

MODULE 2

LEARNING OUTCOMES AND LEVEL DESCRIPTORS

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1. Learning Outcomes

While the EQF definition of a qualification framework (QF) insists on the use of learning outcome as a way to classify qualifications,

“... a mechanism for classifying the qualifications which are awarded within a qualification system ... according to a set of criteria for specified levels of learning achieved.”

other definitions focus on the QF as a lever for quality

“All qualifications frameworks, establish a basis for improving the quality, accessibility, linkages and public or labour market recognition of qualifications within a country and internationally.”

or even as a lever for more radical transformation

“Modern NQFs can be described as ‘instruments with a vision’ questioning current education and training practices and challenging existing professional and sectoral interests.”

Box 2: Origins of the outcome approach

Educational influences

- 1950s Skinner – programmed instructional materials
– Bloom – domains of learning (Cognitive, Psychomotor, Affective)
- 1960s Mager – learning objectives
– Glaser – criterion-referenced assessment
- 1970s Bloom – mastery learning
- 1980s Gardner, Sternberg, etc – theories of differentiated intelligence

HR/Training influences

- 1950s Hay – job evaluation factors (know-how, problem-solving and accountability)
- 1960s McLelland (McBer) – competence based on the performance of successful individuals
- 1970s Spencer – soft skill competences
- 1980s Mansfield & Mathews (UK) – the job competence model (skills, management skills & context-related skills)
– Dreyfus & Dreyfus – model of skill acquisition (novice, competence, proficiency, expertise, and mastery)

Learning outcomes [Cedefop 2009: p. 141] are defined as statements of what a learner knows, understands and is able to do after completion of learning. [cf Official NSQF Notification]. The learning may take place formally or informally (through experience gained in the community or workplace).

They are used:

- at a policy level (e.g. national curriculum policy)
- at a systems level (e.g. in qualification frameworks)
- at the level of qualifications (e.g. qualification standards)
- at the level of specific curricula and learning programmes

Example of policy-level outcomes

The Kosovo Curriculum Framework specifies six competences to be mastered during compulsory education:

- Communication and expression competence
- Thinking competence
- Learning competence
- Life, work and environment-related competence
- Personal competence
- Civic competence

Example of sector-level outcomes

The Scottish Qualifications Authority’s Administration and IT qualifications provide practical opportunities to apply and develop organisational, administrative and IT skills. Learners develop IT skills and use technologies as tools to achieve organisational and administrative tasks.

Example of qualification/curriculum-level outcomes (SCQF)

Learning outcomes are similar to learning objectives. Learners will be able to:

- work co-operatively and collaboratively and assume shared responsibility
- operate within an administrative context
- prioritise tasks and work within deadlines
- acquire, extend and apply administration – and IT-related skills, knowledge and understanding
- create and present business documents to an appropriate and professional standard
- be involved in self- and peer assessment

Example of unit-level outcomes in the UK model.

- Use a spreadsheet application to interpret a given brief
- Use advanced functions of a relational database to interpret a given brief

- Use advanced functions of word processing to interpret a given brief
- Each outcome will be accompanied by performance criteria, which sets the standard for assessment.

In qualification frameworks, learning outcomes are classified in a hierarchical way to form levels. They are not sector-specific and therefore provide a common language across sectors, and can apply to different kind of learning. They provide a link between curricula and social and employment requirement. Learning outcomes should not be treated as merely technical constructs, but need to reflect and respect the social and institutional contexts they are operating within.

The NQFs developed after 2005 differ in important respects from some of the first generation frameworks developed e.g. in England or South Africa. While differences in the number of levels and coverage immediately catch the eye, the main difference seems rather to lie in the interpretation and application of learning outcomes. Some of the early frameworks were based on what may be described as a radical learning outcomes based approach. Inspired by the English system of national vocational qualifications (NVQ) introduced in the late 1980s, these frameworks tended to specify learning outcomes independently from curriculum and pedagogy and tried to define qualifications in isolation from delivery mode, learning approach and provider. The countries in question have partly moved away from this radical approach.

