A Framework for Developing Teachers' Assessment Skills

This Framework document addresses a range of issues. The purposes here are to:

- provide a briefing which locates Assessment within European policy developments

- provide information relating to the principles and types of Assessment and their applications

- develop and create teaching and learning resources to support training programmes in Assessment for teachers and trainers

- provide samples of possible training programmes in Assessment based on the design, implementation, testing, and evaluation of training approaches and materials used in pilot programmes of training delivered in both Lithuania and Finland

- provide working definitions and examples of key concepts

Application

Given the wide and differing contexts within assessment can be made, it should be emphasised that this Framework is not intended as a single model of assessment to be used in every training and teaching situation. The aim throughout the development of this project has been to build in flexibility, so that users of this Assessment Framework will be able to employ it in various ways and in different contexts. However, to have currency throughout Europe, this needs to take place within agreed policy developments and with common agreement on the general concepts surrounding assessement. The framework is based on this but it it is intended that its application is versatile enough to meet the needs of different users. Within the project itself, those different groups have included vocational teachers and trainers, work-based trainers, and work-based assessors.

The Framework will allow teachers and trainers to design their own programmes of training, for different groups according to need and purpose. Various sections of the Framework may be drawn on freely to provide working material or may be adapted to meet particular requirements. Both this Framework and the associated teaching and learning resources may be used to create, or contribute to, purpose-made training programmes leading to formal recognition (including certification). They may also be drawn, selectively, to incorporate into existing training programmes.

Using resources produced in this project, adapting them and adding to them where needed, it will be possible to organise training programmes in various ways as, for example :

- a continuous professional development (CPD) `stand-alone' short course (full-time or part-time attending) for practising teachers and trainers

- recognised with the award of a CPD certificate on successful completion or the award of European Credit Transfer points (as in Finnish pilot programmes within this project's development)

- a unit integrated within training programmes for teachers and trainers entering the profession

- recognised, on successful completion, by the award of unit points appropriate to the structure of the training programme of which it forms a part.

Working method

It follows from this approach that in the design and implementation of Assessment materials and programmes, the project has assumed a particular stategy for developing teachers' and trainers' professional knowledge and skills. Sometimes called 'active-learning', the method is in fact one of engaging in `learning activities'. In that engagement one learns *through* the activity by involvement in the same process one is learning about. One learns also *from* the activity by reflection, after the event, on the processes one has been through. This method is based on Kolb's well known experiential learning cycle described below.
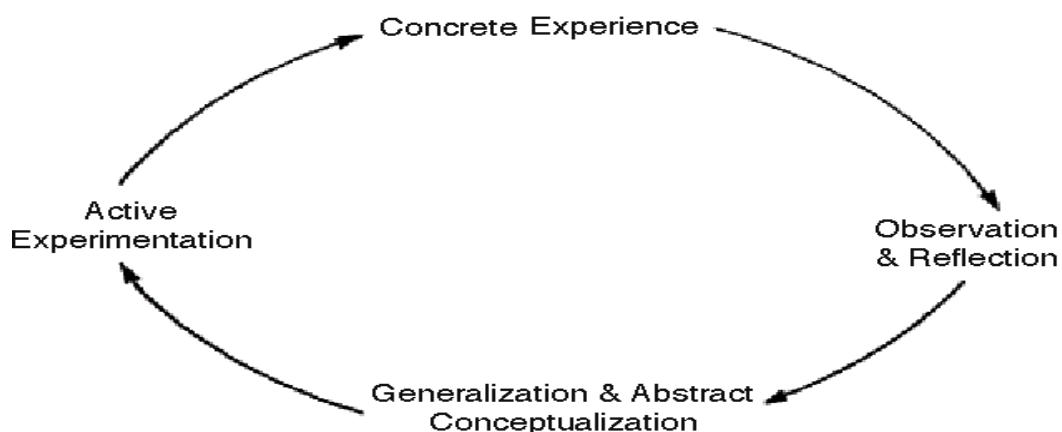
Kolb, D.A. (1984)

The student learns by doing not simply by listening. By engaging in new learning activites, and by reflecting on them, it is possible to make further changes (to practice) as a result of this experience. The student does not learn by being passive and receiving wisdom from others, but by being actively involved in the assessment procedures and activities. This view of active learning was also influenced by a humanistic approach developed by Rogers (1993) and others. Here the role of the teacher is seen as a facilitator of learning rather than a mere transmitter of all knowledge and expertise. Such reflection upon experience and the new learning that can result from that reflection are essential to the process of lifelong learning.

