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Guaranteeing the Quality of Certification of Apprenticeship/Work-Based Learning – a Handbook

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Introduction

This handbook is the second element in a project undertaken by the National Organisation for the Certification of Qualifications and Vocational Guidance in Greece (EOPPEP) as part of a wider research (call EACEA 46/2015) under the aegis of the European Quality Assurance for Vocational Education and Training (EQAVET) Network. The project objective is to support the introduction of the learning outcomes approach into qualifications systems in Greece by identifying methodologies and criteria for guaranteeing the quality of certification of learning achieved in work-based learning in initial vocational education and training (IVET). The handbook builds on the conceptual base developed in the study completed in the inception phase of the project, which explored practice in the assessment and certification of IVET in a range of countries, and the quality assurance arrangements that underpin their certification systems. It sets out principles that should govern the design of quality-assured assessment and certification processes, and guidelines for the design of such processes in the context of work-based learning. Assessment methodologies that are observed to be in use in many countries are listed and analysed in terms of their suitability for the assessment of learning outcomes achieved in work-based learning. Finally, a process model describes six development steps appropriate for use in situations where new or improved arrangements are required for quality-assured assessment and certification in work-based IVET.

1. Principles and guidelines

The project inception study sets out principles to guide the design of assessment and certification processes that can be quality assured, and also proposes guidelines for policy-makers, practitioners and other relevant stakeholders on how to guarantee the quality of certification of learning in certain specific areas of VET. These principles and guidelines were developed from an analysis of existing practice in relation to the quality assurance of certification of work-based IVET, in Greece and throughout Europe.

Principles for the design of quality-assured assessment and certification processes

General principles for quality assurance are a common feature of the European qualifications instruments. The recommendation on the establishment of the European Qualification Framework for Lifelong Learning (EQF) sets out *'common principles for quality assurance in higher education and vocational education and training in the context of the European qualifications framework'*. These principles make particular reference to quality assurance of learning outcomes, but without explicitly addressing the certification process. The implementation of the EQAVET recommendation has prompted most European countries to devise national approaches for quality assurance in IVET; however, most countries' IVET quality assurance is heavily concentrated on input and process quality, rather than on measures designed to quality-assure the VET qualifications system. Specific principles are required to guide the design of arrangements to strengthen trust in certification and, in particular trust in assessment processes. Stenstrom and Laine (2006)[1], working towards a definition of good practices for practice-oriented assessment in VET, identified four key quality criteria – validity, reliability, impartiality and transparency – that should be met in the design of assessment processes. Findings from the project inception study suggest that a fifth quality criterion should be added – practicality – particularly in situations where significant change is implied:

Validity of assessment requires that the assessment processes be accurately designed to measure achievement of the intended learning outcomes.

[1] Stenstrom, M.L and Laine, K. (eds) (2006). Towards good practices for practice-oriented assessment in European Vocational Education. Jyvaskyla: Jyvaskyla University Press.

Reliability requires consistency and accuracy of the assessment processes to ensure that comparable assessment results are obtained from comparable learning achievements, e.g. in different years, different assessment centres.

Impartiality requires that assessment processes do not offer unequal advantage to any particular candidates or groups of candidates and are not influenced by personal views or feelings of the assessors.

Transparency requires that all parties involved in the assessment (including learners) are familiar with the assessment processes, as well as any associated certification implications, and that appropriate appeals procedures are in place.

Practicality requires that assessment and certification processes do not depend on unrealistic resourcing allocations, or on expectations for collaboration or cooperation by stakeholders that cannot be achieved.

Guidelines for the design of quality-assured assessment and certification of work-based learning

The project inception study recommends the adoption of guidelines for the design of quality-assured processes for the assessment and certification of work-based learning. The following guidelines, focused on the particular issue of the assessment and certification of work-based learning, build on recommendations for policy-makers, awarding bodies and VET practitioners set out in Cedefop Research Paper 51[2].