Developments of national qualifications frameworks in Europe show that countries have adopted a more pragmatic and diversified approach to learning outcomes. While the principle is seen as crucial for increasing transparency and comparability, there is general understanding that learning outcomes must be put into a wider context of education and training inputs to make sense. When placing existing qualifications into a new framework structure, the focus on learning outcomes is frequently combined with consideration of national institutions and programme structures, accepting that mode and volume of learning vary and matter. The use of learning is an approach that is applied in diverse ways in different policy, teaching and learning settings. Learning outcomes are like a set of tools or keys, useful in different ways according to the context. There are therefore different kinds of qualification frameworks and different sometimes conflicting approaches to outcomes and domains

In the positive side, practitioners insist that they represent a shift of focus from what is taught to what is learned, a shift towards learner-centered method influ-

encing teaching, training and assessment methods. By bringing transparency to training programmes, learning outcomes should make it easier to select the best programme for their need and, if possible to seek recognition of experience and prior learning. Also, as outcomes provide a basis for credit accumulation and staged learning, it shifts the focus away from time-serving. Learning outcomes approach adds a new important element to the 'old picture', making it possible to have a fresh look at the ordering and valuing of qualifications. This pragmatic use of learning outcomes – combining it with careful consideration of input elements – has been important for redefining the relationship between vocational and academic qualifications. Reviewing this relationship in terms of what a candidate is expected to know, be able to do or understand – instead of looking at type of institutions – has challenged accepted ways of valuing qualifications.

In the world of work, learning outcomes are a good basis for planning workforce development and for recruitment and selection for admissions or recruitment or for promotion.

Lastly, by making education and training systems comparable by creating a common language across sectors, which they were not under fully institution-based systems, learning outcomes allow for intra-national and international cooperation provide a basis for comparisons and benchmarking: “ using learning outcomes as a common reference point, the Framework will facilitate comparison and transfer of qualifications between countries, systems and institutions and will therefore be relevant to a wide range of users at European as well as national level.” (EQF Recommendations). Outcomes of learning are the basis for credit transfer systems.

In the less positive side, the critics are insisting on the narrowness and over-specification of outcomes. If learning outcomes are formulated in too narrow and restricted ways, they can limit rather than broaden expectations towards learners; if learning outcomes are used differently between institutions, sectors and countries, their ability to strengthen transparency and aid comparison is weakened. The extensive discussion of the third, 'competence' pillar of the EQF illustrates the need to reflect on the expectations signalled by the descriptors and the frameworks they are embedded in; are we broadening or narrowing down our education and training and life-long learning strategies? The focus on comparability of learning outcomes weakens the national relevance, as it weakens the social dimension of learning and the focus on quality of teaching and learning. There is also a risk of

fragmentation – lack of understanding of how outcomes reinforce each other.

Box 3: Learning outcomes and competences

These terms are used in a number of different ways by different countries and authorities.

A learning outcome is a standardised statement of the knowledge and/or skills which has been/will be achieved by an individual who completes an education/training programme/qualification.

A competence is a specialised kind of learning outcome. It is a standardised statement of the knowledge, skills and behaviours required to operate successfully in a specific work role.

The term “competency” seems to be used (i) as an alternative to “learning outcome”, (ii) as an alternative to “competence”, and (iii) to describe a component of a competence.

2 Identifying Levels and Domains of Learning

Each level in a framework is defined by a set of descriptors (domains) indicating the learning outcomes relevant to qualifications at that level. Levels are usually defined by reference to structure of the labour market (e.g. from unskilled worker – helper- operative- skilled worker – supervisor- trainer- specialist- manager levels), by reference to the structure of Education and Training system (secondary-post secondary-higher education levels) , or both. In the latter case, national arrangements state the correspondence between of learning achievements and occupations. Level descriptors for national qualifications frameworks have been derived from existing curricular requirements, training regulations and other inputs. They are really a combination of input and output-based approach. The learning outcomes approach adds an important element to the “old picture”, making it possible to have a fresh look at the ordering and valuing of qualifications—not on the basis of the type of institution but on the basis of what a learner is expected to know, be able

to do or understand. A pragmatic use of learning outcomes –combining it with careful consideration of input element- has been important for redefining the relationship between vocational and academic qualifications.

Level descriptors are statements of generic outcomes which characterise the level. Level descriptors are intrinsically about the depth and complexity of knowledge, the range and sophistication of application/practice, the degrees of integration, independence and creativity and the degrees of supervision/independence and responsibility for others’ work. The level descriptors are not about the size of the qualification, the age of the learner, stages of education, where learning took place or wages/salaries.

All qualifications frameworks use level descriptors to peg qualifications on a hierarchical set of levels that number between 4 and 12, but mostly between 8 and 10.