Assessment and the European policy background

The current axiom throughout the European Community and its members is that education and training is crucial to international, national and individual development. To those ends, there is a clear requirement to establish a common language and understanding of key concepts and principles within education and training. This Framework provides working definitions for the core principles of assessment, their essential processes, together with a summary of new developments and new concerns from recent European policy initiatives. Even with common agreement on core concepts and processes, their application may vary as appropriate to differing conditions and situations.

Lifelong learning

Within European policy of the last few years there has been an increased stress upon the need to enhance the quality of education provision, in terms both of general education and of vocational education and training (at initial and continuing levels). The Lisbon European Council strategic declaration of March 2000, for example, perceived vocational education and training (VET) as the prime means of making the EU the "most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion."   Improving the education and training of teachers and trainers was seen not only as an essential means but a priority towards achieving those Lisbon goals.

The training of teachers, however, must be seen also within a wider context. Given that European economies are increasingly knowledge-based, European policy endorses the need to promote and develop a culture of lifelong learning among all its workforces. However, the

EC Communication *Making a European Area of Lifelong Learning* (November 2001) makes it clear that lifelong learning itself should not be confined to the narrowly vocational. The objectives of lifelong learning include "active citizenship, personal fulfilment and social inclusion, as well as employment-related aspects."

Achieving these potential goals requires, as the same Communication acknowledges, the creation of a culture in which learning itself is valued:

Creating a culture of learning requires that the question of how to value learning in formal, non-formal and informal settings, must be addressed in a coherent way. Enabling citizens to combine and build on learning from school, university, training bodies, work, leisure time and family activities presupposes that all forms of learning can be identified, assessed and recognised.

Such a cultural shift demands that

A comprehensive new approach to valuing learning is needed to build bridges between different learning contexts and learning forms, and to facilitate individual pathways of learning.

Lifewide learning

The potential consequences of this statement are wide-ranging and, of course, have their impact upon issues to do with the assessment of learning. The principles of lifelong learning acknowledge that learning may be acquired in a range of contexts (or settings) and in various ways. To lifelong learning must be added the notion of "lifewide" learning (EC Communication on Lifelong Learning: 2001). Lifewide learning, essentially, acknowledges that learning, in general terms and in vocationally-relevant ways, may result from both formal education and training *and* from personal, social, and vocational experience. The bridges between these forms of learning then need to be examined and mechanisms created by which *all* learning may be recognised in ways which enable the individual to embark upon and continue within lifelong education and training. Learning embedded in social, personal, and vocational experience may emerge from non-formal or informal means.

Forms of learning

Working definitions of each of these three forms of learning, as adopted by the European Commission (2001), read as follows:

- formal learning is typically provided by education or training institutions, structured (in terms of learning objectives, learning time or learning support) and leading to certification. Formal learning is intentional from the learner's perspective.

- non-formal learning is not provided by an education or training institution and typically it does not lead to certification. However, it is structured, in terms of learning objectives, learning time or learning support. Non-formal learning is intentional from the learner's point of view.

- informal learning results from daily life activities related to work, family or leisure. It is not structured (in terms of learning objectives, learning time and/or learning support). Typically, it does not lead to certification. Informal learning may be intentional but in most cases, it is non-intentional (or incidental/random).

The key distinction in these definitions is between formal and non-formal learning, both of which offer structured learning opportunities, and informal learning which is not structured. The subsidiary distinction is between formal and non-formal learning as an intentional learning activity, and informal as (in most cases) non-intentional.

Non-formal and informal learning: principles

The European Council Draft Conclusions on non-formal and informal learning (May 2004) reached by Council and Representatives of the Governments of the Member states identifies Common European principles "to encourage and guide the development of high-quality, trustworthy approaches and systems for the identification and validation of non-formal and informal learning."

Those principles were gathered under the following four headings:

- *Individual entitlements*

   The identification and validation of non-formal and informal learning should, in principle, be a voluntary matter for the individual. There should be equal access and equal and fair treatment of all individuals. The privacy and rights of the individual are to be respected;

- *Obligations of stakeholders*

  Stakeholders should establish, in accordance with their rights, responsibilities and competences, systems and approaches for the identification and validation of non-formal and informal learning. These should include appropriate quality assurance mechanisms. Stakeholders should provide guidance, counselling and information about these systems and approaches to individuals.

- *Confidence and trust*

  The process, procedures and criteria for the identification and validation of non-formal and informal learning must be fair, transparent and underpinned by quality assurance mechanisms.

- *Credibility and legitimacy*

  Systems and approaches for the identification and validation of non-formal and informal learning should respect the legitimate interests and ensure the balanced participation of the relevant stakeholders.