- clearly and explicitly include provisions for certification in VET policies;
- ensure appropriate definition and use of standards based on learning outcomes;
- ensure that assessment processes are designed to match the learning outcomes required (for a qualification, or a part-qualification);

[2] Cedefop (2015a). Ensuring the quality of certification in vocational education and training. Luxembourg: Publications Office. Cedefop Research Paper No.51

- ensure that assessment and certification procedures are as realistic and as simple as possible, so that they are usable by all actors including WBL mentors and work-based assessors;
- ensure the involvement of labour market stakeholders in certification and relevant quality assurance processes;
- support the development of a common understanding of certification requirements among stakeholders;
- ensure that policy-makers, awarding bodies and practitioners (including workplace trainers and assessors) share responsibility for quality assurance of certification;
- ensure that assessors are competent and suitable trained;
- for the assessment of learning in the workplace, ensure that multiple assessors are involved, and/or that a robust validation of the assessment is included in the certification process;
- ensure that evaluation and review are used in the design and on-going improvement of certification processes;
- apply EQAVET principles in the design of measures to quality assure certification processes.
- take into account the reality that reliable, quality-assured assessment undertaken in the workplace will be relatively expensive to implement and/or will require significant commitment by the workplace partner.
- accept that learning on-the-job does not necessarily have to be assessed on-the-job; the important thing is to ensure that the assessment and validation arrangements can be quality-assured and this is often easier to achieve through school-based assessment.

2. Quality assurance of assessment methodologies for work-based learning

A central issue in the design of certification for work-based learning is the need to identify and implement appropriate assessment methodologies. The project inception study explores various approaches to the assessment of learning achievement adopted in the certification of IVET in European countries. The methodologies analysed fall into three main categories: Examinations, Continuous Assessment and the setting of Assignments.

Table: Assessment methodologies for work-based learning in IVET

Assessment methodology	Mode
Examination	• Written exams • Oral exams • Final exams only, or at stages • National, regional, local or sectoral
Continuous Assessment	• Student diary or logbook • Task completion or demonstration • Recording of learning outcome achievement • Performance monitoring (daily, weekly, monthly)
Assignments	• Written assignment • Case study • Test piece • Project, or work order

The Table illustrates that all three categories of assessment methodology can be applied in various ways. Of these various methodologies, continuous assessment and the setting of projects or assignments are those most commonly associated with the assessment of work-based learning, although in dual systems these methodologies are often subsumed in an overall final examination process. Many of the case studies explored in the project study stress the need for multiple assessment approaches if the achievement of work-based learning outcomes is to be accurately assessed.

The three approaches to assessment can be analysed in relation to their suitability for assessing learning outcomes, their application to the work-based learning components of IVET qualifications, and their associated issues and potential for quality assurance.

Examinations

The final examination is the most common methodology for assessing learning achieved in apprenticeship-type programmes. Historically, in many systems, the final examination was the only assessment contributing to fulfilment of requirements for certification, but in recent years there is a trend towards the use of multiple assessments – e.g. examinations at stages in the programme, or course-work assessment that counts towards the eventual final grading. Final examinations invariably include a written test, but may also include oral tests or workshop tests, depending on the field of learning involved.

Final examinations have the advantage that this approach offers strong potential for robust quality assurance in terms of the key criteria of reliability, impartiality and transparency; as for practicality, all of the systems examined have (mostly centralised) examination apparatus in place, with strong arrangements for oversight by responsible authorities.

The weakness of the final examinations approach lies in the criterion of validity: traditionally, this methodology has been oriented towards assessment of fixed curricula, and it has proved difficult to devise examination processes that can adequately assess learning outcomes – particularly outcomes in the 'competence' domain. Looking more closely at the learning outcomes typically associated with on-the-job modules, these often include outcomes such as the ability to 'take responsibility for decision-making' and 'work in situations where there is unpredictable change'. These outcome factors are difficult to assess in the context of a final examination

Continuous Assessment

Various modes of continuous assessment have been in use in many European IVET systems in recent years. As the final examinations approach, the use of student diaries or logbooks is undoubtedly an almost universal feature of apprenticeships. Some countries have moved very far in the direction of continuous assessment where the VET school trainer is the assessor; systems where the workplace trainer, or a workplace supervisor, is empowered to

undertake assessments are still rare. Synthesising examples of practice from across the EU it may be concluded that most continuous assessment in IVET is done for formative reasons rather than as a formal contribution to gradings for certification: in this way, the situation parallels that found in CVET. In many systems completion of a validated student diary is a pre-requisite for admission to the final examinations and this is its only contribution to the certification process.