Levels relate to factors such as:

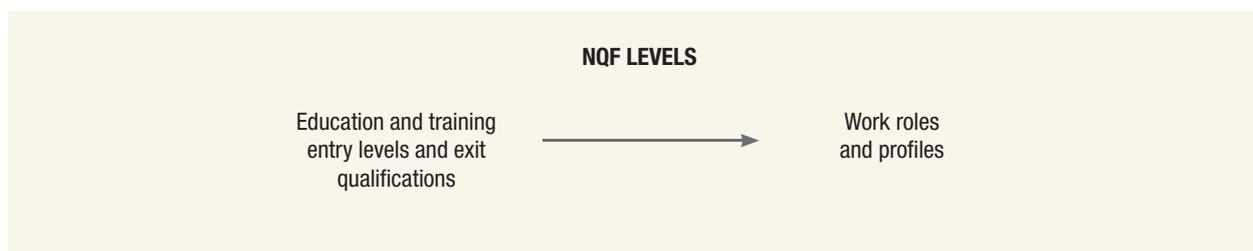
- complexity and depth of knowledge and understanding
- range and sophistication of practical and intellectual skills
- degree of integration, independence and creativity required
- degree of complication and predictability of the context
- role(s) taken in relation to colleagues/fellow workers

Typical outcomes of learning at the level – i.e. someone with a qualification at this level should be able to ... capable of ...

But

- a. a qualification need not match all aspects of the level descriptors
- b. some aspects of the qualification may be at higher or lower levels

Figure 6: Qualifications take their roots in the labour market



Level descriptors have to apply to all the types of qualification in the framework: highly academic, general, pre-vocational, workplace, etc

Operationally, level descriptors can be used:

- in designing qualifications
- to allocate learning programmes and qualifications to levels in the QF
- in validating qualifications and programmes
- in communicating with learners and other users about qualifications
- to map progression routes within and across the education and training sectors
- to set entry requirements/recommendations for programmes

Level descriptors need to be sufficiently detailed and multifaceted to capture the complexities of the national qualification system and to be of relevance to the labour market; they must be able to distinguish systematically between levels and to reflect how knowledge, skills and competences increase in breadth, depth and complexity as learners progress. And they must (increasingly) act as a reference point for international comparison.

Strategically, level descriptors can support:

- the creation of linkages between higher education and VET
- strengthening links between IVET/CVET and the labour market
- making the system more accessible
- establishing systems to validate non-formal prior learning
- establishing systems to give credit, exemptions, etc.
- actions to improve curricula (teaching and learning)
- the recruitment and workforce development by employers
- a shared and systematic approach to the quality of qualifications and certificates

Level descriptors

Most sets of level descriptors refer to knowledge, skills, applications, contexts and responsibilities but under different domain headings and with different linkages. The most common domains are Knowledge, Skills and Competence (influence of the EQF).

In the table below, a few examples of descriptors:

Table 3: Descriptors in selected countries

	<p>EQF Factual and theoretical knowledge Cognitive and practical skills <i>- logical, intuitive and creative thinking</i> <i>- manual dexterity and the use of methods, materials, tools and instruments</i> Responsibility and autonomy ('competence') <i>Some countries add 'attitudes', usually relating to work roles.</i></p>
	<p>IRELAND Knowledge breadth of knowledge/kind of knowledge know-how & skill range/know-how & skill selectivity Competence Context/role/learning to learn/insight</p>
	<p>SCOTLAND Knowledge and understanding Practice: applied knowledge, skills and understanding Generic cognitive skills Communication, ICT and Numeracy skills Autonomy, accountability and working with others</p>
	<p>GERMANY Professional competence – knowledge Professional competence – skills Personal competence – social competence Personal competence – self-competence</p>



ASEAN FRAMEWORK

“Level descriptors based on the notion of competence” which includes:

- Cognitive competence (the use of theory and concepts)
- Functional competence (skills or know-how)
- Personal competence (knowing how to conduct oneself)
- Ethical competence (personal and professional values).

The level descriptors include three domains:

- Knowledge and skills
- Application
- Responsibility and accountability



INDIA

Process (a general summary of the other four domains)

Professional knowledge,
Professional skill,
Core skill, and
Responsibility.

3. How Levels can be Explained

The Case of India - NSQF Levels by Level Summary and Examples

NSQF LEVEL 1

Summary

This is the most basic level of employment in the framework.

Work at level 1 will be routine, repetitive, and focused on limited tasks carried out under close supervision. People carrying out these job roles may be described as ‘helpers’.

Individuals employed to carry out these job roles may be expected to be able to read, write, add and subtract, but will not normally be required to have any previous knowledge or skills relating to the work.²

When employed, they will be instructed in their tasks and expected to learn and use the common terminology of the trade and acquire the basic skills necessary for the work.

