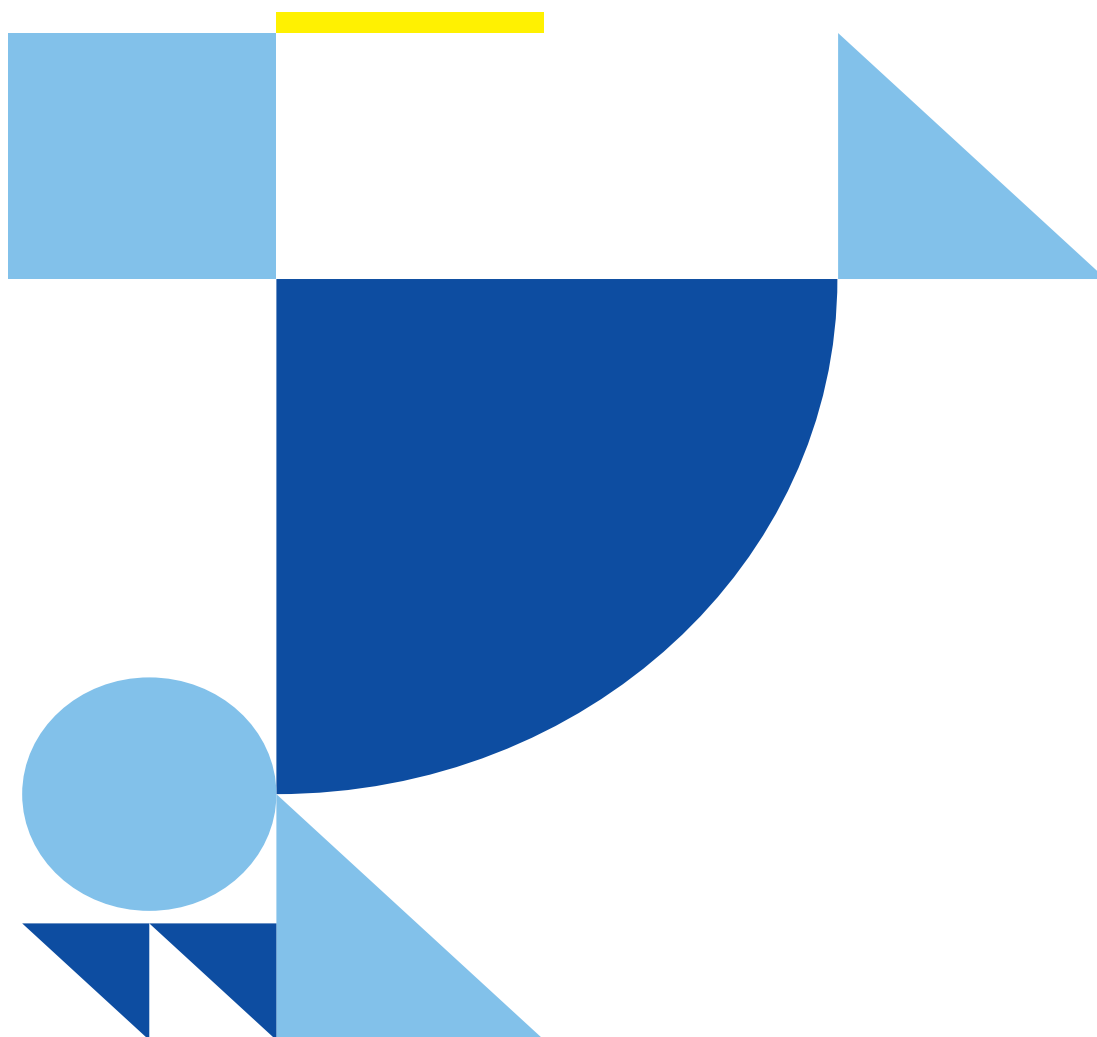**RESEARCH PAPER**
No 51

Ensuring the quality of certification in vocational education and training

CEDEFOP

Ensuring the quality of certification in vocational education and training

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Europe 123, 570 01 Thessaloniki (Pylea), GREECE
PO Box 22427, 551 02 Thessaloniki, GREECE
Tel. +30 2310490111, Fax +30 2310490020
E-mail: info@cedefop.europa.eu
www.cedefop.europa.eu

Joachim James Calleja, *Director*
Micheline Scheys, *Chair of the Governing Board*

Foreword

Qualifications have great value to people as they serve to find employment and to progress in education and training.

Qualification holders must inspire confidence that they have actually acquired the learning outcomes documented in it. Systematic quality assurance makes it possible to measure whether the document carries the information necessary to attract employers to the real value of the qualification on the labour market.

Further, the increasing shift to learning outcomes and the expansion of national qualification systems which allow qualifications to be acquired through different learning pathways suggests that, more than ever before, the learning provision quality assurance cannot be the only element underpinning the awarding of qualifications.

The certification process is particularly important in this context: it confirms that the learner has successfully completed a learning process through a regulated training and education programme, passed the required exams or assessments and is awarded the qualification on the basis of his or her acquired competences. While a few years ago this process was taken for granted on the basis of an institution's reputation, today, the learning proliferation has made it necessary to structure the process in the most transparent way possible.

This Cedefop study offers important insights on how this is ensured in initial vocational education and training (IVET) in the Member States.

Based on data from 12 European countries the study identified eight key quality features which guarantee that the certification processes are consistent across a VET system. The study highlights that to strengthen trust in certification, it is essential for learners to be assessed against a set of clear reference points expressed in terms of learning outcomes and that certification results are comparable across the VET system within a particular institution or at country level. Moreover, the study demonstrates the bridging role of the certification process between IVET and the labour market and underlines the pivotal role of representatives of the world of work in certification.

The study findings reveal that many Member States are currently facing several challenges in terms of implementing reforms on issues relating to certification such as the organisation of final assessment, the implementation of learning outcomes approaches and relevant quality assurance arrangements. By presenting key messages and recommendations for policy consideration, for bodies involved in the certification process and practitioners, we hope to assist

Member States guarantee the quality of their certification process in IVET and stimulate further debate, research and action in Europe.

Certification is a passport for employability. It documents who the person is, and what he or she knows and is able to do. It also reflects the quality culture of the learning vocational school, college or higher education and training institution. I therefore hope that this work lands in the hands of principals, registrars, administrators and policy-makers of public and private VET schools and colleges so that VET learners will be awarded certificates to enhance their chances of employment and their need to further their education and training in a lifelong learning context.

I also argue that employers and other social partners regard this work as a platform to support VET provision in producing certification that attracts the right employment and features clear knowledge, skills and competence that are either relevant to the jobs currently available in the labour market or that can spearhead new jobs for newly acquired skills.

Joachim James Calleja
Director

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Executive summary

This research paper presents the findings of a Cedefop study on the quality arrangements that ensure consistency in the certification process with a view to generating trust in qualifications. The study focuses on qualifications in initial vocational education and training (IVET) and examines the extent to which the gradual shift to learning outcomes influences them. For the purpose of this study, the certification process is understood as the process starting with the assessment of individual learners that leads to the awarding of a qualification.

The study's main objectives are translated into the following research questions:

(a) what characterises certification processes for IVET in the selected countries;

(b) to what extent and how are certification processes for IVET supported by systematic quality assurance arrangements;

(c) how is the shift to learning outcomes influencing quality assurance arrangements that support certification;

(d) to what extent and how is the experience gained from the certification process taken into account when reviewing the functioning and outcomes of IVET;

(e) which main strengths and weaknesses can be observed in relation to the quality assurance of certification processes and which are the recommendations – to policy-makers and practitioners – to be made on this basis?

The study used the following approaches to answer these questions.