The relatively uncommon use of continuous assessment for certification purposes can be related to the quality criteria. This methodology, in all of its modes, has strong potential for validity, as processes can be devised to assess achievement of the most specific learning outcomes. On the other hand, the inherent subsidiarity in this approach creates challenges in relation to reliability and impartiality, and transparency is more difficult to guarantee because of the complexity of the continuous assessment approach; as for practicality, the need to develop a corps of expert assessors (in both schools and workplaces) is a challenge, both in terms of resources and organisational structures.

Looking at the particular context of work-based learning, it is obvious that continuous assessment methodologies offer significant potential as a means of capturing the achievement of outcomes, but only if the wider range of stakeholders involved can work together to address the issues of reliability and impartiality.

Assignments

Some IVET systems – notably those adopting the dual approach – include assignment methodologies in the matrix of assessments that make up the final examination, e.g. construction of a test piece, or completion of a simulated work order. In other systems assignment-completion assessments are undertaken at intervals throughout the learning process (sometimes as and when the student feels ready to undertake the task), and the results of these assessments are included in computing the overall results for grading and certification.

Assignments offer a means of tailoring assessment to specified learning outcomes and this methodology is thus very compliant with the validity criterion. It does present the same issues in relation to reliability and impartiality, but to a lesser degree as the standardisation

of assignments and the activity of the assessors can be controlled by the responsible awarding body. As for practicality, this approach involves somewhat more resourcing than is required for examinations, but some countries have adapted the existing examination apparatus to administer devolved assignment assessments.

In many occupational sectors the use of assignments for assessment of learning achieved in the workplace would be inherently suitable; in others it might be difficult to identify appropriate tasks, or to provide appropriate settings. Even if it was found necessary to arrange for an assignment to be undertaken off-site (e.g. in a school laboratory) it could still be possible for experts from the workplace to contribute to the design of the task to be performed.

3. A process model for the development of quality-assured assessment and certification in work-based IVET

The project inception study illustrates the wide variety of approaches adopted in European countries to the assessment and certification of IVET; in particular, there are many different arrangements made for the assessment of work-based learning elements of IVET qualifications, varying from the fully-integrated structure of the dual systems to systems in which the work-based learning component is relatively small and subsidiary to the school-based programme. There is, of course, also a wide variation in the extent to which the learning outcomes of qualifications have been identified. Furthermore, countries and systems have different traditions in relation to responsibility for quality assurance. Taking all of these factors into account, it is not possible to identify any one dominant approach to the development of quality-assured assessment and certification. Nevertheless, synthesising the findings from the examination of many different systems and their experiences of adapting to the concept of outcomes-based qualifications, a simple development process model can be identified that has the potential to be used in most situations where new or improved arrangements are required for quality-assured assessment and certification in work-based IVET; the model comprises six steps:

1. Establish the general learning outcomes for the relevant type of qualification (e.g. IEK Diploma in the Greek context) – in most NQFs this is done as part of the initial development process.

2. Identify the overall learning outcomes for a particular qualification (e.g. IEK Diploma in Hospitality Management), including school-based and work-based elements. These outcomes would be in much greater detail than those of a general qualification type. In many instances the awarding body of the qualification (EOPPEP in relation to IEK) would have these outcomes listed, or could do so.

3. From the overall learning outcomes of the qualification, identify the learning outcomes expected to be achieved in the work-based learning component.

4. Identify assessment methodologies – criteria and procedures – that can assess the achievement of learning outcomes in the work-based learning activity. These

methodologies must be quality-assured: therefore, any methodologies proposed should be developed or selected under the design guidelines and validated against the checklist of quality criteria (validity, reliability, impartiality, transparency and practicality).

5. Test and refine the assessment methodologies; this step in the development process may take considerable time and require several iterations of the design – test – evaluate – refine stages.

6. Develop appropriate certification modalities and procedures for the inclusion of the results of the assessment of work-based learning into the overall assessment of requirements for the award of the qualification – e.g. arrangements for the allocation of credits, proportionality of work-based and school-based outcomes, moderation of the grading of assessment results. In most systems, the development of these modalities and procedures would be undertaken with the collaboration of the relevant stakeholders, or any arrangements proposed would need to be agreed with stakeholders.