  The process of assessment should be impartial and mechanisms should be put in place to avoid any conflict of interest. The professional competence of those who carry out assessment should also be assured.

To these principles, intended specifically to guide the identification and validation of non-formal and informal non-formal learning, must be added those general principles which apply to the assessment of *all* learning (see entry, below: Assessment key concepts).

Some implications

In the context of this project, it is clear that:

- the assessment of any one of these forms of learning (formal/non-formal/informal) carries implications for the assessment of other forms of learning

- elements of learning achieved in any one form may be combined and supplemented with learning derived from other forms (to ensure recognition of `lifewide' learning)

- the assessment of all forms of learning should adhere to the overall principles of validity, fairness, and reliability (see later section : Assessment: principles and processes) – and underpinned (as above) by quality assurance mechanisms

The common European principles cited above in turn raise their own questions which pose two particular issues for the assessment of non-formal and informal learning. First, how can learning acquired through the individual's own social, personal, and vocational experience be made *visible*; that is, be presented in coherent forms which identify the nature, range, depth, and application of that learning? Second, how can such learning be *assessed*?

Learning outcomes

European policy addresses both of these questions through the notion of learning outcomes – which can be applied to all forms of learning. One definition of learning outcomes is that they are:

"…statements of what a learner knows and/or is able to do at the end of a learning process…" (CEDEFOP Glossary of terms: 2007)

Fuller definitions may refer to learning outcomes as statements/descriptions of learning achieved and/or to be achieved, in terms of knowledge, understanding, skills, and competences. The European Qualifications Framework (proposed by EC in September 2006 and adopted by the European Parliament and Council in December 2007) itself structures learning outcomes in the form of knowledge, skills, and competences. Further, the distinctions between these categories of learning may be nominal rather than absolute. The EQF (as pointed out in the EC's own note *Explaining the European Qualifications Framework*: 2007) includes certain skills within the competence category, and certain forms of knowledge within the skills category.

Nonetheless, it is the case that, with whatever descriptions designed, learning outcomes can be used to discriminate among and between different forms of learning. As such, stated as knowledge, skills, competences, or combinations of these, learning outcomes provide external measures against which appropriate means of assessing learning can be devised. Clearly, clarity of the definition of outcomes is crucial to the development of appropriate assessment procedures.

Learning outcomes can be applied at different levels for different purposes. They can be used:

- to define, in general terms, the overall learning achievements which attach to national qualifications (degrees, certificates, diplomas) (see National Qualifications Frameworks, below)

- to define the learning to be achieved in any given formal programme (or course) of study or training

- to provide statements of knowledge, skills, and competences against which non-formal and informal learning can be evaluated for the purposes of recognition and, if leading to a qualification, validation

- to structure formal teaching/training sessions as statements of the learning to be achieved *within* or *by the end of* each session of teaching/training

- to provide a means of creating assessment activities for the purposes of testing and assessing learning which are *derived from* statements of learning outcomes -- so that they can be seen to be relevant and appropriate

- to make transparent, to both learner and assesor, *what* is to be tested and (in most cases) *how* that learning is to be tested

National Qualifications Frameworks

National Qualifications Frameworks (NQFs) based on a learning outcomes approach illustrate a general European-wide development. The following state-of-play, at December 2007, demonstrates the progress:

- 6 European countries have an established NQF based on learning outcomes [Ireland ; UK (England, Scotland, Wales) ; France ; Malta]

- 14 are in the process of developing an NQF based on learning outcomes [Austria ; Belgium ; Bulgaria ; Croatia ; Czech Republic ; Germany ; Hungary ; Italy ; Latvia ; Portugal ; Slovak Republic ; Slovenia ; Spain ; Turkey]

- 9 are giving consideration to the possibility of an NQF based on learning outcomes [Denmark ; Estonia ; Lithuania ; Luxembourg ; the Netherlands ; Norway ; Poland ; Romania ; Sweden]

- 4 have not yet begun the process of consideration/development [Cyprus ; Finland ; Greece ; Iceland]

[Sources : Gordon Clark, Head of Unit, European Commission, DG Education and Culture, `The learning outcomes' perspective and its impact on European education and training policies', presentation Cedefop Conference `Rhetoric or reality : the shift towards learning outcomes in European education policies and practices', Thessaloniki, October 2007 ; Loukas Zahilas, `EQF as a catalyst for national developments', presentation TTnet 10th Annual Conference, Thessaloniki, December 2007]

Assessment : principles and processes

The basic principles to establish here are the range of purposes attaching to assessment, and those of validity, fairness and reliablity.