First, literature review gathered evidence on the quality arrangements underpinning the certification process and the relevant use of learning outcomes; this literature review provided an overview of policy developments in all Member States (EU-28) and developed the analytical model to support the subsequent research phases.

Second, national reports were produced that covered the certification processes in the IVET schemes and sub-schemes of 12 countries: Austria, Denmark, Estonia, Finland, Germany, Hungary, the Netherlands, Portugal, Romania, Slovenia, Spain and England. The country reports were based on literature review and semi-structured interviews with stakeholders at system level (national/regional policy levels) as well as the intermediate/institutional level (such as quality assurance managers of VET providers, school inspectors, etc.).

Third, to deepen the analysis, the research examined 10 case studies. These case studies were designed to further explore findings from country overviews and to capture experiences relating to the quality of certification processes in IVET at local/institutional/practitioner levels. These case studies sought to expand the understanding of the phenomenon under study and to gain an in-depth knowledge of quality arrangements that underpin certification processes and their meaning for those involved. The case studies were contextualised in three economic sectors (ICT, health and care, and tourism) and were conducted as on-site-visits that used a wide range of qualitative field research methods. In all cases, in-depth interviews were conducted with one or more interviewees or focus groups. The interviewees included practitioners involved in certification processes as well as learners. In some cases, researchers had the opportunity to observe assessment situations or interview assessors and learners immediately after the assessment process. The empirical phases of this study involved contacts and interviews with many stakeholders from the different IVET systems in the selected countries. These stakeholders are representatives of ministries, qualification authorities and quality assurance agencies (50 interviewees) as well as practitioners particularly teachers, trainers, company instructors involved in assessment (135 interviewees) and learners/students (30 interviewees).

The characteristics of certification

The research findings indicate that most countries do not define the certification process or if they do, they do it in ways different to the working definition of the study (e.g. in some cases, the term 'certification' is used to describe the assessment process only).

However, the following elements of certification were identified in all countries studied:

(a) assessment: this is understood as a process of identifying the extent to which a learner has attained particular knowledge, skills and competences (relating to part of a qualification or the whole qualification);

(b) verification and grading: this is understood as a process that follows assessment. It is about confirming that certain assessed learning outcomes achieved by the learner correspond to specific learning outcomes that may be required for a qualification or part of it. It usually includes determining the specific grades that learners will receive for their performance;

(c) awarding: of a qualification is understood as issuing a certificate that officially attests that an individual has achieved identified learning outcomes.

The awarding of a certificate or qualification is the final stage of the certification process. It usually refers to the delivery of a document to an individual that confirms the acquisition of qualification.

The IVET systems analysed in this study can be distinguished based on whether or not the certification process includes any kind of final assessment. Qualifications are either awarded based on a final assessment (or a certification exam) at the end of a training programme (in Denmark, Germany, Estonia, Hungary, the Netherlands, Austria, Portugal, Romania and Slovenia) or based on the accumulation of parts of the qualification (modules, units, credits) without final assessment at the end of a training programme (in Spain, Finland and England).

Key quality features of certification

To analyse the quality arrangements that support certification, a model (Fischer, 2013) was used to identify arrangements at different levels of VET systems (macro, meso and micro levels) and alongside the different quality assurance dimensions (input, process, output). Based on the application of this model, the following key features were identified in the countries that ensure the quality of the certification process:

(a) addressing certification in formal quality assurance mechanisms.
  The study shows that few countries explicitly address certification using their formal quality assurance mechanisms. In a few cases this happens by way of accreditation when, for example, institutions or committees need to receive permission to implement certification (e.g. Hungary, Romania, Germany school-based system and England). Explicit reference to assessment and certification is also found in a few countries as part of their quality assurance frameworks at system or provider level (e.g. Hungary, the Netherlands, Romania and England) and linked to their external or internal evaluation arrangements;

(b) providing clear reference points for assessment.
  All countries investigated in this study have legal regulations defining the certification standard and indicating what should be assessed. Assessment standards or criteria expressed in terms of learning outcomes are available in some of the countries analysed. In some cases, they are developed at national level and set by law (e.g. in Estonia, Spain, Hungary, Romania and Finland) or are provided by awarding bodies (e.g. in England). In other contexts, assessment criteria are not specified at macro level. There is evidence from some systems that a close link between assessment criteria

and occupational standards or learning-outcomes-based qualifications descriptions is considered to be an important issue in terms of ensuring certification quality (e.g. Estonia, Hungary and Finland);

(c) providing information to stakeholders.

It is crucial to inform stakeholders involved in certification about all the important issues concerning the process. The aim of all information efforts is to create a common understanding of certification requirements to support transparency. All 12 countries in the study implemented different forms of information activities, adapted to candidates, assessors, teachers and trainers. Evidence from counties suggests that provision of information to candidates regarding certification requirements must happen in a timely manner and must be supported by practical examples especially for competence-based assessments to get a clear idea about what is expected of them;

(d) selection requirements and training of assessors.

The research results point to the following aspects that seem important across countries:

(i) competences of assessors: in most countries, assessors are required to have specific competences. Typical requirements include pedagogical training, vocational specialisation in the respective profession and a defined minimum professional experience. Many IVET systems require the examination board as a whole to cover a defined set of requirements and not each single member. Regulations are available to indicate how assessors are selected and appointed and by whom; this is done by different institutions across countries depending on the governance of IVET systems and the distribution of responsibilities for certification;

(ii) composition of examination boards: many countries understand assessment by a composite set of stakeholders (including work place instructors, employer and employee representatives, and professional experts in different occupational fields) as a powerful driver to guarantee the quality of assessment;

(iii) provision of guidelines for assessment and grading: This refers to national regulation clarification, manuals or guidelines on how to prepare examinations or design assessment assignments, how to prepare, inform or involve candidates and other stakeholders (such as labour market representatives);

(iv) training of assessors as well as sharing of experiences between assessors: all 12 countries offer training for assessors. Most of them on

a voluntary basis apart from Hungary, Romania and England where it is compulsory. Further, it is possible for assessors to share their experiences on different occasions but only in a few contexts is the exchange organised in a systematic and formal way;

(e) quality of assessment methods and procedures.

The study identified very diverse approaches in the different countries in relation to assessment methods and procedures. Some countries regulate the application of certain assessment methods while others provide a general methodological framework and it is up to the VET providers and examination boards to decide on the practicalities. The following approaches that guarantee the quality of assessment methods were identified:

(i) standardisation of final exams;

(ii) verification/approval of exam assignments;

(iii) multiplicity of examination methods;

(iv) assessment in authentic settings;

(f) verification quality and grading.

The empirical research shows that most countries regard the assessment and verification/grading processes as one entity with two aspects:

(i) assessing the student's performance against applicable criteria, requirements or standards;

(ii) deciding on the performance level by giving grades.

The following approaches are used by countries to ensure quality of verification and grading:

(i) verification of assessment by an independent qualification committee;

(ii) use of grading scales to ensure consistency;

(iii) grading by a group of assessors;

(g) appeal procedures.

An important quality arrangement of the certification process is the possibility for students to appeal against the results of a certification process. Almost all 12 countries had macro-level regulations on appeals that provided common guidelines for organisations responsible for implementing certification processes at meso level. It is considered essential for candidates to receive feedback on their performance so that they can decide whether they should appeal or not and that appeal procedures are handled by an actor who has not been involved in the assessment;

(h) documentation, evaluation and monitoring of certification

Monitoring of the certification process is an important task at macro (system), meso (provider) and micro (practitioner) levels. Information and feedback can be collected to improve the certification process at different

levels. All 12 countries use some kind of documentation and monitoring activities; however, only a few countries have systematic approaches in place (e.g. Hungary, the Netherlands, Slovenia, Finland and England).