Job holders at this level will be expected to carry out the tasks they are given safely and securely and to use hygienic and environmentally friendly practices. This means that they will be expected to take some responsibility for their own health and safety and that of fellow workers.

In working with others, they will be expected to respect the different social and religious backgrounds of their fellow workers.

² In practice many workers at this level will have limited literacy and NOS and qualifications at this levels should reflect this – e.g. in relation to assessment.

NSQF LEVEL 2

Summary

Work at level 2 will also be routine and repetitive and tasks will be carried out under close supervision. The individuals will not be expected to deal independently with variables which affect the carrying out of the work. People carrying out these work roles may be described as ‘assistants’ and the range of tasks they carry out will be limited.

Individuals employed to carry out these job roles will normally be expected to be able to read and write, add and subtract. Their work may involve taking and passing on messages.

They may also be expected to have some previous experience, knowledge and skills in the occupation. When employed, they will be instructed in their tasks and expected to acquire the practical skills necessary to assist skilled workers and/or give a limited service to customers. They will learn about, and use, the materials, tools and applications required to carry out basic tasks in an occupation. They may have to select the appropriate materials, tools and/or applications to carry out tasks.

They will be expected to understand what constitutes quality in their job role and distinguish between good and bad quality in the context of the tasks they are given. Job holders at this level will be expected to carry out the tasks they are given safely and securely and to use hygienic and environmentally friendly practices. This means that they will be expected to take some responsibility for their own health and safety and that of fellow workers and, where appropriate, customers.

In working with others, they will be expected to respect the different social and religious backgrounds of their fellow workers, but their contribution to team work may be limited.

NSQF LEVEL 3

Summary

Work at level 3 will be routine and predictable. Job holders will be responsible for carrying out a limited range of jobs under close supervision. Their work may require the completion of a number of related tasks. People carrying out these job roles may be described as 'partly-skilled workers'.

Individuals employed to carry out these job roles will be expected to be able to communicate clearly in speech and writing and may be required to use arithmetic and algebraic processes. They will be expected to have previous knowledge and skills in the occupation and should know the basic facts, processes and principles applied in the trade for which they are qualified and be able to apply the basic skills of the trade to a limited range of straightforward jobs in the occupation.

They will be expected to understand what constitutes quality in their job role and more widely in the sector or sub-sector and to distinguish between good and bad quality in the context of the jobs they are given. Job holders at this level will be expected to carry out the jobs they are given safely and securely. They will work hygienically and in ways which show an understanding of environmental issues. This means that they will be expected to take responsibility for their own health and safety and that of fellow workers and, where appropriate, customers and/or clients.

In working with others, they will be expected to conduct themselves in ways which show a basic understanding of the social environment. They should be able to make a good contribution to team work.

NSQF LEVEL 4

Summary

Work at level 4 will be carried out in familiar, predictable and routine situations. Job holders will be responsible for carrying out a range of jobs, some of which will require them to make choices about the approaches they adopt. They will be expected to learn and improve their practice on the job. People carrying out these jobs may be described as 'skilled workers'.

Individuals employed to carry out these jobs will be expected to be able to communicate clearly in speech and writing and may be required to use arithmetic and algebraic processes. They will be expected to have previous knowledge and skills in the occupation in which they are employed, to appreciate the nature of the occupation and to understand and apply the rules which govern good practice. They will be able to make choices about the best way to carry out routine jobs where the choices are clear.

They will be expected to understand what constitutes quality in the occupation and will distinguish between good and bad quality in the context of their job roles. Job holders at this level will be expected to carry out their work safely and securely and take full account of the health and safety on colleagues and customers. They will work hygienically and in ways which show an understanding of environmental issues.

In working with others, they will be expected to conduct themselves in ways which show a basic understanding of the social and political environment. They should be able to guide or lead teams on work within their capability.

NSQF LEVEL 5

Summary

Work at level 5 will also be carried out in familiar situations, but also ones where problems may arise. Job holders will be able to make choices about the best procedures to adopt to address problems where the choices are clear.

Job holders will be responsible for the completion of their own work and expected to learn and improve their performance on the job. They will require well developed practical and cognitive skills to complete their work. They may also have some responsibility for others' work and learning. People carrying out these jobs may be described as 'fully skilled workers' or 'supervisors'.

