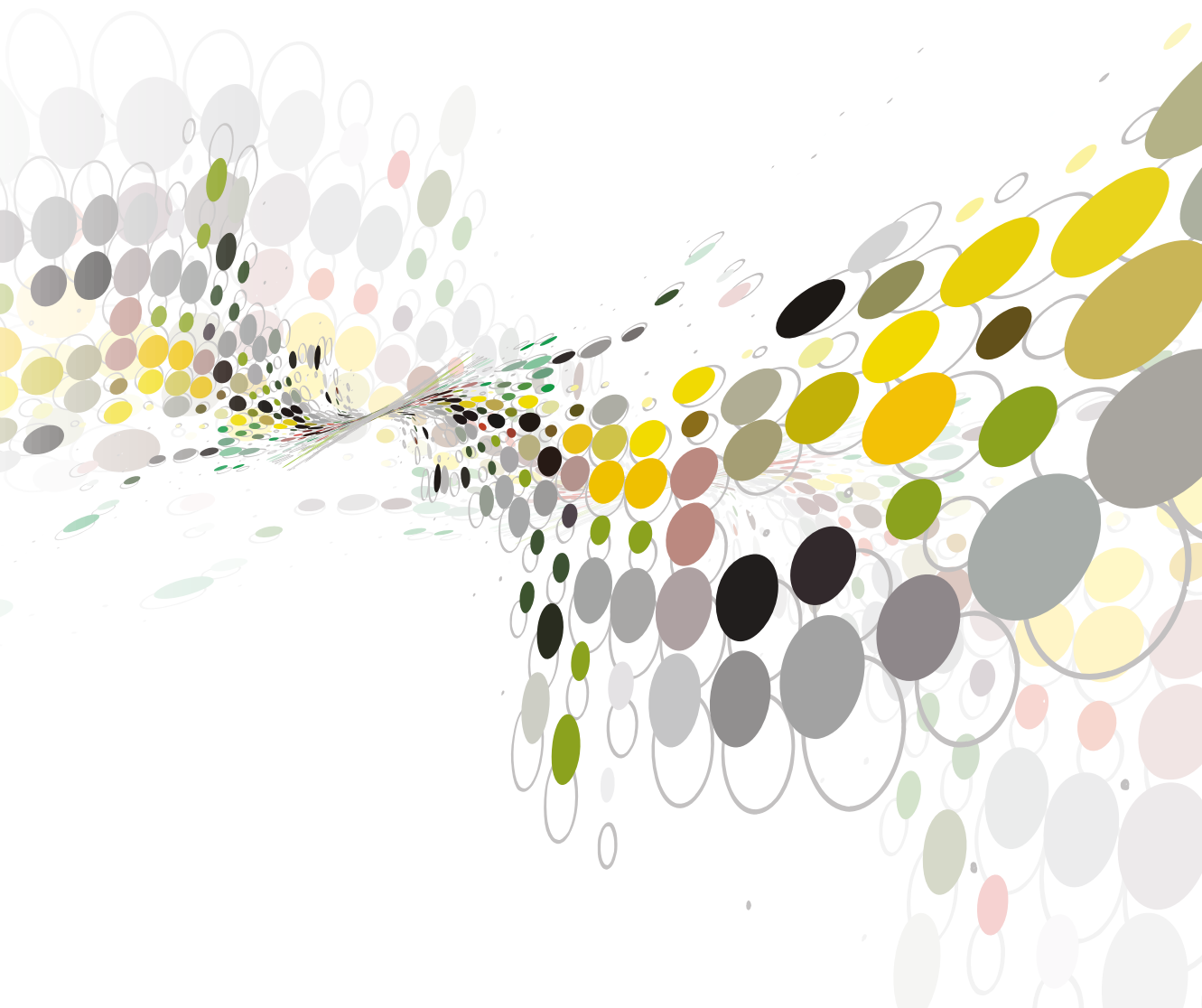


USING LEARNING OUTCOMES

European Qualifications Framework Series: **Note 4**



This publication has been made possible by individuals from many countries and many different institutions:

- members of the Learning Outcomes Group, who, through their various examples of using learning outcomes and active and constructive discussions identified the main issues to be addressed by the Note;
- participants in peer learning activities in Brussels (December 2009), Istanbul (June 2010), and Helsinki (November 2010) as well as the members of the European Qualifications Frameworks Advisory Group, who shared their insights;
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European Qualifications Framework Series: **Note 4**

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Foreword



This note is the fourth in the European Qualification Framework Series which is written for policy makers and experts who are involved at the national and European level in the implementation of the European Qualifications Framework for lifelong learning (EQF).

The EQF aims to increase the transparency of qualifications throughout Europe. It provides a common European translation tool that facilitates the comparison of several thousands of different qualifications issued all over Europe. This European reference framework consists of eight levels that are defined according to so-called ‘learning outcomes’ – that is to say with reference to the knowledge, skills and competences acquired. EU Member States can relate the levels of their national qualifications to the eight common reference levels. Using this tool, stakeholders abroad can make an assessment as to the level of knowledge, skills and competences that a qualification holder has acquired.

The EQF Recommendation requires that the link between the levels of national qualifications and the levels of the EQF is defined based on learning outcomes. Moreover, the Recommendation also insists that individual qualifications should be described and defined in learning outcomes.

The ‘learning outcomes’ approach shifts the emphasis from the duration of learning and the institution where it takes place to the actual learning and the knowledge, skills and competences that have been or should be acquired through the learning process. Despite the fact that it is considered to be relatively new; the ‘learning outcomes’ approach has been applied in various countries, in various sectors and for various purposes.

This note was written in response to the high level of interest in sharing experiences at the European level regarding how the ‘learning outcomes’ approach is used in the implementation of the EQF. It is widely acknowledged that there is not a common approach in using learning outcomes; however, a common understanding of the main concepts and principles would facilitate the implementation of common European tools such as the EQF, ECVET, and ECTS, which are all based on learning outcomes.



1 Introduction

The use of learning outcomes has an impact on a range of education and training practices and policies. The main aim of transforming education provision by emphasising learning outcomes in curricula and qualifications is to enhance learning and to make that learning explicit. When it comes to curricula, the main role of learning outcomes is related to the willingness to actively engage learners in management of their learning process alongside their teachers. If this shift is actually taking place it should be possible to observe an impact of learning outcomes on pedagogy whereby teachers are increasingly adopting a role of learning facilitators alongside delivering instruction.

From a qualifications perspective, using learning outcomes to recognise learning contributes to:

- Better matching of qualifications with labour market expectations.
- Greater openness of education and training systems to recognise learning achievement independent of where it was acquired.
- Enhanced flexibility and accountability of education and training systems which are expected to deliver the defined outcomes whilst enabling greater autonomy in defining the routes to those outcomes.

Learning outcomes need to be written so that they are fit for purpose – for setting occupational and educational standards, for describing single qualifications and curricula, for outlining assessment criteria and for orienting learning and teaching processes.

In this Note the emphasis is on the specific issue of increasing transparency of learning through learning outcomes and the recognition of learning by using learning outcomes^[4]. This increased transparency is expected to benefit the stakeholders within countries as well as to those who need to understand qualifications and systems of a given country from abroad. When using learning outcomes to judge the learning of an individual, the attention is directed towards what a learner knows, understands and is able to do independent of the learning process followed.

The importance of learning outcomes has been repeatedly stressed in policy papers at the European level, where cooperation in education and training has increasingly adopted the learning outcomes approach as a defining principle. All the European instruments and processes currently being developed and implemented, notably European qualifications

[4]

It is intended that this Note should be revised and updated from time to time to keep pace with changes in policy and practice with regard to learning outcomes. In other publications, notably from CEDEFOP, there will be a sharper focus on the use of learning outcomes in terms of curricula and pedagogy.

frameworks and credit transfer systems, are based on this approach. This should not be surprising since learning outcomes are the only common factor in all education and training efforts and mechanisms used to achieve more, better and more equitable lifelong learning.

National qualifications systems are inevitably complex because they have to be based on social and cultural traditions and the institutions of the country. This complexity can make the systems difficult to understand from outside the country, but they can also appear complex for people inside countries as well. Learning outcomes can bring some transparency to systems in terms of the learning individuals are expected to demonstrate. It follows that the interest in learning outcomes at national level is also high and whilst reflecting European level policy, the national interests tend to focus on:

- The need for education and training to be based on explicit standards defined jointly with stakeholders representing the interests of the society, labour markets as well as individuals. This illustrates that transparency of learning is not only about making it easier to 'read' qualifications, systems and institutions, but it is also about having a common language for a dialogue about the objectives of education and training. This in turn leads to a better understanding of learning.

- The desire to create transparency of qualifications and learning pathways for individual learners and for employers as well as creating flexibility in terms of organisation of learning.
- The willingness to set up clear expectations that education and training institutions are to meet based on national/regional or sectoral standards.
- The improvement of quality assurance processes linked to education and qualifications systems.

The development of national qualifications frameworks with descriptors based on learning outcomes, is a step towards making qualifications and levels of learning (that are often implicit) explicit for all users. Many countries have had at least part of education and training systems based on learning outcomes for some years. However, the move towards use of learning outcomes in all parts of education and training has intensified over the last few years and remains a challenge for most countries.

The need for this Note

Discussions at European level (the European Qualifications Framework Advisory Group and its sub groups) have suggested that this European level Note is potentially useful. This is based on a high level of interest in learning outcomes development and the objectives that countries share when it comes to the development of the European Qualifications Frame-



work (EQF) and national qualifications frameworks (NQF), European Credit system for Vocational Education and Training (ECVET) and the capacity of systems to validate and recognise non-formal and informal learning.

The European and national level discussions have also highlighted the need for some common ground with respect to learning outcomes so that European level tools (EQF, ECVET, the developing taxonomies of knowledge, skills and competences) can function efficiently. This does not imply that there should be a common approach to defining and using learning outcomes across countries. As explained above, such a restrictive approach would not account for important differences in the ways in which learning can be described within national systems.

This Note is directed at national policymakers (and their advisers) in the fields of education, training, qualifications and labour market analysis. It is also relevant for those with an interest in counselling services for learners, workers and job seekers. European level experts in these areas as well as those implementing or using the European instruments based on learning outcomes (EQF, ECVET, or others) could also find the Note useful.

The three sections of this Note that follow this introduction aim to support peer learning, decision-making and strategic planning related to the use of learning outcomes. The sections are:

Section 2: What are learning outcomes?

Section 3: Use of learning outcomes in different settings

Section 4: Shifting towards a policy to introduce learning outcomes

This Note is a step towards offering European level support for learning outcome development. As the implications of current fast-moving developments become clearer there may be a need for a more detailed publication in the future. The experience of using learning outcomes in curricula and pedagogies is a particular focus that may benefit from a more detailed examination than is possible in this first version of the Note.