Increasing trust in certification

The study has identified areas that need to be addressed further – mainly at system level – to increase trust in the certification process and discuss ways to improve these areas.

Ensuring validity, reliability, impartiality and transparency

Specific principles have to be considered when developing policies for certification and relevant quality assurance arrangements in particular. The study revealed that the assessment quality assurance frequently refers to principles such as validity, reliability, impartiality and transparency. Even if these principles are not explicitly expressed in regulations, they can – at least to a certain extent – be identified in the designing of the assessment methods and procedures. Purist application of these four principles does not exist and the different ways of addressing these principles in the 12 countries examined in this study have their limitations. To address these limitations, most IVET systems combine results from different assessment methods, centralised or decentralised approaches and they involve a number of actors in assessment such as social partner representatives, teachers and trainers, workplace instructors, etc.

Improving the articulation and use of learning-outcomes-based standards in certification

Only a few countries use, in certification learning outcomes, descriptions as a common reference point across the system. In most cases learning outcomes defined at national level in qualification standards or in training programmes are 'translated' by practitioners at provider level for assessment processes. Several countries report that it is not evident how they are to be defined to facilitate assessment. As a result, the articulation of learning outcomes used in assessment processes greatly varies between different settings (e.g., according to their structure, level of complexity and specificity, the indication of performance characteristics). In the light of this evidence it is suggested that instructions and guidelines for defining and describing learning outcomes for assessment purposes be prepared and made available at national level, especially in systems where learning outcome-based standards for assessment are not defined centrally. Analysis of the case studies also shows how challenging it may be for

different stakeholders (especially labour market representatives and students) to understand and use assessment standards defined in terms of learning outcomes. It is therefore important to establish dialogue and reach a common understanding between all stakeholders involved in the assessment process.

Balancing centralised approaches and local autonomy

All 12 countries in this study have shared responsibility systems between different actors at macro, meso and micro level to guarantee the quality of the certification process. A slight trend which involves moving away from entirely decentralised approaches and more towards introducing some kind of standardisation, stronger external evaluation and regulatory control has also been identified. Certification processes in all IVET contexts studied have some kind of 'centralised' components. This mainly refers to requirements or standards set for assessment. However, IVET contexts differ in terms of the extent to which examinations are organised in a centralised way, and in that examination methods, questions or tasks are centrally designed and prepared. They also differ in terms of the decentralisation of assessments and the granting of local autonomy and flexibility in designing and implementing certification. Both approaches (centralised or local autonomy) have their advantages and disadvantages. Many IVET systems have resolved the tension between these two approaches by using practices from both. However, both approaches considered assessment standards with centrally defined learning outcomes as very important to ensuring consistency of assessments and at the same time allowing for flexibility when needed.

Using certification results to review IVET

Learning on the basis of results and experiences from certification processes is considered highly important to guarantee the quality of certification processes but also for other processes (e.g. provision of teaching and learning, reviewing of training programmes and standards). To enable learning from certification processes, feedback from all actors involved should be systematically collected and analysed. Feedback from representatives of the world of work in particular is very useful, for example in terms of identifying mismatches between competences acquired by students and those required at the workplace and that the assessment focuses on competences needed in professional practice. The study shows that very few countries actually use this feedback to improve IVET and that the position of certification processes in the feedback-loop between VET and labour market needs to be strengthened.

Applying EQAVET in certification

The EQAVET recommendation provides a clear framework for Member States to guarantee the quality of their VET at system and provider level. Recent developments at European and national level focus their attention on the use of the EQAVET framework to guarantee assessment and certification quality. The study uses evidence from countries that have moved towards this direction to provide guidance on how EQAVET can be applied to systematically guarantee quality in certification. It proposes descriptors and indicators for each phase of the quality cycle in VET (planning, implementation, evaluation and review).

Key messages and recommendations

The research paper concludes by stressing that for certification to be trusted, certification results across the system based on the same 'qualification standards' must be comparable. The 12 countries analysed use different approaches to ensure consistency in certification across their systems; some are centralised while others are decentralised. In all cases it is accepted that for certification results to be comparable and trusted, a set of clear reference points expressed in terms of learning outcomes is needed, against which candidates are assessed and which (reference points) are commonly understood by all stakeholders involved. However, study evidence shows that most VET systems still have a long way to go to fulfil this condition. In addition, to strengthen the public perception of the value of certification, national legislation and regulation must refer to it explicitly, articulate its position clearly at the interface between vocational training and the labour market and refer to the specific arrangements that can generate trust in it. The study concludes by framing several recommendations which will contribute to the above:

(a) articulate clearly certification in VET policies;
(b) ensure appropriate definition and use of learning outcome-based standards;
(c) strengthen the involvement of labour market stakeholders in certification and relevant quality assurance processes;
(d) support the development of a common understanding of certification requirements among stakeholders;
(e) ensure assessors are competent and trained;
(f) share responsibility for certification quality assurance at all levels;
(g) strengthen evaluation and review in certification;
(h) consider possibilities to complement the EQAVET framework.

CHAPTER 1.
Introduction

Trust in qualifications plays a crucial role for people. Qualification holders who have completed a programme and passed the required exams or assessments must inspire confidence that they have actually acquired the learning outcomes associated with the qualification. In this case their qualification has value and they can use it for employment, further education or training. In June 2015 the Vocational Education and Training (VET) ministers for the European Union (EU) Member States acknowledged the importance of encouraging transparency, comparability and recognition of VET qualifications to facilitate the mobility of students and workers in Europe. The certification process becomes particularly important in this context and quality assurance mechanisms are essential to ensure that these processes effectively generate credibility and trust: 'it is essential that the players in certification systems are subject to quality assurance standards. This ensures consistency across the systems and helps to maintain the legitimacy and value of the system for the individuals participating in it and for the wider society' (OECD, 2005 cited in Cedefop, 2009a, p. 16). 'Players' include all institutions and stakeholders involved in certification. This publication addresses the issue of how quality of certification processes can be ensured.

1.1. Background and European policy

The importance of certification is stressed in several European mobility and lifelong learning instruments, however they do not explicitly set out how to ensure the quality of the certification process. The recommendation on the establishment of a European quality assurance framework for vocational education and training (EQAVET recommendation) draws attention to the quality of certification: 'the framework should ... therefore support the implementation of the European qualification framework (EQF), in particular the quality of the certification of learning outcomes …' (European Parliament and Council of the EU, 2009a, p. 2). Reporting on the implementation of the EQAVET recommendation (EQAVET, 2013), most countries confirm that they have devised a national approach for quality assurance in IVET reflecting their national, political and cultural contexts. These approaches differ in terms of whether countries focus on inputs, processes or outcomes. Moreover, as qualification systems increasingly allow qualifications to be acquired through different learning pathways, the learning provision quality

assurance cannot be the only element underpinning the awarding of qualifications (Cedefop, 2013a). In this context the European Commission's report to the European Parliament and to the Council on the implementation of the EQAVET recommendation stresses the importance of systematic quality assurance arrangements underpinning qualification design and certification (European Commission, 2014, p. 7). In addition, the recommendation on the establishment of a European credit system for VET (ECVET recommendation)([1]). refers to quality assurance, particularly in relation to the assessment, validation and recognition of learning outcomes which are key components of the certification process. The recommendation on the establishment of the European qualification framework for lifelong learning (EQF recommendation) presents 'common principles for quality assurance in higher education and vocational education and training in the context of the European qualifications framework' ([2]) with a particular reference to quality assurance of learning outcomes without explicitly addressing the certification process.