Individuals employed to carry out these jobs will be expected to be able to communicate clearly in speech and writing and may be required to apply mathematical processes. They should also be able to collect and organise information to communicate about the work. They will solve problems by selecting and applying methods, tools, materials and information.

They will be expected to have previous knowledge and skills in the occupation, and to know and apply facts, principles, processes and general concepts in the occupation.

They will be expected to understand what constitutes quality in the occupation and will distinguish between good and bad quality in the context of their work. They will be expected to operate hygienically and in ways which show an understanding of environmental issues. They will take account of health and safety issues as they affect the work they carry out or supervise.

In working with others, they will be expected to conduct themselves in ways which show an understanding of the social and political environment.

NSQF LEVEL 6

Summary

Work at level 6 will require the use of both standard and non-standard practices. Job holders will carry out a broad range of work which will require a wide range of specialised technical skills backed by clear factual and theoretical knowledge.

Job holders will be responsible for the completion of their own work and expected to learn and improve their performance on the job. They are likely to have full responsibility for others' work and learning. People carrying out these jobs may be described as 'master technicians' and 'trainers'.

Individuals employed to carry out these job roles will be expected to be able to communicate clearly in speech and writing and may be required to carry out mathematical calculations. They should also be able to collect data, organise information, and communicate logically about the work. They will solve problems by selecting and applying methods, tools, materials and information.

They will be expected to have broad factual and theoretical knowledge applying to practice within the occupation, and a range of practical and cognitive skills. They will be able to generate solutions to problems which arise in their practice.

They will be expected to understand what constitutes quality in the occupation and to distinguish between good and bad quality in the context of all aspects of their work. They will be expected to work in ways which show an understanding of environmental issues. They will take account of health and safety issues as they affect the work they carry out or manage.

In working with others, they will be expected to conduct themselves in ways which show an understanding of the social and political environment.

NSQF LEVEL 7

Summary

Work at level 7 will take place in contexts which combine the routine and the non-routine and are subject to variations. Job holders will carry out a broad range of work which require wide-ranging specialised theoretical and practical skills.

Job holders will be responsible for the output and development of a work group within an organisation. People carrying out these job roles are likely to be graduates. They may be described as 'managers' or 'senior technicians'.

Individuals employed to carry out these job roles will be expected to be able to communicate clearly in speech and writing and are likely to be required to carry out mathematical calculations as part of their work. They should also be skilful in collecting and organising information to communicate logically about the work.

They will be expected to have wide-ranging factual and theoretical knowledge of practice within the occupation, and a wide range of specialised practical and cognitive skills. They will be able to generate solutions to problems which arise in their work.

They will be expected to understand what constitutes quality in the occupation and distinguish between good and bad quality in all aspects of their work. They will be expected to work in ways which show a good understanding of environmental issues. They will take account of health and safety issues as they affect the work they carry out and manage.

In working with others, they will be expected to conduct themselves in ways which show a good understanding of the social and political environment.

NSQF LEVEL 8

Summary

Job holders who are qualified at level 8 will normally be responsible for managing the work of a team and developing the team. The work will involve dealing with unpredictable circumstances affecting the work.

Their work will require the use of comprehensive knowledge and understanding of the occupational field and a commitment to self-development.

They will normally need an ability to develop creative solutions to problems requiring abstract thought. They will be required to show intellectual independence and

a rigorous analytical ability. They will need to be good communicators.

NSQF LEVEL 9

Summary

Job holders who are qualified at level 9 will normally be responsible for complex decision-making in unpredictable contexts.

They will have to exercise senior responsibility in an organisation and show mastery of the issues in the occupation and the ability to innovate.

Their work will require the use of advanced knowledge and skill. They may make contributions to knowledge in their field through research.

NSQF LEVEL 10

Summary

Job holders who are qualified at level 10 will normally be responsible for strategic decision-making. The context of their work will be complex and unpredictable.

They are likely to be responsible for an organisation or a significant division of an organisation. They will have to provide leadership.

Their work will require highly specialised knowledge and problem-solving skills. They may make original contributions to knowledge in their field through research, scholarship or innovative practice.

The strongest evidence for allocating a qualification to a level of the NSQF will be direct evidence of a match between the outcomes of the qualification and the descriptor for one NSQF level. Where a qualification is made up of clearly distinguished parts or components (such as modules, units or courses), the individual parts of the qualification can be at different levels. This means that it will be necessary to use indirect evidence and weighting.

4. Skype Session

The Writing of Learning Outcomes: main Challenges and Opportunities (Jens Bjornavold)

A learning outcome is a statement of what a learner is expected to know, be able to do and understand after

having completed a learning process.