The purposes of assessment

Assessment is used for a range of purposes. Assessment may be used to:

- test the progress of students

- diagnose particular weaknesses or highlight strengths

- provide feedback to learners, leading to future improvement

- provide feedback to teachers and trainers

- provide feedback to other stakeholders

- select students for courses of study or employment

- estimate learners' current skills

- form part of a student's ongoing profile of abilities

- contribute to some publicly recognised accreditation system

- recognise prior achievement and experience and possibly to lead to credit accumulation and transfer

- demonstrate to students that they have attained some goal or acquired some skill

- motivate the learner.

- identify and accredit informal and non-formal learning

Actual assessments, in practice, may be designed to achieve more than one purpose – both to test the progress of a student and to motivate that learner, for example.

Types of assessment

Three broad types of assessment can be identified:

Diagnostic assessment

Diagnostic assessments are used to determine the presence or absence of necessary skills or knowledge. They may also determine the underlying causes of repeated learning difficulties. A diagnostic test may highlight, for example, that a student on a vocational course is struggling with his or her studies because of a lack of adequate numerically skills. Once identified, appropriate support can be given to this learner.

Formative assessment

The prime purpose of formative assessment is to provide feedback to students and trainees. Such assessment shows the individual learner's progress; and may also identify any current or potential learning difficulties – a lack of understanding of an important concept, for example. This type of assessment is used to monitor learning during a course or period of training. For teachers and trainers, formative assessment also provides information about how successful they have been in enabling students and trainees to achieve the appropriate learning as defined by learning outcomes set for that course of study/training.

A key aspect of continuing formative assessment is that it provides a basis for discussion between tutor and student. The techniques most commonly used for formative assessment typically include oral questioning in class, short answer written tests, essay or assignment tests and assessments of ongoing practical activities undertaken in the workplace, workshop or classroom.

Summative assessment

Summative assessment is sometimes known as 'final assessment'. As such, it provides the verdict on the individual's success or failure to complete a programme of study/training, or a unit or module within that programme. Summative assessment is typically designed to assess the extent to which learning has been achieved, the quality of the individual student's work and, in some cases, to assign grades and final certification.

The techniques or methods used for summative assessments include the following:

- examinations produced by examining bodies

- projects

- teacher-produced achievement tests

- skills/competency assessment

- inspection of diaries, laboratory note-books and work experience reports

- observations of products, portfolios and craft products.

In practice, it is possible that a learner will go through all three types of assessment in the order given. Diagnostic testing will provide information on the learner's "readiness" to undertake a given course of study/training, the level of skills and knowledge previously acquired, and any additional support or supplementary learning needed in order to engage with that study/training. On other occasions, according to the context and purpose, more than one type of assessment may be present within the same test. For example, the same assessment task could assess progress and at the same time diagnose future needs – that is, in this case, it is both formative and diagnostic)

Assessment key concepts: validity, fairness and reliability

Validity is the extent to which a test measures what it is supposed to measure. A tape measure is a valid tool for the measurement of length. It is not valid for measuring weight. Assessors have to be clear what they are trying to measure. To that end, setting clear and relevant learning outcomes is essential. Validity addresses both *what* learning is to be tested and *how* it is to be tested. Validity requires that the means adopted for the testing of learning is fit-for-purpose.

Reliability refers to the consistency of measurement. It refers to the extent to which an assessment will produce the same pattern of scores (or results) with the same population of students on different occasions. Reliability should not depend on *who* is doing the assessment or *who* is being assessed.

Fairness asks whether the form of assessment is just and equitable or whether it discriminates against certain students for reasons that have nothing to do with their ability. Classic examples of this tend to focus on physical disabilities (e.g. the assessing a deaf student orally)

but are not limited to this single factor. In more general terms, for example, there may be different ways in which different individuals can demonstrate their competence. The way selected by the assessor may favour some learners (who are "good at" writing essays, for example) and weigh heavily against others. In terms of assessing lifelong learning the concept of fairness has become increasingly important. With the easy movement of labour throughout the Community, issues surrounding language and different cultural histories and norms should also be taken into account in establishing a fair way of proceeding.

Assessment practices

Working within the context of European initiatives, this project has emphasised the importance of lifelong learning in all its forms -- and the methods and to identify it and recognise it.