Limitations of using learning outcomes

The use of learning outcomes is well supported by arguments from policy and practice. It is arguably one of the strong and common policy trends across Europe. However, it is just one method for defining the expectations of learning. The necessary efforts of education and training professionals to deliver high quality learning programmes are another way of looking at these expectations. These teachers and trainers take it as their task to use their knowledge and experience to interpret standards and broad aims to create the right environment for the development of competent people. It can be argued that learning outcomes alone cannot fully capture the qualities of the learner and of the learning process delivered through programmes.

While the strength of using learning outcomes to describe a qualification is that they specify a standard for what should (as a minimum) be achieved as a result of learning, the weakness may be that this approach is not geared towards the development of explorative and experimental teaching and training programmes that attempt to produce very diverse learning according to the diversity of learners.

Later in this Note it is argued that the way in which learning outcomes are expected to be used, affects the way in which they are formulated. Learning outcomes are shaped by authorities on the basis of their understanding of the purposes of a qualification. For example, if employers are strongly involved in the formulation of learning outcomes, the qualification descriptors will tend to emphasise tangible skills, whereas learning outcomes formulated by parties with a strong connection with universities will probably tend to emphasise the role of reflective practice.

The use of learning outcomes responds to the needs or interests of some stakeholders, such as the labour market stakeholders for example, because they describe competences in a way that is relevant for the workplace. However, other stakeholders, or the broader society, may have interest in the more tacit and non-codifiable aspects of learning which are difficult to capture in the rather functional approach to education and training that are described only in

terms of learning outcome statements. Therefore, it is important to note that the two approaches (outcomes and inputs) can be combined, for example:

- Programme and teaching specifications can be supplemented with outcome information (as in the Bologna process).
- Competence based qualifications can be structured around inputs (such as the duration of apprenticeship training).
- Assessment/evaluation methods can use both inputs (completion of programmes) and outcomes (objective/external assessments).
- Recruitment and selection practices can use both input and outcome information.

Thus it is the case that whilst learning outcomes may bring transparency to education, training and qualifications, they do not replace considerations on what are the most accurate inputs to the learning process. Therefore, they complement and enhance what currently exists in education and training systems.

Technical and social purposes of learning outcomes

In the broadest sense, the use of learning outcomes has a technical purpose, for example, to make existing standards (expectations in terms of knowledge, skills and wider competence) clearer than is currently the case. This can facilitate the involvement and feedback of labour market stakeholders regarding the relevance



.....

[2] See the following: Kolb and experiential reflection – Kolb, David A. 1984. *Experiential Learning: Experience as the Source of Learning and Development*. Prentice-Hall, Inc., Englewood Cliffs, New Jersey; and constructivist theories first introduced by Vygotsky (zones of proximal development) – Vygotsky, L.S. (1978). *Mind and society: The development of higher mental processes*. Cambridge, MA: Harvard University Press.

[3] The best known is Bloom's taxonomy which describes levels of learning objectives – see Lorin W. Anderson, David R. Krathwohl, Peter W. Airasian, Kathleen A. Cruikshank, Richard E. Mayer, Paul R. Pintrich, James Raths and Merlin C. Wittrock (2001) *A Taxonomy for Learning, Teaching, and Assessing – A Revision of Bloom's Taxonomy of Educational Objectives*, Addison Wesley Longman.

[4] For example functional analysis of jobs within occupations – see B. Mansfield; L. Mitchell (1996) *Towards a Competent Workforce*, Hampshire, Gower.

[5] Lave, J., & Wenger, E. (1998) *Communities of Practice: Learning, Meaning, and Identity* Cambridge University Press.

[6] See for example the development of reference qualification levels to enable zones of trust – Coles, Mike and Oates, Tim (2004) *European reference levels for education and training. An important parameter for promoting credit transfer and mutual trust*, Cedefop, Thessaloniki.

of the qualifications standards for the labour market. These social partners, who are not necessarily experts in education and training processes and pedagogy, have a better understanding of what to expect from a graduate when the qualification is expressed in terms of learning outcomes. It can also enable the assessment process to become more fit for purpose.

Additionally the shift to learning outcomes can have a social and political purpose in that they make the education and training system (including qualifications) more transparent to all users and in that sense can shift the balance of influence over the way the system operates (for example it can contribute to an accountability system). Part of this social purpose is to open up the qualifications systems and enable the development of the recognition of learning in ways other than through formal instruction. Use of learning outcomes is also likely to enable learners to be clearer about expectations they are to meet, encourage them to take initiative in learning and be more responsible for managing their learning.

Theoretical basis

The move to a more explicit, outcomes-based expression of learning is supported by many theoretical positions. There is widespread theoretical support for teaching and learning methods that enable individuals to reflect on their learning needs and their preferred learning process^[2]. The use of learning

outcomes is supported by these theories. The various taxonomies of learning that exist^[3] are based on a hierarchy of conceptual stages of learning processes that learning outcomes can be used to describe. In the world of employment, the processes to define occupational standards^[4] are based on making explicit the components of a professional activity and these look very similar to expected learning outcomes. The theory of communities of practice^[5] requires a 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 statements (such as learning outcomes) of what is expected of the workers/learners. The development of 'zones of trust'^[6] can exist without learning outcomes and may be stronger for the hidden agreements they can embody, however their growth and expansion will always be dependent on widely accepted explicit standards.

The current situation

Learning outcomes are increasingly the basis of occupational and educational standards, curricula, assessment criteria, qualifications descriptors and level descriptors in national qualifications frameworks (NQFs). In each of these instruments, learning outcomes are defined in different level of detail and they serve a number of purposes (for example: setting the expectations about the capacities of a person having completed a qualification; guiding the teaching process; guiding the assess-



ment process)^[7]. Consequently, the formulation as well as the process leading to this formulation may differ according to the function for which the learning outcomes statement is designed.

The expectations raised by the learning outcomes approach are higher than ever. Many see the shift towards learning outcomes as:

- An opportunity to tailor education and training to individual needs (to promote ‘active learning’).

- A way of reducing barriers to lifelong learning.
- A way to increase the accountability of education and training institutions and systems.
- A common language enabling a better dialogue between education and labour market stakeholders.

The scope of the shift to learning outcomes in different segments of education and training were summarised in a Cedefop report^[8] as shown in Box 1.

Box 1: The shift to learning outcomes: what is happening in practice?

General education

Increasingly, competence-based approaches and learning outcomes are being introduced as a guiding mechanism to inform general education reforms. The emphasis is on defining key competences and learning outcomes to shape the learner’s experience, rather than giving primacy to the content of the subjects that make up the curriculum. Learning outcomes are being used in a range of countries to point the way to modernising schooling systems, thus acting as a renewing and reforming influence at different levels – governance, systemic reform, curriculum, pedagogy and assessment.

Vocational education and training (VET)

In most countries VET seems to play an ‘avant-garde’ role with respect to the introduction of learning outcomes. The drive to redefine VET qualifications and curricula using learning outcomes has been most clearly seen in some countries since the 1980s. This may be explained by the goal ascribed to VET, preparing learners for an immediate transition into the labour market. Programmes of study and the mix of school-based and work-based learning are now focused more and more on the learning outcomes called for in working life. However, recent curriculum reforms in Member States show how the conceptualisation of learning outcomes is broadening and moving to a more holistic understanding and definition based on constructivist theories of learning.

[7]

A recent Cedefop study on VET curricula has shown that learning outcomes at the level of curricula and learning programmes can have two main functions: a regulatory one and a didactic one. In a regulatory function, curricula are instruments to ensure the same high standard of quality in training provision across a territory – learning outcomes, in this case, have to provide a sound basis for assessment; they must be measurable. In a didactic function, curricula offer a framework for steering the teaching and learning process – in this case, learning outcomes can be formulated in a broad way, including competences which are not measurable; they reflect the values and the roles to which learners are prepared through education and training.

[8]

Cedefop (2008) *The Shift to Learning Outcomes; Policies and Practices in Europe*.



Post-compulsory general education

Across Europe, the post-compulsory phase of general education is the part of the education system that has been least influenced by reforming ideas about learning outcomes. This is largely because while upper secondary general education has an educative function, it can be overshadowed by the selective function. A consequence is that general upper secondary education remains closely tied in many – though not all cases – to detailed curriculum or syllabus requirements, often assessed by terminal written examination that mainly assesses the knowledge (and intellectual skills) aspects of learning outcomes. If learning outcomes begin to have a formative impact on university curricula and pedagogies, this may in due course have a consequential effect on the curriculum, pedagogy and assessment in upper secondary general education.

Higher education

Learning outcomes also have an increasingly prominent role in higher education. The evidence is that the learning outcomes approach, on which there is broad agreement at the European policy level and often at policy level in Member States, is being adopted more slowly at the level of higher education institutions. Even if progress is slow, the learning outcomes perspective may point towards a major shift in the reform of higher education teaching and learning in the longer term.

.....
Source: Cedefop (2008) *The Shift to Learning Outcomes; Policies and Practices in Europe*

The above mentioned Cedefop study also informs us that:

- Learning outcomes are prominent in the development of national qualification frameworks in Europe. Here, the identification of learning outcomes can provide the organising factor to make explicit the achievements of a wide range of learners, irrespective of the types, modes, or duration of learning and training undertaken.
- Growing priority is being given to recognising informal and non-formal learning in a considerable number (but by no means all) of European education and training systems. This is supported both by the increasing use of learning outcomes and attempts to make qualification systems more coherent and understandable.
- It might be expected that learning outcomes will have an impact on assessment methods. However, the evidence suggests that learning outcomes currently have a limited impact on the ways in which learning is assessed.
- Learning outcomes are used as one way of driving efficiencies and

permitting a move away from time-based programmes and education systems. Efficiencies could include exemptions from instruction in parts of programmes, and increased institutional accountability based on outputs (defined as learning outcomes) of educational processes.

What evidence do we have that learning outcomes have an effect?

It is extremely difficult to identify precisely and unambiguously the effect of a change from the use of *implicit expectations of learning* (possibly based on the duration of a programme, the learning institution and the teaching specifications) to the use of *explicit statements of learning outcomes*. The number of variables, contextual complexity and other ‘interfering’ factors will diffuse any potentially useful conclusions that might be expected. For example, the role of ‘professional cultures’ in developing and sustaining expectations (informally and formally) of learning is also very effective. Objective evidence of success is hence limited to the professional judgements of experts, policymakers, politicians, social partners, institution managers, etc. There are some research-based reports^[9] that help to inform us about the effects of learning outcomes – notably the various Cedefop studies and Bologna implementation reports^[10] and a series of evaluations conducted nationally that shed indirect evidence of the effects of learning outcomes. For example,

a Cedefop study on curricula^[11] points to the increasing use of active methods of learning and more learner centred approaches are supported by the shift to learning outcomes.