Cedefop's 2009 publication on learning outcomes showed a geographical difference and an institutional difference in the actual use of learning outcomes. Our (ongoing) study 2013-2015 demonstrates that the shift to learning outcomes is now gathering speed in national qualifications frameworks, for curricula and to orient teaching and training and for assessment.

The learning outcomes principle is – explicitly since 2004 – systematically promoted in the EU policy agenda for education, training and employment. It can be seen as the 'glue' binding together a wide range of initiatives taken during recent years, such as Europass, the EQF, ECTS, ECVET and ESCO... While the specific term may not have been used, learning outcomes are not new. What is new, however, is the high priority given to learning outcomes at European, national and local level.

- At policy level, learning outcomes serve the purpose of transparency, of increased relevance and quality of qualifications, of accountability and it is seen as a way to open up to non-formal and informal learning. But there are concerns: are learning outcomes a policy hype? Are they monitored and reviewed? Are they not a way to impose objectives top down, reducing local and institutional autonomy? Are they not mainly unnecessary bureaucracy?
- At the level of practitioners, LO sets clear targets for the learner which is a way to motivate to learning and to encourages flexible learning pathways: they are a guiding tool for teachers and for assessors. But there are concerns: Do we risk to reduce the scope and richness of learning? Do we undermine the vision of open and active learning? Do we decrease rather than increase transparency.

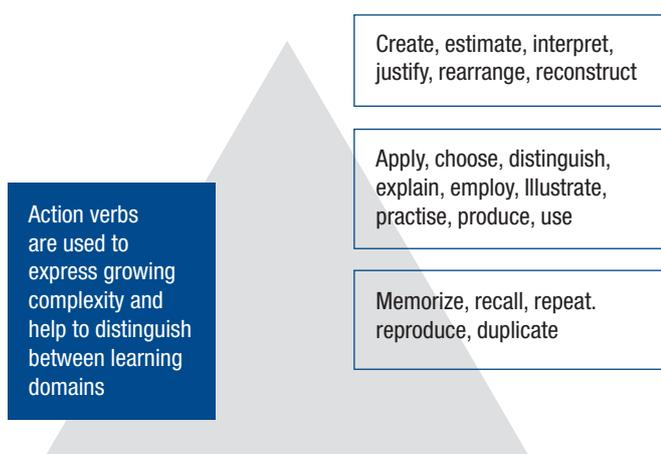
A Cedefop study 2014 – addressed the writing and practical application of learning outcomes. It was an analysis of learning outcomes based VET standards and Higher Education study programmes in 10 countries and of guidelines for writing learning outcomes in VET and HE in the 10 countries. The study finds that the definition of learning outcomes varies between institutions, education and training sectors and countries: the approach to learning outcomes in VET seems to be more harmonized than in HE.

The study also found that the structuring of learning outcomes descriptions vary, both as regards the horizontal description of domains of learning and as regards the vertical dimension, expressing the increasing complexity

of learning. There is no common format for describing learning outcomes, which reduces comparability. The level of detail (granularity) varies dramatically, reducing transparency and comparability.

Learning outcomes must be fit for purpose: The purpose of the LO description will influence the level of detail (granularity) of the description, moving from the general to the more specific that is from full qualifications/programmes to programme or qualification units and to assessment criteria. All have to use ACTION VERBS, identify the relevant OBJECT and describe the CONTEXT of the learning process.

Figure 7: Writing learning outcomes – the essential role of action verbs



Can learning outcomes facilitate recognition/validation of prior learning?

A 2012 EU Recommendation stresses that validation of non formal learning should build on the same learning outcomes based standards as those used for traditional qualifications.

- How can LO descriptions be written to capture the diversity of non-formal and informal learning? How can we balance generality and specificity?
- How can LO descriptions be written to capture the relevant learning domains? How can we balance requirements to, for example, knowledge and skills? How can overview and a holistic approach be expressed?
- How can performance requirements and criteria be written in a way which appreciates non-standardised learning?

Can learning outcomes facilitate validation/recognition of prior learning?

The experiences from writing assessment criteria are relevant. What is key is the lack of ambiguity, the reflected choice of action verbs (Brief statements - one action verb) and the focus on observable learning and explicit manifestations of learning. There is a risk that statements become too detailed and prescriptive and not open to non-standardised learning and a risk that 'observable' learning be defined too narrowly – failing to capture the richness and diversity of non-formal and informal learning?

FURTHER READINGS

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