It is, therefore, essential that we further reflect on the tools and procedures that guarantee the quality of certification processes; particularly since the increasing shift to learning outcomes is expected to have an impact on the certification process and on the relevant quality assurance arrangements.

1.2. Aim of the study and key research questions

The study explores the quality arrangements that support the certification process in European countries in initial VET (IVET) and provides an understanding of how the shift to learning outcomes influences them. The study develops recommendations to policy-makers and other stakeholders on how to guarantee the quality of the certification process with a view to increasing the confidence and relevance of qualifications in IVET.

The detailed research questions are:
(a) what characterises certification processes for IVET in the selected countries;
(b) to which extent and how are certification processes for IVET supported by systematic quality assurance arrangements;
(c) how is the shift to learning outcomes influencing quality assurance arrangements supporting certification:
   (i) as compared to traditional (provider and input-oriented) practices;

([1]) European Parliament and Council of the EU, 2009b.
([2]) European Parliament and Council of the EU, 2008.

(ii) in relation to the writing of learning-outcomes-based standards and curricula;

(iii) in relation to the development of methods for testing and assessment;

(iv) in relation to the practices of assessors and in response to requirements, impartiality, ethical standards, reliability and validity;

(d) to what extent and how is the experience gained in the certification process considered when reviewing the overall impact of IVET – what kind of 'systemic' and/or 'national' quality assurance is put in place?:

(i) in relation to the renewal of standards and curricula;

(ii) in terms of feedback for the education and training process;

(iii) in terms of improving the overall reliability, validity and credibility of certificates;

(iv) in terms of involving all relevant stakeholders;

(e) which main strengths and weaknesses can be observed in relation to the quality assurance of certification processes and, on this basis, which recommendations should be made to policy-makers and practitioners?

1.3. Outline of the report

Chapter 2 presents the study's scope and methodology and introduces the analytical model applied as well as the research challenges and limitations.

Chapter 3 discusses the main characteristics of certification processes and describes how these are organised in European countries

Chapter 4 presents an analysis of the empirical evidence and describes eight key features that can ensure quality in certification if they are systematically followed. These include:

(a) addressing certification in formal quality assurance mechanisms;

(b) providing clear reference points for assessment;

(c) provision of information to stakeholders;

(d) selection, requirements and training of assessors;

(e) quality of assessment methods and procedures;

(f) quality of verification and grading;

(g) appeal procedures;

(h) documentation, evaluation and monitoring of certification procedures.

Chapter 5 discusses several issues that need to be further addressed at national and European level to strengthen the quality of certification and build trust on the process. These are:

(a) ensuring validity, reliability, impartiality and transparency of certification;

(b) improving articulation and use of learning-outcomes-based standards in certification;

(c) balancing centralised approaches and local autonomy;

(d) using certification results to review IVET;

(e) applying EQAVET framework in certification.

Chapter 6 summarises the main messages and conclusions of the study in eight recommendations mainly for policy-makers at national and European level.

CHAPTER 2.
Study scope and methodology

2.1. Research phases and methods applied

The study was divided into three phases. The first phase was based on a literature review and produced short country fiches for all Member States (EU-28). The second phase was based on a literature review and semi-structured interviews and produced detailed country reports on 12 selected countries. The third phase focused on 10 case studies to get more in-depth information on specific aspects of the certification process at local level. An expert workshop organised by Cedefop in March 2015 on the quality of certification in initial vocational education and training (IVET) with national experts (ministries of education, national qualification authorities, researchers, social partners, VET providers, practitioners) and international experts has provided information to and enriched the research findings.

The first phase produced an overview of policy developments in the 28 Member States by collecting and analysing literature on the quality assurance arrangements underpinning the certification process and relevant use of learning outcomes. In addition, the literature review was used to develop an analytical model to support the subsequent research phases. The analytical model helped to identify the aspects that influence the quality of the certification process and which need to be observed and analysed. The analytical model is presented in Section 2.2.

The second phase explored, in more detail, the arrangements for guaranteeing the quality of the certification processes in a sample of 12 countries. Country overviews were produced for Denmark, Germany, Estonia, Spain, Hungary, the Netherlands, Austria, Portugal, Romania, Slovenia, Finland and England. The sample represents a mixture of countries with geographical balance and size and different types of IVET schemes, i.e. mainly school-based, mainly company-based and a combination between school-based and company-based. Some countries have more than one type of VET schemes; therefore, up to three types were considered per country. Table 1 presents the relevance of IVET in the selected countries (in terms of the percentage of students enrolled in VET at upper secondary level) and the number and types of IVET schemes covered in this study. Information was collected via a literature review and semi-structured interviews conducted between March and June 2014 with stakeholders at system level (national/regional policy level) as well as from the

intermediate/institutional level (such as quality process managers at VET providers, school inspectors, etc.). The analysis of the 12 country overviews has informed the selection of the case studies and identified several key features that are important to ensure the quality of certification process. These are described in Chapter 4.

Table 1.   **Overview of relevance of IVET in the selected countries and IVET schemes covered**

Country	% of all upper secondary students in IVET in 2010 ([a])	Number and types of IVET schemes covered in this study ([b])
AT	High (76.8%)	2 schemes: • work-based: apprenticeship training, dual system; • school-based: VET schools and colleges
DE	Medium (51.5%)	2 schemes: • work-based: IVET in the dual system; • school-based IVET
DK	Medium (46.5%)	1 scheme: general IVET – a mix of school and apprenticeship
EE	Medium (34.2%)	1 scheme: school-based IVET
ES	Medium (44.6%)	1 scheme: school-based IVET
FI	High (69.7%)	3 schemes: • curriculum-based IVET: national qualification requirements with vocational skill demonstrations; • competence-based qualifications for IVET; • apprenticeship training
HU	Low (25.8%)	1 scheme: school-based VET (module-based vocational examination system)
NL	High (67%)	1 scheme: work-based/school-based incl. apprenticeship training, dual system
PT	Medium (38.8%)	3 schemes: • school-based education and training courses; • school-based VET courses; • apprenticeship courses
RO	Medium (63.8%)	1 scheme: school-based IVET
SI	Medium (64.6%)	1 scheme: school-based system of vocational and technical upper secondary education
England	Low (32.1%)	2 schemes: • college or school-based IVET; • apprenticeship

Source: ([a]) Cedefop 2015; ([b]) country reports.

The third phase focused on 10 case studies and provided details relating to the certification quality assurance processes at local level in the following three sectors: ICT, health and care and tourism. These sectors were selected because of their importance for economic growth and recovery in Europe (European Commission, 2012, p. 6; Cedefop, 2012, p.11). Each one of the case studies was focused on one of the key features identified from the analysis of the 12 country overviews and further explored the use of learning outcomes in certification

processes. The main objective of these case studies was to verify the information collected at system level and to identify how certification quality arrangements are understood at local level and the extent to which they are implemented. Case studies were conducted as on-site visits between September and November 2014 using a wide range of research methods suitable for qualitative field research. In all cases, in-depth interviews were conducted with one or more interviewees or focus groups. The interviewees included practitioners involved in certification processes as well as learners. In some cases, researchers had the opportunity to observe assessment situations or to talk to assessors and learners immediately after the assessment process. Table 2 presents an overview of the case studies and their context (in terms of country/IVET scheme, economic sector, title and level of qualification) as well as their specific focus.

The phases of the 12 country overviews and the 10 case studies included interviews with many stakeholders at different levels in the selected countries. These stakeholders are:

(a) 50 respondents at policy level;
(b) 135 practitioners, particularly teachers, trainers, company instructors involved in assessment;
(c) 30 learners/students.