One source of evidence about the impact of information about learning outcomes use, is the way the results of the OECD Programme of International Student Assessment (PISA) affect policy-making. It is common across European countries for negative results in the PISA to trigger policies in view of improving learning outcomes. The PISA showed that despite the highly sophisticated education and training systems (based on inputs), the learning outcomes vary greatly and in some areas are diminishing.

It would be useful in the future, if evaluation plans were put in place in European, national and (employment) sector settings to make empirical evidence available for policymakers. The move towards learning outcomes is hardly ever challenged in policy discourses (although there is vigorous debate in academic literature), but there are concerns that the learning outcomes perspective can easily be limited to discussions and fail to grow to have an effect on education, training and learning practice. Some stakeholders go further stating that uncritical use of the learning outcomes perspective may prove harmful in that it represents a distraction from other important education policies.



[9] For information on the studies that inform about impact see Section 4.

[10] The country reports about the implementation of the Bologna process can be found here: <http://www.ehea.info/article-details.aspx?ArticleId=86>

[11] Cedefop (2010) *Learning outcomes approaches in VET curricula* <http://www.cedefop.europa.eu/EN/publications/16433.aspx>

2 What are learning outcomes?

Learning outcomes have been defined as a statement of what a learner is expected to know, understand, or be able to do at the end of a learning process. This simple understanding of learning outcomes can become more complex as questions are asked about, for example, whether the learning context matters, and if it does, how should it be described so that it is clear. This definition, that is simple at first sight, can also become complex when considering the level of detail that should be used to write learning outcomes. In other words, when considering how learning outcomes should be written so as to be useful, too detailed descriptions can be confusing, but too general statements may become meaningless. In other words, a key consideration, perhaps the most important consideration of all, is how to write learning outcomes that are fit for purpose.

Another area of confusion for some people is the relationship between learning outcomes and competence. Some people prefer to use the term competence-based qualifications when referring to qualifications that are described in terms of learning outcomes. The concept of competence has wide application in defining performance and certainly in vocational education and training

it is a critically important concept. Competence-based qualifications take into account the influence of the learning (or working) context when learning outcomes are defined and assessed. This 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 are fundamentally a statement 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, i.e. the economists' approach. 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 example, those defining curricula in general education. 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.

This distinction between learning outcomes and competence is made clear in the EQF Recommendation ^[12]. Here learning outcomes are defined as statements 'of what a learner knows, understands and is able to do on completion of a learning process...' whereas 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...'. Competences are therefore closer to characteristics of a person that are shown in action.

Learning outcomes have been classified into various categories in different settings. The EQF classifies learning outcomes into knowledge (facts, principles and concepts), skills (cognitive and practical) and competences (such as ability to take responsibility and show autonomy). In some settings the EQF categories are subdivided further. For example, competence is divided into personal and social competences and in another case: context, role, learning to learn and insight.

With all these caveats and variations the simplicity of the basic definition is soon lost and there is no single agreed way of approaching learning outcomes. A great deal depends on

the context for their use. With this in mind, in Section 3 (below) the use of learning outcomes is examined in defining the content of the curriculum, occupational standards/profiles, assessment specifications, qualifications specifications and finally qualifications frameworks descriptors.

Questions and answers

Having described the background to learning outcomes it may be useful to respond to the questions that are often asked about learning outcomes in order to help understand and provide the basis for deeper discussion. For example, an attempt to answer the question: *What is the difference between learning outcomes and competence?* has been given above. Other recurrent questions are tackled below.

Q. Is using learning outcomes a new idea?

A. No. Expectations of students and workers have been defined in this way for many years and in some countries education sub-systems, business sectors and companies have pioneered the use of a more outcome-oriented approach to learning and working. Although in the VET area, learning outcomes approaches have evolved to a broader and more holistic understanding than previously. The new impetus to move towards learning outcomes possibly derives from the wish for more transparency in education, work practices, training and

.....
[12]
Recommendation of the European Parliament and of the Council on the establishment of the European Qualifications Framework for lifelong learning
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:111:0001:0007:EN:PDF>

qualifications and the wish to build bridges between these areas. European level activities to make a single European labour market and increase international worker mobility, have also been catalysts to greater use of learning outcomes.

Q. Can all learning be written as learning outcomes?

A. Most learning can be described in terms of expected outcomes, however there are some difficulties. For example, if the goal of a school is to allow children to mature into good citizens, how can the learning necessary for this be specified? Education and learning can take many forms and routes and some are impossible to predict. There is a general expectation that learning outcomes should be measurable (i.e. Has a learner demonstrated the outcome or not?). Some learning outcomes are not measurable and therefore cannot be reported objectively. For example, it is possible to state that a learning outcome will be for a worker to be able to handle a specific emergency. However, how is it possible to be objective about the competence of a worker when an emergency can only be simulated in a learning situation? If the worker 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 competence are difficult to write as (measurable) learning outcomes and in particular tacit knowledge, highly contextualised knowledge, skills and competence.

Q. What is the difference between learning objectives and learning outcomes?

A. There doesn't need to be a difference. Objectives can be written as outcomes. For example, to *learn the necessary conditions for horticulture of roses from plant samples* can be expressed as *be able to use plant samples to produce roses in a range of conditions*. Both can be amplified with specific skills to be learned. However, it is usually the case that the learning objectives are written for teachers and learning outcomes are more easily understood by learners as well as teachers. Learning outcomes are expressed in a way that as the name suggests, is a manifestation of learning, whereas learning objectives are written as a guide to the teaching programme that might, or might not, lead to the desired learning.

Objective – The objective of the module is to review disciplinary issues in the primary school classroom. We will consider the sources of difficult behaviour and strategies for discipline and control.

Learning outcome – At the end of the module the learner is expected to be able to explain the more common reasons for difficult behaviour in primary school children in class situations, indicating standard techniques for ameliorating this behaviour.



Q. Is there a specific balance point to be struck between using learning outcomes and using input measures?

A. There is no fixed point. The scale of the use of each depends on the context. In a work/training situation, where the objective is to develop one's competence, it could be expected that learning outcomes will dominate the way the curriculum is expressed. However, in a situation where a person is being trained to enter a leading edge community of practice, such as in advanced chemistry research, the learning expected might be expressed as periods of involvement with the work of world-class experts.

Q. Are there specific parts of the education and training system that have already adopted the learning outcomes approach?

A. Vocational education and training, with its strong affinity with competence, has generally adopted a learning outcomes approach. This is not surprising since the focus on competence is strong in vocational training in colleges and in work places. The evidence from the Cedefop (2008) study on learning outcomes makes it clear that developments are continuing in all countries to refine the learning outcomes approach so that education and training better reflect the needs of the labour market.

Q. Are there education sectors that have difficulties in the use of learning outcomes?

A. No. However in general schooling (initial education) the outcomes are expected to cover the learning and maturation over 10 or more years. The amount, complexity and implications of the knowledge, skills and competences acquired through these 10 years makes the task of describing the qualification in terms of learning outcomes a very difficult one. However, lessons from the Nordic countries show the possibilities in this area. If learning outcomes are written as an attempt to cover learning over the whole period of schooling they will appear as general statements and hence perhaps not very useful. If, on the other hand, attempts are made to record the learning from every subject, all experiences and every year of schooling, the learning outcomes description may become a detailed catalogue of specific learning, that will not convey a general statement of learning in a school career.

Q. Should learning outcomes be written as minimum 'threshold' statements of learning or what a 'best' or 'average' student might be expected to achieve?

A. Learning outcomes are independent of these considerations. They certainly do not relate to the learning of individual students. However, the assessment of an individual's learning of a specific learning outcome

might be judged by means of a set of assessment criteria^[13]. These are written to be measurable through assessment. If one of these assessment criteria is not met, a decision needs to be made about whether the learning outcome itself has been demonstrated. It is the evidence for the assessment criteria (taken together) that may be threshold, average or best.

Q. How are learning outcomes and teaching and learning assessments related to each other?

A. Learning outcomes can be understood as a kind of common reference for teaching, learning and assessment. An appropriate teaching and learning strategy enables learners to achieve learning outcomes. An appropriate assessment method is used to check if the learning outcomes have been achieved. The alignment between learning outcomes, teaching, learning and assessment helps to make the overall learning experience more coherent, transparent and meaningful for learners.

Q. Are there any potential disadvantages of the learning outcomes approach?

A. The most serious argument is that learning outcomes cannot possibly describe all the learning that is achieved during a learning programme. Learning outcomes can reduce a professionally constructed, flexible and sensitive (to individuals

and other needs) learning experience to a series of statements. Sometimes disadvantages are not caused by the learning outcomes approach itself, but by the way it is designed and implemented. For example, when they are used for a too detailed regulation of teaching and learning which actually limits learning. The curriculum could become rather assessment-driven if learning outcomes are too confined; or when learning outcomes are just used as statements describing programmes/modules without changing practice; or when learning outcomes are poorly written; they can lead to confusion among learners and teachers.

Q. Are there any rules/recommendations about how to write learning outcomes?

A. Yes. Many learning providers have agreed to use a common set of rules for writing learning outcomes. Sometimes these are set out in manuals that cover all the common issues that arise when a programme is translated into learning outcomes. One example of such a set of rules, is summarised in the Bologna handbook^[14]. Another example is from Spain where all learning outcomes in the VET curricula have the following characteristics:

- They are ‘achievements’, clearly identifiable (written in the infinitive).
- They must be achievable within the training environment.
- They are feasible for students.

.....

[13] Assessment criteria are based on learning outcomes statements. Typically the assessment criteria will contain more detail about the context in which the learner is expected to be able to do something or the level of autonomy expected. Clearly one could decide to write learning outcomes with a lot of detail and these could then serve directly the purpose of assessment, however this would make the learning outcomes statements extended and complex and thus negatively impacting the transparency of these statements.

[14] See Learning Outcomes and Competences, Section 3.4-1, Kennedy, Hyland and Ryan (2006).

- They must have an observable behaviour.
- They have to be measurable.
- As a consequence of 3, 4 and 5, they can be assessed.
- They establish an educational level and are related to a specific national skill and competence level.

A manual to write learning outcomes is available and it allows those who write learning outcomes for defining qualifications to fulfil the seven characteristics above. This provides coherence to the way learning outcomes are defined across a system or a sub-system.