In general, this project has looked at assessment materials from the perspective of assessing the vocational student or trainee, but the same or similar methods can be used to assess the competences of all learners (and their teachers or trainers). Within the context of lifelong learning, learning takes place in a wide range of circumstances: the workplace or living space of the learner. Both of these provide rich learning environments. In order to optimise the individual's learning in these different circumstances, it is essential that recognition must be given to learning whether it is gained formally or non-formally or informally. The careful design, selection, and application of assessment methods and materials will then support the process of recognition.

A recent Cedefop report (see Bibliography entry for Webb) summarised some of the actual methods employed to identify non-formal and informal learning :

- (Structured) interview
- Direct observation of vocational / working or teaching competencies
- Self analysis/self assessment of professional knowledge and skills
- Mapping of personal learning needs
- Preparation of individual / personalised learning plan
- Submission of detailed training plan taught by the individual
- Preparation of report on personal experiential learning
- Submission of a portfolio/dossier
- Tests, essays or other formal methods of identifying prior learning

Finally, when applying any of these methods, it should be remembered that an increasing number of learning difficulties have been identified in adult learners and the method to be applied may need to be modified to meet the specific needs of the student. For further analysis of the use of these methods and examples of how some assessment methods can be used to assess prior learning, see Resource Pack.

Quality assurance of assessment

In *all* cases of assessment – whether of formal, non-formal, or informal learning – there needs to be mechanisms and procedures in place to assure the reliability of the assessments made. Quality assurance needs to direct attention to:

- the assessors themselves

- the system(s) within which they conduct their assessments

Assessors should themselves be competent to assess those areas of knowledge, skills, and competences for which they are responsible. That competence is determined by a mixture of experience, expertise, and qualifications. In addition, however, a quality assurance *system* would provide a means of checking that each assessor could demonstrate the necesssary experience, expertise, and qualifications in order to be confirmed as a competent assessor. In some systems it might be that such confirmation is internal to a particular institution (a university, for example). In order to demonstrate competence in other systems (such as the UK, for example) the individual teacher/trainer would have to gain an external Assessor's Award – which would then qualify that person to undertake a range of assessments nationally, in different settings and for different organisations or institutions.

A quality assurance system would also provide other safeguards, particularly of reliability. The following (taken from Webb, 2007) identifies a set of principles which should be built into all systems for the quality assurance of assessment – whether of formal, non-formal, or informal learning. Such a quality assurance system would ensure that:

- the methods of assessment adopted are fit-for-purpose; that is, they are the most appropriate means of testing for the particular range of knowledge, skills, competence being looked for

- clear and explicit criteria and requirements are set to assess each item (test, piece of work, demonstration…etc) and for all items overall (as in a portfolio or project assessment)

- all requirements, assessment criteria, and procedures are known in advance by all candidates

- appropriate requirements are set to appoint approved assessors

- summative assessment results are moderated and confirmed by a panel of appointed assessors

- there is external representation on the panel/team/jury/examination board confirming final results

Where the assessment is of non-formal and informal learning, additional principles can be applied to ensure that :

- clear outcomes are set for what can be achieved through the demonstration of non-formal and informal learning (for example, what can be exempted from a programme of formal study/training, or number of credit points towards total required for an award)

- appropriate support and guidance are made available to each learner in order to prepare an application for recognition based on, or incorporating, non-formal and informal learning

- diagnostic and formative assessment (where appropriate) were provided to enable the learner to target learning needs

It is envisaged that teachers and trainers in Assessment programmes, as part of that programme, would need to address these issues of quality assurance by examining the system of quality assurance applying to their own institution or organisation, sharing results, and making proposals for further development – if any is found to be required.

Bibliography

Council of the European Union – General Secretariat. *Presidency conclusions: Lisbon European Council of 23 and 24 March 2000.* Brussels: Council of the European Union, 2000.

Council of the European Union. *Draft conclusions of the Council and of the representatives of the Governments of the Member States meeting within the Council on Common European Principles for the identification and validation of non-formal and informal learning.* Brussels: Council of the European Union, 2004.

European Commission. *Making a European area of lifelong learning a reality: communication from the Commission.* Brussels: European Commission, 2001.

European Commission. *Explaining the European Qualifications Framework for Lifelong Learning.* Brussels: European Commission, nd [2007]

Kolb, D.A. (1984) Experiential Learning: Experience as the Source of Learning and Development . Hall Inc., New Jersey

Rogers, C. and Freiberg, H. J. (1993) *Freedom to Learn* (3rd edn.), New York: Merrill

Webb, Edwin. *Recognition and validation of non-formal and informal learning for VET teachers and trainers in the EU member states.* Cedefop Panorama series; 147. Luxembourg: Office for Official Publications of the European Communities, 2007.