2.2. The analytical model

The certification process lies in the interaction between IVET and the labour market playing an important role in ensuring trust and labour market relevance of qualifications. The analytical model (Figure 1) captures the different elements of this interaction which influence the quality assurance arrangements of the certification process.

For the purpose of this study, the certification process is understood as the multiple (and sometimes overlapping) processes of 'assessment' ([3]) and 'verification' ([4]) of learning that lead to the 'awarding' ([5]) of a qualification or part

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([3]) Assessment is understood as the process of establishing the extent to which a learner has attained particular knowledge, skills and competences against criteria such as learning outcomes or standards of competence.

([4]) Verification and grading is understood as the process following assessment which confirms that certain assessed learning outcomes achieved by the learner correspond to predetermined criteria (standards) which are required for a qualification or a part of it.

([5]) Awarding of a qualification is understood as the process of officially attesting achieved learning outcomes by issuing a certificate to an individual.

thereof. The ultimate goal of a certification process is to ensure that the learner has acquired the required learning outcomes (knowledge, skills, competences) which is then certified by the awarding of a qualification. Chapter 3 discusses how certification is understood in more detail.

Table 2. **Case studies**

Country/ IVET scheme	Economic sector	Title of qualification	Level	Focus
AT school-based	Tourism	Reifeprüfung and diploma examination at a VET college for tourism and hospitality (*Reife- und Diplomprüfung an einer Höheren Lehranstalt für Tourismus*)	ISCED-1997: 4A ISCED-2011: 5 EQF 5 ([a])	Assessment process for the final *Reifeprüfung* and diploma examination at MODUL tourism VET college (Vienna), with particular focus on the practical pre-exam in the area of gastronomy
DE apprenticeship (dual)	ICT	Management assistant in IT-systems (*Informations- und Telekommunikations-system-Kaufmann (male)/Informations- und Telekommunikations-system-Kauffrau (female)*)	ISCED-1997: 3B EQF 4	Practical part of the final Chamber examination in the Bavarian region of Middle Franconia with specific focus on the *Betrieblicher Auftrag*, an occupation-typical task formulated by the training company and accepted by the board of examiners. The apprentice performs the task in the training company or with a client.
DK	ICT	IT-supporter (*Data- og kommunikationsuddannelse*)	ISCED-1997: 3 EQF 4	Involvement of stakeholders/social partners in certification processes (final examination with a practical and an oral component) and information provided to students at Syddansk Erhvervsskole (Odense-Vejle).
ES	Health and care	Advanced expert in diagnostic imaging (*Técnico superior en imagen para el diagnóstico*)	ISCED-1997: 5B ([b])	Assessment of students' competences in the in-company training phase and provision of feedback to the training process at the Colegio San José de Calasanz.
FI curriculum-based	Health and care	Vocational qualification in social and health care (practical nurse)/*Sosiaali- ja terveysalan perustutkinto (Lähihoitaja)*	ISCED-1997/2011: 3 EQF 4 ([c])	Vocational skills demonstration in the study programme for vocational qualification in social and health care/practical nurse at the Helsinki Vocational College.

Country/ IVET scheme	Economic sector	Title of qualification	Level	Focus
HU	Tourism	Waiter (*Pincér*)	ISCED-1997: 3C EQF 4	Quality assurance arrangements for supporting vocational examination processes at the Ferenc Hansági Vocational School for Catering and Tourism and in particular the practical application of the vocational and examination requirements.
NL	ICT	ICT Manager (*ICT beheerder)*	ISCED-1997: 3A EQF 4	Assessment at the workplace (examination projects) in close collaboration with representatives of professional practice (learning company) at ROC Tilburg.
PT apprentic eship	Tourism	Hotel receptionist (*rececionista de hotel*)	ISCED-1997: EQF 4	Final examination at the Institute of Employment and Professional Training (IEFP) training centre in Sintra which includes a practical assignment in a simulated environment.
RO	ICT	Computer operator (technician level; *Tehnician operator tehnica de calcul*)	EQF 4 ([d])	Certification exams organised by examination centres in Bucharest and the role of 'quality monitors' for guaranteeing the quality of these activities.
England college-based	Health and care	(Extended) diploma in health and social care (qualifications and credit framework)	EQF 4	Internal and external verification systems used by Exeter College and the Pearson Awarding Body to guarantee the quality of the assessment processes.

NB: ISCED-97, International standard classification, approved in 1997
NQF, National qualification framework
EQF, European qualification framework
ICT, Information and communication technologies
IEFP, Instituto do Emprego e da Formação Profissional (Institute of Employment and Professional Training, Portugal)

([a]) provisional allocation because qualifications have not yet been included in the NQF, although the Austrian NQF has been referenced to the EQF.
([b]) NQF has not been adopted in Spain and not referenced to the EQF
([c]) provisional allocation because the NQF has not been adopted in Finland and not referenced to the EQF.
([d]) provisional allocation because the NQF has been adopted in Romania but not referenced to the EQF.

Source: Cedefop.

Cedefop's definition of quality assurance in education and training is based on the plan-do-check-act quality cycle: 'activities involving planning, implementation, evaluation, reporting, and quality improvement, implemented to ensure that education and training (content of programmes, curricula, assessment and validation of learning outcomes, etc.) meet the quality requirements expected by stakeholders' (Cedefop, 2011, p. 134). For the purpose of this study the quality cycle focuses on the specific certification process and its components.

Figure 1. **Analytical model guiding the research on quality assurance and certification**
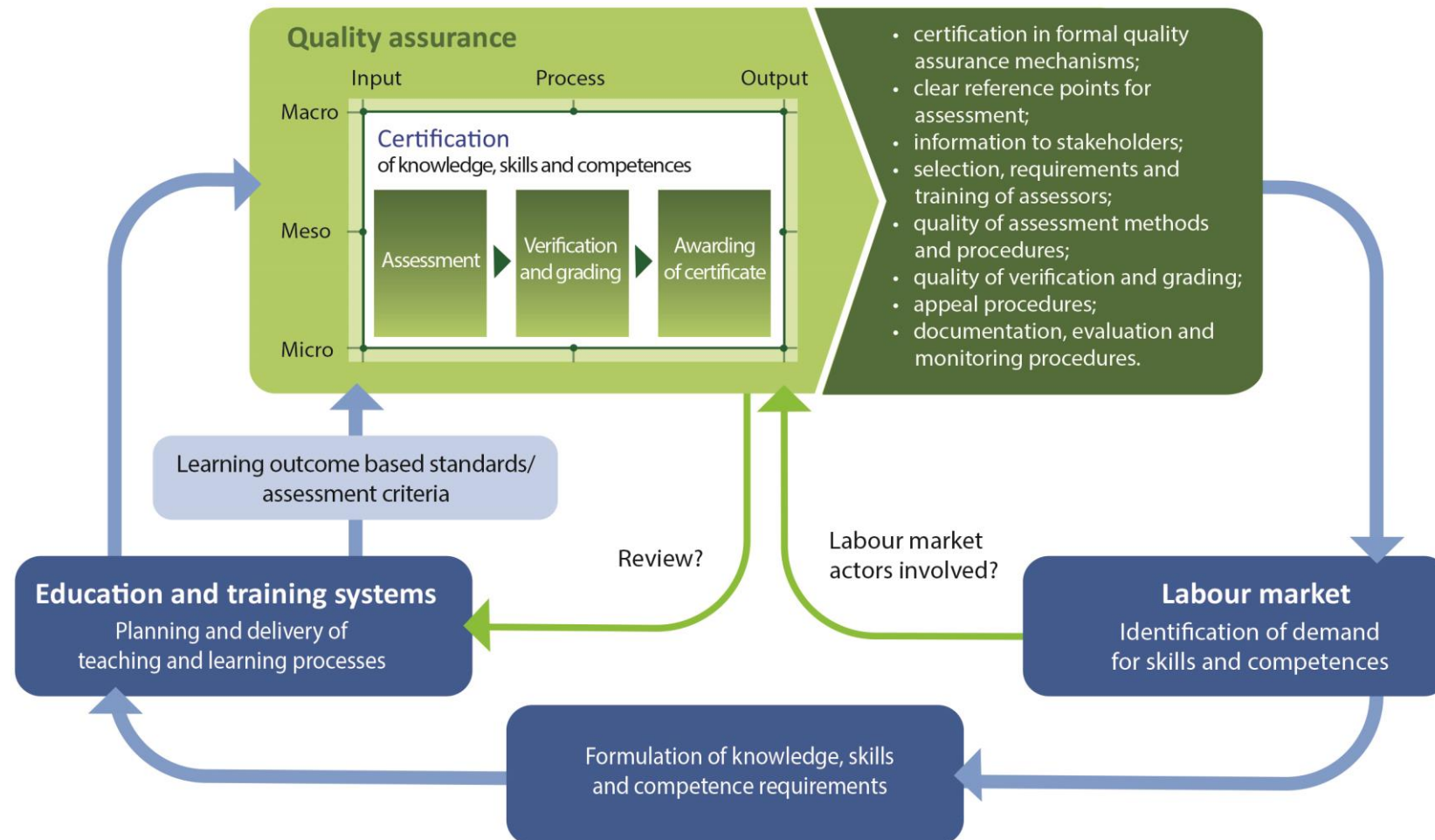
Source: Based on Cedefop (2013b) and Fischer (2013).