Q. How are learning outcomes related to quality assurance?

A. Quality assurance processes are more transparent and therefore more effective if they are based on learning outcomes. For example, in the institutional review process for Irish universities^[15], learning outcomes are explicitly part of the self-assessment, site visit and reporting process:

... all courses and each study programme must have learning outcomes defined in accordance with agreed criteria and standards... and how the learning outcomes are achieved for programmes that have been placed in the National Framework of Qualifications (including, for example, internal review and external examiner processes).



[15]

See The Irish Universities Quality Board (2009) *Institutional Review of Irish Universities Handbook* <http://www.iuqb.ie/info/iriu.aspx>

3 Learning outcomes in different settings

Learning is defined in terms of its outcomes in different contexts and for different purposes. For example, in the:

- Educational context: learning outcomes are expressed in curricula, modules, course descriptions, educational standards, qualifications and assessment standards.
- Work context: they are embedded in occupational standards and profiles, job profiles, job advertisements, performance measurement/appraisal systems, and recruiting systems.
- Guidance context: information about learning outcomes is present in educational guidance systems and occupational and job information.
- Personal context: people communicate about learning outcomes through curriculum vitae or personal competence profiles.

Comparing descriptions of qualifications across Europe, it is clear that there is a diversity of approaches regarding sources, degree of detail, form and structure. It is possible to observe on the one hand, simple tables structuring learning outcomes in knowledge, skills and competence and on the other hand, a compendium of 100 pages describing a single qualification. Differences exist not only across countries, but also across

areas of education and institutions in countries. This is not surprising when considering the different purposes (e.g. roles, functions), audiences (e.g. learners, teachers) and authors (e.g. teachers, authorities) of these qualification descriptions.

The sections below discuss some of the issues around writing learning outcomes for these different purposes as follows:

- Occupational and educational standards (see Section 3.1).
- Curricula/programme descriptions (see Section 3.2).
- Assessment specifications (see Section 3.3).
- Qualification descriptors (see Section 3.4).
- National qualifications frameworks (see Section 3.5).
- Uses of learning outcomes for purposes other than teaching and assessing (see Section 3.6).

As stated earlier, the key attribute of a learning outcome is that it is expressed in a level of detail that makes it fit for purpose. The following sections show clearly the effect of the context, for which the description is being made, on the style of expressing learning outcomes. More examples of the application of learning outcomes

Summary of the purposes of learning outcomes

Where learning outcomes can be found	Purpose of learning outcomes in this document
Occupational standards	To define the tasks and expectations of a given occupation. To serve as a basis for defining work practices, continuing training, recruitment, performance appraisal systems, but also social dialogue. Occupational standards can also be used to define VET qualifications.
Curricula	To define the expectations of each learning activity. To guide teachers in the teaching process, choice of methods, etc. To inform learners about what they are expected to be able to do/know after a given learning activity.
Assessment criteria/specifications	To define what is to be assessed and ensure that the learning outcomes (for a qualification or learning activity/module) are met. To enable homogeneity in judging learners performance.
Qualifications	To define the overall expectations of a person holding the qualification. To inform employers when recruiting a person with a given qualification. To inform learners at the orientation stage (choosing a pathway) and consequently also to be used by guidance staff. To manage the qualifications system (for example, identify areas where qualifications are missing).
Qualifications frameworks	To define the levels of learning in a country and to classify different types and forms of qualifications in the framework according to these levels. Also, to improve transnational understanding of qualifications levels in a country.



in different contexts will be included in future updates of this Note.

Occupational standards

Occupational standards are produced by several methods^[16] and help to define an occupation, job or task. They describe the competences that are essential in the work setting and

so are almost always written as outcomes. They usually specify the professional tasks and activities the holder of a qualification is supposed to be able to carry out and the competences needed for that purpose. Of course, for a person to demonstrate these competences they have to learn them and therefore occupational standards are often used as the basis

[16]

See Erpenbeck, J. and L. von Rosenstiel (2003) *Handbuch Kompetenzmessung*.



of defining learning outcomes, learning programmes and training profiles (see the following section below). However, occupational standards stand separately from training requirements in many countries so that:

- No specific route to the learning of competences is defined or favoured.
- The standards themselves can be updated easily by social partners.
- Teachers and trainers remain free to demonstrate their pedagogical skills.

An extract from a Lithuanian research report ^[47] on the development of occupational standards establishes that the

key role of occupational standards is to serve as a link between education and training and the needs of the labour market. The report asserts that the main criteria of the quality of occupational standards are their correspondence to the real situation in the work place and their correspondence to the expectations of the educational system so that there are long-term guidelines for training programmes.

Occupational standards can be considered to be a description of the basis of learning outcomes for training and learning at work. Some examples are provided below to illustrate this point.

.....

Example of a standard from the functions of an executive assistant

An executive assistant:

- A) Organises and follows in operational terms the activities and projects of an executive or of a team.
 1. Organises and coordinates everyday activities of a team:
Maintaining up to date complex and shared agendas, organising travel and meetings.
 2. Prepare, coordinate and follow projects and activities:
Planning, controlling, alerting and evaluating.
 - B) Managing treatment, organisation and sharing of information.
 1. Ensure search for, synthesis and dissemination of information:
 - *Surveys, preparing documentation, synthesis, press review, dissemination of information, etc.*
 2. Organise archiving, traceability and accessibility of documents:
 - *Procedures for archiving, classification, etc.*
-

.....

^[47] Lithuanian Institute of Labour and Social Research (2007) *The Methodologies of the National Occupational Standard*, Vilnius.

The standard shows ten competences (only four are shown above) which may be translated into learning outcomes that together are believed

to enable an executive assistant to support executive staff members and teams. The standard says nothing about the training necessary to

achieve these outcomes. However, in another part of the document describing this occupational standard, some knowledge and understanding is described. For example, the person performing the standard would need to know, *inter alia*, about:

- Using electronic agendas and their functionalities.
- Using planning tools.
- Using information and communications technology (ICT).
- Searching for information, identifying relevant information and synthesising information.
- Classification and archiving techniques as well as rules.
- Designing questionnaires.
- Etc.

It might be concluded that these separate knowledge and understanding requirements would form a part of a training programme.

In occupational standards the context in which these standards are to be performed, is specified in some detail, therefore they can be regarded as competences. It is in this setting that learning outcomes and competences are close in meaning.

The occupational standards are used for many purposes beyond forming the basis of training curricula and qualifications. They are tools for companies to use in defining the company structure, work practices, worker appraisal and training needs, etc. For this reason, the definition of occupational

standards is usually best constructed by social partners.

Curricula and training programmes

Curricula are statements of intentions: learning outcomes in curricula can define overall goals, specific outcomes of a learning programme or specific outcomes of a module. They can be written by and for teachers and institution managers and use the language of pedagogic experts and subject disciplines or the language of the learner. Learning outcomes tend to be associated with the latter and they explain to a potential learner what they are expected to know, understand and be able to do at the end of the programme (or module).

There is a clear difference in the level of detail included in learning outcomes when they are applied to whole programmes of learning (when learning outcomes are broad) and modules (when learning outcomes are specific). Programme level learning outcomes are statements of what learners are expected to know and be able to do at the end of the whole programme and are therefore written in a broad overarching way that takes account of all of the learning outcomes that are associated with elements or modules within the programme. These broad programme level descriptions are sometimes called qualification profiles (see Section 3d below). It is possible to go deeper to another layer of detail and learning outcomes can be written for a part of a module, possibly a part



that is assessed in which case they might be called assessment criteria (see Section 3c below).

Learning outcomes in curricula usually begin with the phrase:

...The learner is (or will be) able to...

This phrase is followed by an action verb so that students are able to demonstrate what they have learned. Words such as 'know' or 'understand' do not help with this demonstration of learning and are therefore usually avoided because it is not clear to the learner the level of understanding or amount of knowledge required.

Different verbs can be used to demonstrate different levels of learning (for example, regarding demand, complexity, depth of study or autonomy). At a basic level the learning outcomes may require learners to be able to define, recall, list, describe, explain or discuss. For a more advanced programme the learners may be expected to be able to formulate, appraise, evaluate, estimate or construct. The verb will usually be followed by words indicating on *what* or *with what* the learner is acting and the nature or context of the performance required as evidence that the learning was achieved. These additional words also indicate the level of learning achieved.

.....

Example of learning outcomes used in a module concerned with teaching in higher education

On successful completion of the module, students will be able to:

- *Identify a wide variety of learning and teaching methods that may be employed effectively in higher education.*
- *Discuss the theories of learning that underpin their teaching approach.*
- *Explain the role of accounting information in organisations.*
- *Identify effective on-line marketing strategies and incorporate them into a marketing plan.*
- *Identify and critically evaluate the strategic options available to enterprises.*
- *Design an interactive website for use by undergraduates.*
- *Apply theory critically to analyse professional experience.*
- *Analyse key managerial issues in a particular industry or company and propose appropriate managerial solutions to the situation.*
- *Outline a personal critical philosophy of curriculum development.*
- *Derive a relationship between the period of oscillation and the spring constant for an oscillating spring.*
- *Work as part of a team in analysing consumer issues in a commercial or non-commercial context.*
- *Develop effective and efficient self-directed study skills.*
- *Evaluate the impact of their clinical intervention in a case.*

Another example below shows the learning outcomes of a level 2 unit in cold food preparation (part of the Maltese Craft Certificate in Food Preparation and Production).

.....

Example of learning outcomes of a level 2 unit in cold food preparation

At the end of the course the learner will be able to:

- *Know and understand about the production of agricultural products which adhere to organic farming principles and regulatory and advisory frameworks.*
 - *Communicate to peers and consumers the importance of maintaining a healthy soil as the basis of organic production.*
 - *Apply judgmental skills to assess the degraded soil and use qualitative and quantitative measures to restore it.*
 - *Produce organic crops according to a quality controlled and productive mechanism.*
 - *Produce organic livestock according to a quality controlled and productive mechanism.*
 - *Be responsible for the production of crops and livestock, and the maintenance and restoration of degraded soil according to the principles of organic farming and regulatory and advisory frameworks.*
 - *Make a personal assessment of whether one shall proceed to further learning.*
-

The following example is from a high level module (EQF level 7/8) about managing teams in the construction industry and is written in a slightly different way that addresses the learner directly.

.....

Example from a 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.*
- *You will 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.*
- *You will have an active knowledge of the recruitment and the retention of employees.*
- *You will confirm the work required in your area and ensure that the work is allocated to the appropriate individuals.*





- *You will 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.*
 - *You will 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.*
 - *You will produce evidence to show that you have monitored and reviewed the effectiveness of working relationships.*
-

In the next example (at EQF level 6) three types of learning outcomes are defined.

.....