To collect information from the selected countries, the study adapted a model (see, e.g. Fischer, 2013, pp. 11-12) to explore the quality features along the certification process (input, process and output quality) at different levels of quality development:

(a) macro level: VET system level with its statutory provisions, regulatory stipulations and recommendations;

(b) meso level: VET providers and institutions such as schools, companies and examination committees where certification takes place and which implement the macro-level regulations;

(c) micro level: where actual assessment and verification takes place from teachers, assessors and in-company trainers.

As regards the quality dimensions (input, process, output) within the certification process the study examined them in the following way (Fischer et al., 2014, pp. 146-147; Cedefop, 2011) [6]:

(a) input quality; certification processes can only be implemented if certain 'inputs', for example, certification regulations, technical and personnel infrastructure, trained assessors/examiners, guiding handbooks and materials, assessment standards, are foreseen;

(b) process quality; refers to the implementation of the certification process and how it is executed within certifying organisations. Crucial questions are: how do certifying organisations implement normative regulations (e.g. laws) and how do they use the input factors provided? For example, if there are assessment standards, how are they implemented? Is there documentation of results? Are evaluation procedures implemented?

(c) output quality; is about the quality of the results of the certification process. Crucial questions include: how many students/apprentices are successful and how successful are they? Do students/apprentices achieve predefined learning outcomes? What is the dropout rate? Do monitoring systems exist?

Table 3 provides an overview of the different levels and quality dimensions of the certification process addressed in this study.

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[6] The technical and general definitions in the Cedefop glossary do not contradict the more specific definitions of Fischer. Cedefop, 2011: Input: human, financial and physical resources used for an intervention (p. 87). Process: set of interrelated or interacting activities which transform input into output (p. 124). Output: immediate and direct tangible result of an intervention (p. 118).

2.3.   Challenges and limitations of the research

Several countries/VET schemes are currently in transition regarding aspects relevant to the study (e.g. organisation of assessment, quality assurance measures, learning-outcomes approach). In some cases, the new regulations are already in place but not yet operational. Thus, in some interviews, policy-level representatives focused more on the new regulations and procedures while practitioners were only able to discuss current practices.

There is no common understanding of 'certification process' at national level; often countries do not define 'certification process', and if they do, they have a different understanding compared to the working definition used in the current study (e.g. in some cases, the term 'certification' is only used to describe the assessment process). In some contexts, understanding of the certification process is not limited to the 'final phase of the process of gaining a qualification (before it will be awarded)' because the whole training process is actually understood as a certification process. In these cases, isolating the certification process (and its elements) from the wider context of IVET is sometimes considered as artificial. Particularly at practitioner level, the research team found diverse understanding of the term 'certification' and needed to explain the working definition carefully. Besides, the elements of certification are not always seen as separate processes (Section 3.1).

Most interviewees state that they have 'systematic and explicit' quality assurance arrangements for certification. However, sometimes it was difficult for them to distinguish between quality assurance arrangements that support certification processes and quality assurance arrangements that generally relate to teaching and learning.

In almost all countries, a trend towards a more learning-outcomes-based approach can be observed; however, countries are at different stages in this process and have different traditions relating to the use and understanding of relevant concepts. Actors in different IVET schemes also seem to have different understandings of the term 'learning-outcomes-based standards'. In addition, some VET systems use the terms 'learning-outcomes-based criteria' or 'competence requirements' instead of 'standards'. This poses a challenge to comparing national approaches.

Table 3.   **Quality dimensions of the certification process**

Level in IVET	Dimensions of quality assurance concerning certification		
	Input quality	**Process quality**	**Output quality**
Macro level (national bodies, e.g. ministries)	regulations concerning: • assessment standards and criteria; • accreditation procedures considering certification; • quality assurance frameworks considering certification; • funding of certification processes (rooms, materials, technical equipment, certification fees, training programmes for assessors); • provision of supporting material (guidelines, handbooks, training programmes for assessors); • appeals/rectifications possibilities for candidates/students.	• provision/revision of curricula; • provision/revision of assessment standards/criteria; • provision/revision of guidelines and materials; • accreditation of providers/organisations considering certification; • provision of information to stakeholders (e.g. VET providers, certifying bodies, social partners).	monitoring at system level (collection and analysis of statistical data and information from evaluation procedures) including results from external evaluation.
Meso level (certifying organisations, e.g. VET providers)	• organisational guidelines/processes for implementation of assessment standards/criteria; • organisational guidelines for quality assurance systems considering certification; • training plans for assessors; • infrastructure organisation (rooms, materials, technical equipment; • defined processes for candidate/student appeals.	• organisation and implementation of certification exams; • implementation of trainings for assessors; • information to stakeholders (students, assessors); • provision of infrastructure (rooms, materials, technical equipment; • implementation of feedback procedures; • implementation of processes concerning appeals/rectifications of candidates/students; • successful completion of accreditation processes; • implementation of procedures for candidates/students appeals; • implementation of quality assurance systems concerning certification.	• monitoring and evaluation at organisational level (collection and analysis of statistical data and information from evaluation procedures); • external evaluation with focus on certification processes

Level in IVET	Dimensions of quality assurance concerning certification		
	Input quality	**Process quality**	**Output quality**
Micro level (actors involved and affected by certification, e.g. assessors, candidates)	• trained and qualified assessors; • informed and prepared students/candidates.	• assessors applying guidelines/processes for implementation of assessment standards; • assessors discussing certification processes; • assessors reacting on appeals by candidates/students; • students/candidates and assessors giving feedback to certification processes.	documentation of certification results

Source: Cedefop.

CHAPTER 3.
Understanding the certification process

3.1. Context and definitions

Cedefop defines certification as the 'process of issuing a certificate, diploma or title formally attesting that a set of learning outcomes (knowledge, skills and competences) acquired by an individual have been assessed and validated by a competent body against a predefined standard' (Cedefop, 2008). This is in line with the EQF recommendation definition which describes a 'qualification' (certificate) 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' (European Parliament; Council of EU, 2008, p. 4).

These definitions point to the main (and sometimes overlapping) elements of the certification process. The empirical research studied in detail these three elements and examined the relevant quality assurance arrangements:

(a) assessment is understood as a process of identifying the extent to which a learner has attained particular knowledge, skills and competences (relating to part of a qualification or the whole qualification);

(b) verification and grading ([7]) is understood as a process that follows assessment. It is about confirming that certain assessed learning outcomes achieved by the learner correspond to specific learning outcomes that may be required for a qualification or part thereof. It usually includes determining the specific grades that learners will receive for their performance;

(c) awarding of a qualification is understood as issuing a certificate that officially attests that an individual has achieved the identified learning outcomes. The awarding of a certificate or qualification is the final step in the certification process. It usually refers to the delivery, to an individual, of a document that confirms the acquisition of a qualification.

Assessment can be carried out continuously during the education and training process or at the end of each part (e.g. module or unit) and/or accompanying and supporting the learning process (assessment for learning). In

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([7])   The term verification and grading is used in this study instead of validation to avoid confusion in terms of the way the term is used in the recommendation on validation of non-formal and informal learning (Council of the EU, 2012).

many cases, the assessment serves as a requirement to obtain the qualification and occurs at the end of the education and training pathway (as overarching assessment). This final assessment (or certification exam) is often completely separate from the education and training process. Also, in those cases where a final assessment is a (core) part of the certification process, the assessment processes during the training programme can also be considered very important in terms of ensuring the achievement of relevant learning outcomes (required for the awarding of a qualification). For example, successful completion of a training programme (i.e. passing the required exams) can be a precondition for gaining access to the final assessment. We should keep in mind that a final assessment can only identify an individual's learning achievements in a limited way.

These different approaches to assessment ([8]) (with and without final assessment) need to be considered when analysing the consecutive stages or elements of a certification process (Table 4).

Table 4. **Approaches to assessment and stages of the certification process**

A. Qualification is awarded without final assessment at the end of a training programme	B. Qualification is awarded based on final assessment at the end of a training programme
Accumulation of units/modules/credits based on learning process (acquisition of knowledge, skills and competence) and assessment	Admission procedure to final assessment (e.g. admission is based on successful completion of learning process)
	Final assessment
Verification of accumulated credits (and decision on grading)	Verification of the assessment and decision on grading
Awarding of qualification (certificate)	

Source: Cedefop

Cedefop's definition of certification refers to 'individuals achieving learning outcomes that 'match' specific standards and/or requirements'. Thus, learning-outcomes-based standards can be a key element in the certification process. Learning outcomes are 'statements on what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence' (European Parliament and Council of the EU, 2008). They are usually the result of interaction between the worlds of work and

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([8]) In some IVET schemes, such as Finland or Estonia, prior learning recognition (i.e. recognition of competences gained in formal, non-formal or informal learning contexts) also plays an important role. However, this aspect will not be specifically addressed, because this study focuses primarily on quality assurance and certification.

education and training and serve as a reference point for the certification process. They describe what the labour market can expect from the education and training system and – eventually – the individual learner.

Assessment standards in particular are very important in certification processes as they are used to assess whether learners have actually achieved the expected outcomes at the end of their learning process. According to Cedefop, 'assessment standards may specify the object of assessment, performance criteria, assessment methods, and the composition of the jury entitled to award the qualification. Assessment standards answer the question "How will we know what the student has learned and is able to do in employment?"' (Cedefop 2009b, p. 11). The study explores the extent to which learning-outcomes-based standards are used in the certification process, whether they constitute clear reference points and the extent to which their use builds trust in qualifications.

3.2. Certification processes in European countries

This section presents the certification processes and its elements – assessment, verification/grading and awarding – in the countries analysed. It focuses on the way certification processes are carried out and organised; quality arrangements supporting certification processes will be addressed in Chapter 4. This section focuses on the 12 countries studied in detail but information from other countries collected during the desk research is also integrated.

The working definition underlying this study describes certification processes as the multiple (and sometimes overlapping) processes of assessment and verification of learning that lead to the awarding of a qualification or part thereof. The empirical research shows that not many countries explicitly use the term 'certification' or use it in ways different to the working definition (sometimes it is used to describe the final assessment, in other cases it describes the awarding process). However, the stages that have to be passed to obtain a qualification (assessment, verification/grading and awarding) seem to be the main elements of the certification processes that can be identified in different European countries and IVET systems. Although they cannot always be considered as stages or clear chronological steps to be followed and are in many cases not explicitly defined or designed as separate activities, they can, in most contexts, be identified as elements of certification processes.

3.2.1. Approaches to assessment

In most IVET schemes in Europe, the certification process includes a final assessment. In three countries out of the 12 examined, certification processes do not include a final assessment: these are Spain, Finland and England. Among the non-surveyed countries, other examples of IVET schemes with this approach include Ireland (school-based: leaving certificate vocational programme; apprenticeship) and Malta (school-based). IVET qualifications in these countries are awarded based on the accumulation of units or modules that are assessed separately.

Table 5 distinguishes the IVET schemes in the 12 countries analysed in this study based on whether or not the certification process includes any kind of final assessment.

Table 5. **Approaches to assessment in certification processes**

A. Qualification is awarded based on the accumulation of units/modules/credits without final assessment at the end of a training programme	B. Qualification is awarded based on a final assessment (or certification exam) at the end of a training programme
ES (school-based education and training programmes/cycles) FI (curriculum-based, competence-based qualifications, apprenticeship) England (college- or school-based apprenticeship)	AT (apprenticeship/dual and school-based VET (a) DE (apprenticeship/dual and school-based) (b) DK (General IVET – a mix of school and apprenticeship) EE (school-based) HU (school-based) NL (work-based/school-based incl. apprenticeship training; dual system) (c) PT (apprenticeship, school-based VET courses and school-based education and training courses) RO (school-based) SI (school-based)

(a) This study includes Austrian VET schools with three to four years duration and VET colleges. The study excluded VET schools of one or two years' duration that only provide learners with partly completed vocational training.

(b) There are also a few programmes without final assessment in school-based VET (one- or two-year programmes).

(c) The assessment can be carried out while the student is in school, but this is mostly done by the end of the course/training programme.

Source: Cedefop.

3.2.1.1. *With final assessment*

In IVET schemes that award qualifications based on a final assessment one can usually find explicitly described admission regulations for participation in the final exam. Such admission regulations refer to, for example, the application

procedure (i.e. candidates have to apply for admission to the final exam at a specified authority) and to the admission requirements (such as specific age of candidates, successful completion of a learning programme, work experience or any other evidence of acquisition of professional competence). Admission to the final examination might be possible without completion of a formal training programme and based on prior learning recognition. This can be illustrated with the example from the Austrian dual system:

Box 1.   **Admission procedure for the final apprenticeship exam in Austria**

Candidates apply for admission to the final apprenticeship exam at regional apprenticeship offices (*Lehrlingsstelle*) located at the regional economic chambers. These offices determine whether to approve the application and, if approved, set the examination date.

The final apprenticeship exam is not restricted to regular apprentices who have completed a formal training programme provided by a training company and a part-time vocational school for apprentices. Individuals who have not completed the formal training can also access the final apprenticeship exam through the recognition of prior learning (e.g. achieved in school-based learning or based on work experience) if they meet the specific conditions ([a]).

After successful application, the apprentice can register for the final apprenticeship exam at the regional apprenticeship office, either on paper or, in some regions, via online registration([b]). In some regions applicants may register for a non-compulsory preparatory course at the same time as registering for the exam (i.e. on the same registration form).