Knowledge

On successful completion of this programme the graduate will:

- *Have detailed knowledge and understanding of a wide range of business disciplines and the manner in which these are combined in the overall process of business management.*
- *Have a good understanding of mathematics, statistics and their applications.*

Know-How and Skill

On successful completion of this programme the graduate will:

- *Be able to analyse business problems and propose solutions.*
- *Be able to confidently engage in and successfully resolve building services engineering projects in both the technical and managerial aspects and communicate effectively their resolution.*

Competence

On successful completion of this programme the graduate will:

- *Have an appreciation of the necessity of national and global sustainable development.*
 - *Be able to apply concepts and skills learnt in a variety of contexts.*
 - *Be able to research management issues and solutions to issues.*
 - *Appreciate the importance of professional development and of the resources available to keep up to date with new developments in business management.*
 - *Be able to work independently.*
 - *Be able to work effectively in a team.*
 - *Be able to take responsibility for his/her own learning.*
 - *Be able to learn from experiences gained in different contexts.*
 - *Have insights into the dynamics of the management function in the business world.*
 - *Demonstrate the ability to comprehend multiple perspectives.*
-

Key points

However the learning outcomes are expressed in modules, they need to be contributing clearly to the broader learning described in the outcomes of a whole programme. The learning outcomes in some modules might be expected to contribute to several programme outcomes.

The examples show that learning outcomes statements need to be unambiguous and specific. Complicated sentences will hinder the understanding of learners, teachers and assessors. Learning outcomes must also be realistic and achievable in the time allocated to a module or programme. This means that appropriate teaching and learning methods must be applied. Learning outcomes must be capable of being assessed (through the use of assessment criteria and assessment methods) and open to the possibility of being demonstrated by learners that have not participated in a specific learning programme. When writing learning outcomes a key consideration is how the achievement of the learning outcome will manifest itself, how can this be observed or how the student can demonstrate their learning.

Teachers (and also learners) have the tendency to concentrate on what is assessed. Learning outcomes can therefore influence teaching through assessment. It is unclear to what extent learners will pay attention to learning outcomes that are defined but not assessed.

Formative assessment is sometimes called assessment for learning and learning outcomes can play an important role in this process. This type of assessment is intended to enable the learner to reflect on their weakness and strengths in relation to what is expected of them. Learning outcomes are the most important statement about what is expected and therefore they should be clear to learners. This clarity also helps teachers as they provide feedback and guidance to learners on the learning challenges ahead of them.

Designing a programme using learning outcomes needs to be an iterative process. One usually starts with formulating the aims/objectives and provisional learning outcomes. When thinking through the whole programme and reflecting the learning outcomes of different modules together, the preliminary learning outcomes might be changed. Again, when specifying the assessment criteria, the expression of the learning outcomes might change again.

In some countries which are currently reforming their systems in view of a more learning outcomes based approach and where the already existing programmes are being reviewed, the approach may be somewhat different as the point of departure is often the already existing programme. For example, in Denmark, the following iterative process was used.

- The occupational standards (in most cases implicit) or the requirements of the labour market played a crucial role. The employers, together with persons from education and training, first defined jointly the requirements for a skilled worker typically holding a specific qualification.
- These requirements were then phrased as competence targets (with a strong emphasis on the skills dimension).
- The existing curricula were then evaluated against these targets to see whether they fit and which targets they contribute to.
- Finally, the learning outcomes for the qualifications and for its modules were formulated.

Assessment specifications

Assessment specifications define the tools and techniques used to determine the extent to which learning has been achieved. Learning outcomes define the learning to be assessed and are therefore useful when learning is assessed. In other words, whatever the learning experience is (where it happens, how it is taught etc.), it is a requirement of the assessment that the learning is defined as expected learning outcomes. In some cases the assessment method is already indicated in the description of the learning outcome. For example, if the learning outcome is to be able to write a concise and clear report of a practical experience, it can only be assessed by using the writing of the report as the assessment method: the

assessment tasks need to mirror the learning outcomes.

Some learning outcomes do not indicate an assessment method and indeed may be too general to assess with reliability and validity. To assess them – to generate the evidence of learning – some assessment criteria are necessary – these are usually more precise than learning outcomes. For example, consider this learning outcome:

On successful completion of the programme, learners will be able to critically evaluate research literature.

The extent to which the student is required to critically evaluate is not clear nor is it clear what is actually required from the student. This has to be specified by the assessment method and assessment criteria. The use of multiple-choice questions may be an inappropriate way to assess a student's skills at critical evaluation. Some assessment criteria may make the broad learning outcome assessable – for example an assessment criterion might be:

The learner is able to identify strong and weak points in a sample of research literature or:

The learner can weigh the reliability of the evidence in one research report against the evidence in another report covering the same topic.



Another example follows that strongly defines the assessment method and the assessment criteria:

.....

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.*
-

Sometimes the learning outcome is accompanied by performance criteria – the latter are the basis of assessment although no method of assessment is prescribed. This is sometimes added as evidence requirements. For example:

.....

Outcome 1: Demonstrate knowledge and understanding related to living cells.

Performance criteria:

- *A variety of cells is described correctly in relation to their structure and function.*
 - *Diffusion and osmosis are described correctly in relation to their effects in plant and animal cells.*
 - *Enzyme action is explained correctly in terms of enzyme properties and factors affecting activity.*
 - *Aerobic and anaerobic respiration are compared correctly in terms of energy release and products.*
 - *Photosynthesis is described correctly in terms of energy fixation and factors affecting rate.*
-

Evidence requirements:

Evidence of an appropriate level of achievement must be generated from time-limited written test in a control-

led environment where a textbook is available to the learner. Questions in the test must cover all the above performance criteria.

A well designed programme or module should show clear alignment between the learning outcomes, the associated assessment criteria and the assessment methods used.

Key points

In general education and in competence-based curricula the use of assessment criteria is sometimes seen as ‘atomistic’ – the summation of a complex learning programme as a series of assessment criteria seems to not reflect the whole learning experience. A more holistic (synoptic) approach is sometimes preferred that ranges broadly over the territory of the learning programme. This is often the preferred method in higher levels of academic education.

Assessment criteria can be ‘threshold assessment criteria’ leading to the decision that a student has passed or failed or they can be formulated as ‘grade assessment criteria’ that can be used for articulating different levels of achievement (leading to different grades). In both cases it is necessary that they determine the expected level of performance.

The classification of learning outcomes into categories (knowledge, skills and competence) does not necessarily provide added value for the assessment process where all are often combined.

Assessment criteria can also touch upon areas where there is sensitivi-

ty that goes beyond technical considerations. For example, assessing personality characteristics, which from one perspective may be considered as ‘private’. In several countries we can observe that this is seen as an ethical problem – and something which is also linked to the growing importance of service occupations where personal characteristics obviously are indispensable.

Another and related issue is the problem of assessing ‘attitudes’ (for example as a part of key competences).

Qualifications descriptors

In the context of the EQF Recommendation, ‘qualification’ is understood as:

A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards.

This rather pragmatic definition serves as basis for a common understanding in the context of the EQF implementation. However, the term and concept of ‘qualification’ in European countries differs substantially as regards to sources, degree of detail, form and structure. Differences not only occur across countries, but across areas of education and training and between institutions. These different understandings are captured in qualification descriptors. It is clear from these descriptors that many factors



are considered important in defining qualifications. Most important is a simplified picture of a profile of learning outcomes. Also important is a signal of the relative level and value of specific learning experiences (such as learning in a job or in a specialist university faculty). Some qualification descriptors signal the origins and management of the qualification process, the content, procedures, quality assurance and conditions for certification. For some contexts – national level, education system (or subsystems) or institutions – common descriptors have been developed that are written as learning outcomes. Qualifications descriptors describe the learning outcomes that learners should have achieved at the ‘end point’ of that qualification.

Qualifications descriptors can be written in fine detail so that they describe each aspect of learning achievement in a way that could be used as a representation of particular lessons, work tasks, parts of programmes or assessment criteria. They are concrete statements of learning that are sometimes called learning objectives. Users of these detailed learning outcomes appreciate them as ways of understanding the specificities of learning programmes. Learning outcomes can also be written as broad indicators of learning requirements that are not so concrete and are too general to represent a particular lesson or work task. They are also too general to be assessed. In other words, these broad learning

outcomes require further interpretation by those who have to teach, learn or assess. Broad learning outcomes often require assessment criteria to make them assessable (see Section 3c above). Users of these broad learning outcomes appreciate that they are providing an overview of the learning requirements and that they leave some scope for those who plan learning programmes to exercise some judgement about pedagogy and content of programmes. The following selected extracts from a boat building qualification illustrates these points:

Candidates must be familiar with the most common processes and methods applied in the reinforced plastics industry, as well as its raw materials and their characteristics.

They must be familiar with wood, its properties and chemical structure and be able to select wood of the correct quality according to each application. They must be able to select panel materials, processed products and semi-finished products and adhesives and gluing methods suitable for boat building.

They must be able to read technical drawings and define and dimension the shapes of boat parts. In their work they must act in an economical, service-oriented and co-operative manner and in accordance with occupational health and safety and other safety regulations.





The use of learning outcomes for describing/defining qualifications is crucial for several reasons. The most important is that they bring transparency to what the qualification stands for in the labour market or for future learning. Another important reason is that learning outcomes can bring coherence between standards, curricula and assessment criteria.

The developing NQFs classify qualifications according to their level of learning outcomes. Therefore, if the process of referencing qualifications to the NQF is to be transparent and credible, it has to be possible to identify this level of learning outcomes for each qualification. This is done on the basis of the qualification's learning outcomes description/definition.

An example follows of a description of a qualification within a generic qualification level of higher education:

.....
After successful completion of the bachelor's program in telematics, students are expected to have achieved the following goals:

Knowledge and understanding

Graduates have developed understanding of relevant basics, they are familiar with the substantial theories, methods and principles of information technology, and they are aware of the most important strategies to solve problems.

Development of and applying knowledge

Graduates are capable to apply their theoretical knowledge to practical applications, they have developed the capability for interdisciplinary analyses and judgement as well as to motivate and argue solutions, and they recognise economic and societal coherences and necessities.

Key competences

Graduates are able to acquire new knowledge under guidance and to participate in a project, they are trained in the basics of project management, they are able to integrate in a team and to take over subtasks independently. They are capable of self-organisation. They are able to present results both in written and oral form and to contribute to decision-making processes. They realise the necessity of life long further education, and they are capable of cross-border and transnational cooperation.

.....

One of the objectives of NQFs is improving transparency and understanding of qualifications. Several frameworks are based on databases/ registers of qualifications, some of which use a common format for describing qualifications. In addition to enhancing transparency, the use of learning outcomes approaches is expected to improve/facilitate identification of commonalities across different qualifications, thus improving progression and credit transfer. More discussion of NQF descriptors follows in the next section (3e).

Key points

Learning outcome statements in qualification descriptors can define the qualification in the form of: (a) a basis in occupational standards or (b) teaching regulations for major qualification types or, as in many countries, both of these. Learning outcomes in qualifications descriptors written to cover these areas may serve other purposes such as: modernisation of work practices, defining training programmes and auditing the competences available in the workforce of a business.

Learning outcomes in qualifications descriptions may also have a role in communicating about the content of the qualification and making it understandable and attractive for potential learners as well as for employers. This is for example the case, of Europass Certificate Supplements, that describe qualifications that are included in the national

qualifications systems in other words and formats^[18]. An example of a description of a qualification for a social and healthcare assistant follows in the form of a Europass Certificate Supplement – profile of skills and competences:

A qualified social and healthcare assistant is able to assess care needs and requirements and to plan and carry out complex care assignments and activation tasks without supervision, including the stimulation of physical, intellectual and creative functions in relation to individuals or groups of people. In addition, a qualified social and healthcare assistant is able to assess the need for basic healthcare and to carry out basic healthcare assignments without supervision in the care and assistance areas covered by the primary and secondary social and healthcare sectors. Social and healthcare assistants also coordinate work and participate in educational activities.

In many countries qualifications descriptors are important parts of a national database of qualifications, sometimes known as a register or catalogue of qualifications. These databases require qualifications to be expressed in ways that make their distinctive qualities clear, but also so that they can fit comfortably into the classes (or types) uses in the database. In this way, the national database can influence the form of the qualification descriptor. In many databases the following form of classification is used.

.....
[18]

Currently available in 22 countries.



- A keyword describing the general learning area, for example: plumber, agriculture or geography.
- Qualification level, referring to a national qualification framework or implicit levels (learning outcomes are important here).
- The body that awards the qualification, for example a professional body, the Ministry of Education.
- Qualification type, for example school qualification, higher education qualification, or vocational training qualification.
- Job or occupations that the qualification can support (learning outcomes are important here).
- Employment sectors where the qualification is recognised, for example: health, public services and care, agriculture and science and mathematics (learning outcomes are important here).

NQF level descriptors

Learning outcomes play an important role in the creation of national and overarching qualifications frameworks and their articulation with qualifications and other standards. Their main role is to provide transparent level descriptors that reflect the descriptors of the qualifications that are accredited to each level in the framework.

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 statis-

tics, 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.

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.

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. This may mean that ensuring coherence of NQF level descriptors in relation to each other (e.g. showing smooth progression), whilst undoubtedly important, is not always the prime objective for designing an NQF.

Learning outcomes in level descriptors can be placed under specific categories or taxonomic classes or they can be in the form of broader

statements that are not further differentiated in any way. As can be seen from the table with examples below, the categories often contain, in addition to knowledge and learning outcomes that are occupational activity specific, elements of key competence such as ‘learning to learn’ or ‘insight’.

Examples of level descriptor categories

Belgium, Flanders – two main categories:

1. *Knowledge and skills*
2. *Context, autonomy and responsibility*

Germany – two main categories divided into four sub-categories:

1. *Professional competence divided into knowledge and skills*
2. *Personal competence divided into social competence and self-competence*

Ireland – eight categories:

1. *Knowledge (breadth)*
2. *Knowledge (kind)*
3. *Know-how and skill (range)*
4. *Know-how and skill (selectivity)*
5. *Competence (context)*
6. *Competence (role)*
7. *Competence learning to learn*
8. *Competence insight*

UK, Scotland – five categories:

1. *Knowledge and understanding*
2. *Practice: applied knowledge and understanding*
3. *Generic cognitive skills*

4. *Communication, ICT and numeric skills*

5. *Autonomy, accountability and working with others*

Examples which use broader generic statements

Finland: Level 4 – Possesses knowledge of the facts and theory in extensive contexts and certain cognitive and practical skills in his/her field and is capable of utilising this knowledge and skills when solving special problems in his/her field. Work independently in generally predictable, but possibly changing operating environment.

Takes responsibility for completing his/her duties and works safely within a work community. Possesses the capability for financial, productive and systematic activities and to organise work. Possesses the capability to work in an entrepreneurial manner in someone else’s service or as an independent entrepreneur. Evaluates his/her competence and improves actions relating to work or studies. Develops him/herself and his/her work.

Possesses the capability for continuous learning. Knows how to communicate diversely and interactively in various situations and to produce varied and also field specific texts. Can communicate at an international level and interact in one official and at least one foreign language.





Lithuania (brief indicator of level):
Level 4 – Qualifications at level 4 empower to carry out the tasks and operations in several different workplaces or in the different work contexts applying different technologies and various ways and methods of work organization. The performer must autonomously apply in the activity the specific and general knowledge acquired through the formal education or in an informal way. These qualifications also include the abilities to learn on the different workplaces or through other measures of continuing vocational training.

The use of general learning outcomes descriptors can be suitable where they are used only to describe the qualifications system in the broadest of terms. This is only possible where rules for the design of single qualifications in the different sub-systems do not rely on NQF descriptors.

On the other hand, where more specific level descriptor statements exist that are classified into different categories of learning outcomes, the statements are often indicative. Qualifications at a given level do not necessarily have to correspond to all the characteristics defined in these categories. For example, at the same level, in some qualifications the knowledge component may be stronger whilst in others it is the skills component that prevails. This differentiation is of high institutional and political significance as it makes this kind of difference in qualifica-

tions explicit and therefore opens up a discussion on parity of esteem between sub-systems of education and training. Because they have the potential to place at the same level, qualifications with a somewhat different focus (some being more oriented at knowledge and its use whilst others being more oriented towards other aspects), qualifications frameworks can clarify comparability between qualifications from different segments of education and training (e.g. general education and VET or between VET and higher education).

NQF level descriptors can express, in addition to the learning outcomes in a qualification, information about the labour market context in which these outcomes are expected to be used. The descriptors can show, through the formulation of statements about competence, a relationship with the responsibilities and complexity of activities the person with a qualification at a specific level should be capable of undertaking. Examples of how descriptors express the link with the labour market follow:

Belgium, Flanders: Level 5
Context, autonomy and responsibility:

- *Acting in a range of new, complex contexts.*
- *Functioning autonomously with initiative.*
- *Taking responsibility for the achievement of personal outcomes and the stimulation of collective results.*

Czech Republic: Level 3

- Choose from a variety of optional adequate working procedures, methods, means, instruments, raw materials, etc., depending on actual conditions and the results required.
- Evaluate the quality of their products (services) and related products (services), observe quality standards and determine causes of possible shortcomings or defects; identify possible consequences and adapt the working procedures accordingly.
- Identify problems occurring in the application of selected procedures and methods, determine their causes and consequences, and adapt the working procedures accordingly.

The majority of level descriptors based on learning outcomes, explicitly address the growing complexity of tasks and environments and how this is articulated at different levels (for example, expressed in terms of autonomy, responsibility, management, etc.). The progression across levels can be expressed in different ways:

- The complexity and breadth of learning outcomes.
- The context in which they can be applied.
- Increasing autonomy, responsibility and self-reflection (evaluation).
- Progressive introduction of new learning outcomes at higher levels.

The Finnish example below also shows that not all aspects of the descriptor have to change from one level to another. For example, as from level three the competence *learning to learn* remains formulated in the same manner. Similarly the *communication in official and foreign language* remains the same at levels five and six as well as at levels seven and eight.

Finland

Level 1	... basic knowledge and skills which are needed for studying and working in a clear operating environment under direct supervision... capable of communicating verbally and responds to simple written communication in his/her mother tongue.	Comments:
Level 2	... basic knowledge and cognitive and practical basic skills in his/her field ... follows simple rules and uses normal equipment and tools in a supervised operating environment demanding some independent action. Shoulders responsibility ... Knows how to communicate verbally and produce normal text. Basic language skills in at least one official language and one foreign language.	Examples of elements that are new compared to the level below: <ul style="list-style-type: none"> • Use of tools and equipments. • Communication in foreign language.

Finland

Level 4	<p>Possesses knowledge of the facts and theory in extensive contexts and certain cognitive and practical skills in his/her field and is capable of utilising this knowledge and skills when solving special problems in his/her field. Work independently in generally predictable but possibly changing operating environment.</p> <p>Takes responsibility for completing his/her duties and works safely within a work community. Possesses the capability for financial, productive and systematic activities and to organise work. Possesses the capability to work in an entrepreneurial manner... Evaluates his/her competence and improves actions relating to work or studies... Possesses the capability for continuous learning...</p>	<p>Examples of elements that are new compared to lower levels:</p> <ul style="list-style-type: none"> • Entrepreneurship and related skills and competence. • Self-evaluation. • Learning to learn (formulated as such as from level 3).
Level 6	<p>... comprehensive and advanced knowledge of his/her field, including the critical understanding of theories, key concepts, methods and principles. Understands the extent and borders of professional duties and/or disciplines... the capability to apply knowledge and creative solutions... manage complex professional activities or projects... makes decisions in an unpredictable operating environment... possesses the capability for continuous learning...</p>	<p>Examples of elements that are new compared to lower levels:</p> <ul style="list-style-type: none"> • Understanding of borders of a professional duty. • Creativity in applying knowledge. <p>Note: learning to learn aspect remains the same as lower levels.</p>

In examples presented below, the progression across levels is clear and the set of learning outcomes descriptors presents a single continuum of learning achievements.

UK Scotland (extract)

	Knowledge and understanding	Communication, ICT and numeracy skills
Level 2	Demonstrate and/or work with knowledge of simple facts...	Use simple skills with assistance for example: Produce and respond to a limited range of very simple written and oral communication in familiar routine contexts...
Level 4	Demonstrate and/or work with: Basic knowledge in a subject discipline which is mainly factual . Some simple facts and ideas about and associated with a subject/discipline...	Use straightforward skills , for example: Produce and respond to simple but detailed written and oral communication in familiar contexts. Use the most straightforward features of familiar applications to process and obtain information...
Level 7	Demonstrate and/or work with: A broad knowledge of the subject/discipline in general . Knowledge that is embedded in the main theories, concepts and principles...	Use a wide range of routine skills and some advanced skills associated with the subject/discipline, for example: Convey complex ideas in well-structured and coherent form. Use a range of forms of communication effectively in both familiar and new contexts...

UK Scotland (extract)

Level 9	Demonstrate and/or work with: A broad and integrated knowledge and understanding of the scope , main areas and boundaries of a subject/discipline. A critical understanding of a selection of the principal theories, principles, concepts and terminology...	Use a wide range of routine skills and some advanced and specialised skills in support of established practices in a subject/discipline, for example: Make formal presentations about specialised topics to informed audiences...
Level 12	Demonstrate and/or work with: A critical overview of a subject/discipline, including critical understanding of the principal theories , principles and concepts. A critical, detailed and often leading knowledge and understanding at the forefront of one or more specialisms...	Use a significant range of advanced and specialised skills as appropriate to a subject/discipline, for example: Communicate at an appropriate level to a range of audiences and adapt communication to the context and purpose...

Germany (extract)

	Knowledge	Skill	Social Competence
Level 1	Be in possession of competences for the fulfilment of simple requirements within a clear and stably structured field of study or work . Fulfilment of tasks takes place under supervision.		
	Be in possession of elementary general knowledge . Have an initial insight into a field of study or work.	Be in possession of cognitive and practical skills required to carry out simple tasks in accordance with pre-stipulated rules and to evaluate the results of such tasks. Establish elementary correlations.	Learn or work together with others , obtain and exchange information verbally and in writing.
Level 3	Be in possession of competences for the autonomous fulfilment of technical requirements within a field of study or field of occupational activity which remains clear whilst being openly structured in some areas.		
	Be in possession of extended general knowledge or extended professional knowledge within a field of study or field of occupational activity.	Be in possession of a spectrum of cognitive and practical skills for the planning and processing of technical tasks within a field of study or field of occupational activity. Evaluate results in accordance with criteria which are largely pre-stipulated, provide simple transfers of methods and results.	Work within a group and occasionally offer support . Help shape the learning or working environment, present processes and results to the appropriate recipients of such information.

Germany (extract)

Level 5	Be in possession of competences for the autonomous planning and processing of comprehensive technical tasks assigned within a complex and specialised field of study or field of occupational activity subject to change.		
	Be in possession of integrated professional knowledge within a learning area or integrated occupational knowledge within a field of activity. This also includes deeper, theoretical professional knowledge. Be familiar with the scope and limitations of the field of study or field of occupational activity.	Be in possession of an extremely broad spectrum of specialised, cognitive and practical skills. Plan work processes across work areas and evaluate such processes according comprehensive consideration to alternative courses of action and reciprocal effects with neighbouring areas. Provide comprehensive transfers of methods and solutions.	Plan and structure work processes in a cooperative manner , including within heterogeneous groups, instruct others and provide well-founded learning guidance. Present complex facts and circumstances extending across professional areas in a targeted manner to the appropriate recipients of such information.
Level 8	Be in possession of competences for the obtainment of research findings in a scientific subject or for the development of innovative solutions and procedures within a field of occupational activity. The structure of requirements is characterised by novel and unclear problem situations.		
	Be in possession of comprehensive, specialised, systematic state-of-the art knowledge in one or more areas within a scientific subject or be in possession of comprehensive occupational knowledge in a strategically and innovation oriented field of occupational activity . Be in possession of appropriate knowledge at the interfaces to adjoining areas.	Be in possession of comprehensively developed skills relating to the identification and solution of novel problems set in the areas of research, development or innovation within a specialised scientific subject or in a field of occupational activity. Also design, implement, manage, reflect on and evaluate innovative processes including in cross-activity areas. Evaluate new ideas and procedures.	Lead groups or organisations from a position of particular responsibility whilst activating the areas of potential within such groups or organisations. Promote the professional development of others in a targeted and sustained manner. Lead cross-specialist debates and introduce innovative contributions to specialist professional discussions.

Key points

Learning outcomes based qualifications levels are one of the key elements of the emerging national qualifications frameworks in Europe. Developing level descriptors, based

on learning outcomes is thus the key step in the process of developing a national qualifications framework.

While technically demanding, the definition and development of 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.

Uses of learning outcomes for purposes other than teaching and assessment

The previous sub sections above reflect the more tangible uses of learning outcomes connected with learning and qualifications. In fact learning outcomes are part of many other tools and instruments. These wider uses are high profile and particularly important in terms of managing education and training systems so that they enable more, better and more equitable lifelong learning. Some of the key areas where learning outcomes are used are discussed below.

Credit arrangements in Europe – ECVET and ECTS

Credit arrangements in European education and training (ECVET and ECTS – European Credit Transfer and Accumulation System) build upon the learning outcomes underpinning qualifications and programmes; they link to respectively the EQF and the qualifications framework in the European Higher Education Area by the use of the level descriptors expressed in learning outcomes^[19].

Learning outcomes in that context enable to grasp the learning achieved abroad, during mobility experiences, and feed into recognition and validation processes. Learning outcomes are bundled into units of learning outcomes as in ECVET and/or attached to workload as in ECTS^[20]. These are the basis for the mobility agreements between students/learners, teaching/training institutions such as higher education institutions or VET providers, and competent authorities. These agreements are formalised at different levels, and Europass offers a good support for documenting learning outcomes linked to ECVET and ECTS (for instance see Europass Certificate supplement^[21] and Europass Diploma supplement^[22]).

Using learning outcomes within credit arrangements imply reflecting upon and linking occupational and qualification standards, curricula and assessment. This is well illustrated by the example from the Cominter project.

[19]

Cedefop (2010). Linking credit systems and qualifications frameworks. An international comparative analysis. Research paper No 5. http://www.cedefop.europa.eu/EN/Files/5505_en.pdf

[20]

A description of the use of learning outcomes in ECVET is available in the ECVET Questions and Answers: Getting to know ECVET better (February 2011). [http://www.cedefop.europa.eu/EN/files/ECVET_QUESTION_ANSWERS_Feb_2011_en\(download_ID_17648\).pdf](http://www.cedefop.europa.eu/EN/files/ECVET_QUESTION_ANSWERS_Feb_2011_en(download_ID_17648).pdf) The ECTS Users Guide (2009). http://ec.europa.eu/education/lifelong-learning-policy/doc/ects/guide_en.pdf

[21]

<http://europass.cedefop.europa.eu/europass/home/vernav/InformationOn/EuropassCertificateSupplement.csp>

[22]

<http://europass.cedefop.europa.eu/europass/home/vernav/InformationOn/EuropassDiplomaSupplement.csp>

Professional activity	Carrying out studies and business monitoring		
Tasks	1. Permanent market monitoring	2. Collecting information abroad	3. Preparing decision making
Qualifications units	Q1. Market research and market planning on foreign markets		Q2. The business information system
Credit points allocated	10 %		10 %
Learning outcomes attached to qualifications unit Nr 1	<p>Skills Collecting information through permanent market monitoring (desk research) and field research abroad and checking reliability. Analysing and selecting relevant commercial information and regulation on constraints about foreign markets. Formulating requirements for the subcontracting of studies and following up on the studies on foreign markets. Proposing a general outline for a concrete action plan based upon the commercial policy of the company and the SWOT analysis. Making a summary and communicating to superiors to prepare decision making.</p> <p>Competence Organising and planning work activities, being autonomous. Being alert to opportunities and threats. Applying commercial insight.</p> <p>Knowledge International marketing, Computing, Economics, Geopolitic, Laws and regulations, Management tools, Communication.</p>		
Training units	T1. International marketing	T2. Managing information system	
Number of hours	112		112
http://www.cedefop.europa.eu/EN/Files/6110_en.pdf			

The ultimate stage of credit arrangements is recognition and validation of the learning outcomes achieved through crediting. Since learning outcomes may be acquired through a variety of learning pathways, modes of delivery, in different learning contexts, credit arrangements have to be flexible enough to accommodate individual learning paths and at the end avoid multiplication of

assessment processes. This implies managing the diversity of existing approaches to describing and evaluating learning outcomes and opening up to crediting of informal and non-formal learning experiences. As mentioned in the M.O.T.O. ECVET pilot project, ‘the most important aspects ensuring validation and recognition are transparent descriptions of targeted knowledge, skills and competence and the

assurance that they have actually been acquired abroad' (M.O.T.O. final report, 2011^[23]).

Curriculum Vitae (CV)

It is becoming more common for CVs to include not only information about the formal qualifications held by a person and dates and places of learning programmes, but also to provide a summary of the main competences (expressed as learning outcomes) a person can claim, often based on self assessment (e.g. competences in using foreign languages). The CV is a personal document and serves to stress the importance of being clear about what a person has achieved and what could be achieved in the future.

Job advertisements

Increasingly job advertisements include details of what a person is expected to know and is able to do. Such performance specifications are an important pointer in linking education and training with the labour market.

Programme prospectus

The evolution in the focus of providers towards learning outcomes means that increasingly they are able to summarise what the learner might gain (in terms of learning outcomes) if they join a programme. This information is increasingly important for learners.

Information, advice and guidance

Guidance professionals located in providing institutions and in public employment services are able to provide stronger support to clients if the expectations of the learning institutions and qualification providers are clear and expressed in terms of what is expected of learners. Linking potential learners/workers to programmes/jobs can remain a little subjective without this clarity. This gives counsellors a tool to better assess whether a specific programme is relevant for a client in view of job openings in the labour market and in view of the client's prior experience and qualifications. It is difficult to underestimate the importance of accurate and supportive counselling and guidance in opening up qualification systems, encouraging lifelong learning and supporting the validation of learning gained through informal means.

Management of education

Using learning outcomes means less emphasis on the duration of learning and the increasing likelihood of exemption from parts of formal programmes (if prior learning can be established). What does this mean in terms of the organisation of primary and secondary education and for the progression of students during their school career? Can learners of the same age have faster or slower school careers? How can this be managed in schools? How realistic



.....
[23]
http://ecvet-moto.isfol.it/project/prodotti/moto-model/MOTO_model%20ultimissimo.pdf



is this approach? Clearly the move to learning outcomes based curricula and assessment can have some profound organisational implications.

There are also implications for the role of the teacher in an outcome-based approach to education. The explicit learning outcomes, and the criterion-referenced assessment that often accompanies it, can signal a shift of a teacher's role from predominantly expert instructor to expert coach with the learner taking more responsibility for their own learning.

Quality assurance

The ways quality is assured in education systems can vary enormously and is often operating at different levels and with different systems. It can appear to be fragmented and lacking coherence. The use of learning outcomes can bring a strong focus to the purposes of the teaching, assessment, validation and certification. Learning outcomes provide the language that enables different (quality assurance) stakeholders to interact and coordinate activities. 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.

Outside formal education and training

The use of learning outcomes is also important outside education. For

example: in company induction schemes and workforce development, in the recognition of prior learning, in the recognition of qualifications and learning outcomes of foreign students and workers and in the specification of tenders and contracts where safety or quality is a major condition.

Some concluding points

As we move from the specification of occupational standards and curricula to the EQF descriptors, we see a transition to more general forms of learning outcomes. Nevertheless, in a specific context – such as development of skilled workers in ophthalmics – these different forms of learning outcomes are linked and it should be possible to begin with a specific aspect of a training curricula and follow a path through (occupational standard, assessment criterion, qualification descriptor, NQF descriptor) to the appropriate level descriptor in the EQF. These links between the 'layers' of specification of learning outcomes are important for improving transparency, coherence, permeability and progression pathways.

The descriptors of qualification outcomes should be as detailed as they need to be and no more: the EQF, as a meta-framework, has very brief and generalised descriptors; 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; the NQF descriptors would typically need to be further elaborated and expressed in terms of a particular area or field of learning to provide descriptors that would form the basis of a system of awards (e.g. the awards of a particular awarding organisation); finally, a provider or awarding organisation (depending on the locus of responsibility in a national system) would need to develop a highly-detailed descriptor for each specific qualification they offer for award.

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. On the other hand, if they are too broad and generic they will need to be complemented by other things such as more detailed school curricula or assessment standards. Furthermore, if the definitions/descriptions

are too specific it can be difficult for people coming from outside the formal education and training system to fully understand them. Definitions/descriptions of learning outcomes that vary in breadth will require different approaches to assessment.

Thus, 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 if lifelong learning is to be encouraged. If learning outcomes are applied and interpreted in ways that restrict the ways teachers teach or the ways individuals learn, then there may be disincentives for making learning desirable and accessible. At the same time, there needs to be clear standards for what a learner has to achieve and therefore some rigidity is inevitable.



4 Shifting towards using learning outcomes and sources of information

The discussion in the previous section has shown the range of applications of learning outcomes from defining specific work practices through to describing the broadest qualifications levels. It is likely that for the sake of transparency, coherence and permeability of the systems of education, training and qualifications, that all countries are developing the use of learning outcomes. In this section some of the more practical aspects of the transition to increased use of learning outcomes are discussed.



The introduction of learning outcomes can form a long process that begins with discussions between stakeholders of potential added value and continues through trials and tests in different settings before developing into national regulations for describing programmes and qualifications.

Learning outcomes are developed in contexts where many factors have to be taken into consideration including: qualifications frameworks, external reference points, implicit standards, employment requirements and qualifications descriptors. Stakeholder groups have ownership of these factors and how they are

used and therefore need to be consulted about increased use of learning outcomes.

Learning outcomes should therefore be seen as a tool in the toolbox for achieving the broader goals of raising education and skills levels if the lifelong learning, social inclusion and equal opportunity in education are likely to become others. Learning outcomes are therefore not exclusively linked to education and training policies goals, but have to be seen as tools in this broader context.

This said, to successfully use learning outcomes, the pre-conditions for their use as well as their strengths and weaknesses need to be taken into account.

Preconditions

The enhanced use of learning outcomes will be constrained unless the environment in which they are used is right. There are many factors to be considered:

- Is there policy leadership in place that sets out why learning outcomes are good tools for facilitating education and training policies?



- Has there been stimulus for discussions within the various interested sectors for example: education sectors (in particular teachers) and the social partners?
- Is there a means of dialogue between leaders of the various sectors that will enable mutual support to develop and more coherent approaches to implementation to be designed?
- Has research been carried out on the implementation of learning outcomes?

These and other factors lead to the critical precondition that there is a general commitment to move from existing descriptions of curricula, standards and qualifications to ones based more on learning outcomes.

Making it happen

The consideration of the two common approaches to increasing the use of learning outcomes (top-down and bottom-up) suggests some strategic opportunities.

All countries that cooperate on education and training policy in Europe are using the EQF as the basis for cross border comparison of qualifications levels – the EQF descriptors are written as learning outcomes. The same countries are developing (or have developed) national qualifications frameworks. These frameworks are also built on level descriptors written as learning outcomes. The EQF and the NQFs

supply a ‘top down’ pressure on qualifications systems to work with learning outcomes. The key attribute of NQFs as a tool for change, is the capacity of NQFs to bring all stakeholders ‘into the same room’ for exchanges on learning, assessment and qualifications. When stakeholders try to establish ideas of alignments between their different sets of qualifications they are inevitably drawn to the use of learning outcomes since there is no other reliable, objective and trusted method of making comparisons.

However, this ‘top down’ approach can be enhanced with some concrete testing of new approaches and good dissemination of results. In many countries there are already examples of learning outcome approaches that have developed because they are better able to meet needs in comparison to other approaches (bottom up developments). The use of learning outcomes in VET settings is often advanced because competence is a key goal for training programmes. The transfer of good practice within a sector and between sectors is a major challenge, but is inevitably enhanced when concrete descriptions of practice and benefits are made clear.

Top down and bottom up approaches are not the only main strategic approaches. Another approach is to develop the key stakeholder group – the teachers and their institutions. Teacher training has the advantages (and limits) of learning outcomes

in pedagogy and assessment is a long-term strategy that could have a formative effect on curricula and qualifications.

Some practical information

The driving force for a policy on learning outcomes, using European level policy as a guide, is to aim for transparency and coherence of systems for education, training and qualifications. These primary aims can inform all types of developments that have been outlined in Section 3 above, including the wider 'non educational' contexts where learning outcomes can enhance provision.

The push for transparency and coherence in education and qualification provision will maintain a broad strategic approach even where concrete advances are only possible in some sectors in the short term. The process

of making things explicit instead of implicit and therefore opening up such things as curricula and qualifications to individuals and other users has a fundamental nature to it that touches many aspects of education and qualifications and also enables strong communications with stakeholders.

The most useful and commonly applied learning outcomes are about realistic and attainable descriptions of any of the following: knowledge, practical skills, cognitive skills, levels of autonomy, and learning skills. Various taxonomies of learning levels are useful for determining learning outcomes.

Finally, all learning outcomes must be capable of assessment and should be fit for their purpose whether they are employed at the level of the individual module, the qualification, as a level or qualifications descriptor.

Information sources

There is a growing literature on learning outcomes and the following resources can support implementation strategies.

EQF projects

Analysis of EQF projects available upon registration at:

http://europa.eu/sinapse/directaccess/qualification_framework

ECVET projects

Available at

<http://www.ecvet-projects.eu/Projects/>

All of the projects listed have a focus on the development and implementation of a learning outcomes approach. Some projects focus on shifting towards a learning outcomes approach – such as:

- OPIR: comparing the job profiles on which the qualifications are based and fix a methodology to translate the job profile's key activities in learning outcomes.
- Aerovet: which considers some of the practical implications of using learning outcomes.
- SME-Master Plus: competence matrix for master craftsman qualifications in bakery, floristry, hairdressing and woodworking.

Leonard da Vinci projects

Vocationalqualification.net VQTS projects

(available at: www.vocationalqualification.net) have considered the definition of learning outcomes in occupational profiles for mechatronics and electronics/electrical engineering:

- AMOR: (available at: http://www.cedefop.europa.eu/etv/Upload/Information_resources/Bookshop/489/C18D1EN.html) used learning outcomes for comparison of curricula in the electrical engineering industry.
- Cedefop 2010 NQF survey provides examples of learning outcomes descriptors for qualifications frameworks^[24].

'How to write learning outcomes' guides

Many institutions have written guidelines on how to write learning outcomes. An example includes:

- Brian Bowe and Marian Fitzmaurice *Guide to Writing Learning Outcomes*, Learning and Teaching Centre, Lifelong Learning Dublin Institute of Technology. modularisation.dit.ie/docs/Learning%20Outcomes%20Guide.doc

Research Publications

Biggs, J., (2003) *Aligning Teaching and Assessing to Course Objectives. Teaching and Learning in Higher Education: New Trends and Innovations*, University of Aveiro, 13 – 17 April 2003.

Kennedy, D., Hyland A and Ryan N (2006) *Writing and using Learning Outcomes*, Bologna Handbook, Implementing Bologna in your Institution, C3.4-1, 1 – 30.



[24]

Cedefop (2010) *The development of national qualifications frameworks in Europe* <http://www.cedefop.europa.eu/EN/publications/16666.aspx>

Kennedy, D., Hyland A and Ryan N (2009) *Learning Outcomes and Competences*, Bologna Handbook, Introducing Bologna Objectives and Tools, B2.3-3, 1 – 18.

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Jessup G., (1991) *Outcomes – the emerging model of education and training*. Falmer.

Cedefop (Frommberger, Krichewsky, D and Milolaza, A., (2010), Learning outcomes approaches in VET curricula <http://www.cedefop.europa.eu/EN/publications/16433.aspx>

Adam, S., (2004). *Using learning outcomes: A consideration of the nature, role, application and implications for European education of employing learning outcomes at the local, national and international levels*, Edinburgh: Heriott-Watt University (Paper presented at the UK Bologna Conference on July 1-2, 2004).

Adam, S., (2006) *An introduction to learning outcomes: a consideration of the nature, function and position of learning outcomes in the creation of the European Higher Education Area*, In Froment, E.; Kohler, J. (eds). EUA Bologna Handbook. Berlin: Raabe Verlag.

Brockmann, Michaela (2007) *Qualifications, learning outcomes and competencies: a review of the literature*, Draft working paper. Available from Internet: <http://www.kcl.ac.uk/content/1/c6/01/57/15/literaturereview.pdf>

González, Julia and Wagenaar, Robert (2003) *Tuning educational structures in Europe*. Bilbao: University of Deusto, Available from Internet: http://www.relint.deusto.es/TUNINGProject/documentos/Tuning_phase1/Tuning_phase1_full_document.pdf

OECD (2005) *The definition and selection of key competences: executive summary: DeSeCo project*. Paris: OECD, 2005. Available from Internet: http://www.oecd.org/document/17/0,2340,en_2649_34515_2669073_1_1_1_1,00.html



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The European Commission, in close cooperation with European Centre for the Development of Vocational Training and the European Training Foundation, publishes a series of EQF Notes in order to support discussions and activities related to the implementation of the European Qualifications Framework for lifelong learning (EQF) at national and European level.

The EQF is based on learning outcomes. It invites Member States to relate their national qualifications levels to the common reference levels of the EQF based on learning outcomes and to define all their individual qualifications in learning outcomes.

EQF Note 4: Using Learning Outcomes is based on discussions in the EQF Advisory Group and its subgroup, the Learning Outcomes Group. It systematically discusses how the learning outcomes approach is used for various purposes: to define occupational and educational standards, individual qualifications, curricula and programmes, assessment specifications as well as qualifications levels. The Note does not aim to define a single approach to learning outcomes. However, it seeks to suggest ideas and advice to policy makers and practitioners who are developing and using learning outcomes to various ends. As discussions at European level evolve, further notes may be published on certain aspects of learning outcomes.