[a]   Candidates must be aged 18 or above and must possess the necessary vocational knowledge in the relevant field. Further, candidates who interrupted their apprenticeship or did not complete a full formal training period can apply for an exceptional admittance to the apprenticeship exam. Further, the Federal Ministry for Science, Research and Economy views the completion of international training or supra-company training measures (the so-called 'training workshops', *überbetriebliche Lehrwerkstätten*) as acceptable forms of learning which fulfil the admission requirements for the exam (BMWFJ, 2012, p. 15).

[b]   Economic Chamber of Vienna: https://ebipol.wkw.at/Login.aspx [accessed 6.10.2015].

Source: Austrian country report (dual system).

Final assessments are mainly carried out at VET schools or training centres (in the German Austrian school-based systems, Denmark, Estonia, the Netherlands, Portugal and Slovenia) that might have to be specifically accredited as examination centres (as in the case of Romania). In Hungary, an external examination committee carries out the assessment at VET schools. The final assessment in the dual systems in Germany and in Austria is done at regional apprenticeship offices, chambers or other regional or sectoral authorities. Assessments are sometimes performed at real workplaces. For example, in the Netherlands, an assessment in a real work situation in accredited learning companies provides the proof of competence.

In general, assessment complies with nationally or regionally defined qualification profiles, requirements, standards or framework curricula. The extent to which examination methods, questions or tasks are centrally designed and prepared differs across IVET schemes. There are three categories: centrally defined final assessment, partially centralised and decentralised:

(a) among the 12 countries studied, only the Romanian IVET system has a completely centralised and standardised procedure to conduct final assessments. These are organised in examination centres (VET schools fulfilling specific requirements) and coordinated by a National or County Assessment and Certification Commission, composed of representatives of the Ministry of National Education, social partners and school inspectorates;

(b) in some IVET contexts, a combined approach can be identified, where at least one part of the assessment is conducted in a centrally defined way:

   (i) in Hungary, written tests as well as oral exams are organised centrally at the same time in the whole country. Practical examinations are designed and defined by the organiser of the exam (i.e. the respective VET school) and sent to the examination committee for approval;

   (ii) in the Czech Republic all qualifications on upper secondary maturita level (EQF and NQF level 4) are completed through a double-examination system. A special public authority (CERMAT) managed by the Ministry of Education, Youth and Sports coordinates, at all schools, a common mandatory exam in the Czech language and a second exam where the learner can choose either mathematics or a foreign language. In addition, schools define the exams for the vocational subjects;

   (iii) in the German and Austrian dual system, the regional branches of the economic chambers organise the final apprenticeship exams. There are centrally defined assignments for the final exams; these are developed by competent institutions, however it is the regional branches that decide whether to use them or not;

   (iv) some German federal states (*Länder*) have centralised final examinations in school-based IVET for the written part. The federal state's education ministry organises an assessment development process whereby teachers develop single assessment tasks; the ministry then evaluates these proposals and puts together a version of the assessment sheet for all participants in this programme with the same specification. Thus, the final examination is organised centrally but local schools carry out the practical implementation of the assessment;

(v) in Slovenia's vocational matura the examination materials for the Slovenian language, mathematics, foreign languages and the vocational theoretical exam ([9]) are prepared centrally by the National examinations center. The examination materials for the practical assignments are prepared by the schools. This preparation is based on guidelines prepared by the National Institute for Vocational Education;

(c) some IVET schemes have a clearly decentralised final assessment, i.e. training providers or regional authorities develop examination questions or tasks (such as in, Denmark, the Netherlands ([10]), the Austrian school-based system ([11]) and all IVET schemes in Portugal).

The final assessment can also be composed of two parts for which separate certificates are issued. For example, in Estonia, schools organise the assessment for issuing the school-leaving certificate. The occupational qualification is organised by awarding bodies (employers' associations or professional associations) set up by sector skills councils (which are set up at the Estonian Qualifications Authority). Some schools have started to merge assessments for the two types of certifications and can issue the occupational qualification certificates upon completion of the training programme of the VET school. The examination takes place at the VET school, if there is relevant equipment available, or at an enterprise operating in the specific sector or field.

3.2.1.2. *Without final assessment*

Assessment in all IVET schemes without a final assessment is decentralised (usually organised by schools or other VET providers). Since assessment is closely linked to the learning process, the students' own teachers or trainers are usually involved in the assessment processes; however other persons are also involved:

(a) in Spain, teachers responsible for the professional modules carry out assessment. During the training programme (cycle), the teaching team organises several assessment board sessions for discussing assessment and the grading of modules and also for deciding whether students can continue to the second year and to in-company training as well as deciding on the average grade for the qualification;

([9]) The vocational theoretical exam is only prepared centrally for preschool education and health care.

([10]) This is the case for upper secondary VET.

([11]) The final assessment in VET college programmes will be partly centralised starting from 2015/16.

(b) the Finnish curriculum-based IVET scheme uses tripartite assessment, i.e. teachers, workplace instructors and students (self-assessment) carry out joint assessments for each module. For competence-based qualifications (CBQ), the CBQ organiser prepares a proposal for the assessment result/grading for each module and sends it, along with the accompanying documentation, to the relevant Qualification Committee that decides whether the candidate fulfils all requirements to obtain the qualification;

(c) in England, the assessment (and grading) for units is done by individual teachers or trainers but their decisions are checked by internal (VET provider) and external (awarding organisation) verifiers.

3.2.2. Verification and grading

In most of the IVET systems examined in this study, verification and grading are seen as an integral part of the assessment process. The same persons responsible for carrying out the assessment also verify the assessment results and the verification process seems to only be a formality. Only Estonia, Hungary, Finland and England use external verificators for their competence-based qualifications. This external verification is organised in different ways:

(a) in Hungary, Estonia occupational qualification and Finland competent-based qualification external bodies, other than those carrying out the assessment, verify the assessment results and the suggested grade and make the final decision on the candidate's performance;

(b) in England the internal and external verification process follows an initial assessment carried out by the teacher/trainer. The internal verificator is appointed by the provider while the external verificator is appointed by the awarding organisation. This verification may lead to amendments to the final decision on the candidate's performance.

The IVET schemes may be distinguished as to whether grades or marks are given separately for each unit/module (this is the case for IVET schemes without final assessment), grades are only based on the results of the final assessment or whether other elements are also taken into consideration.

Table 6. **Marks/grades are given ...**

| ...for each part (unit/module) separately | ... based on... | |
	...results of final assessment only	...results of final assessment and other elements
ES FI (curriculum-based, competence-based qualifications, apprenticeship) England (college-based, apprenticeship)	DK DE (dual) EE (school leaving certificate) HU AT (dual and school-based) RO SI	DE (school-based) NL PT (apprenticeship, school-based VET courses and school-based education and training courses)

Source: Cedefop.

In cases where other elements are taken into consideration to determine the final grade, these include, for example:

(a) certificates awarded in the German school-based IVET scheme include the grades for all subjects, not only the five or six subjects taken in the final exam. For the grading of the final exam, the performance during the period prior to the examination plays an important role. If the grades of the two or three years in school and of the final examination differ significantly there will either be an oral examination or something similar;

(b) in Portugal, in all three IVET schemes (school-based VET courses, apprenticeship courses and education and training courses), the final overall grade takes into account the grades of the assessed modules, of the work-based learning part and of the final practical examination.

For an occupational qualification in Estonia there are no grades on the document received; it only includes the final decision of the awarding body that an individuals' qualification corresponds to the requirements of a specific occupational qualification.

3.2.3. Awarding

The awarding process seems to be a technical procedure: after completing the specific requirements for the qualification (i.e. passing the required exams and fulfilling all other requirements), the learner will receive a certificate or several certificates.

In many cases, qualifications are issued by the same body that has conducted or organised the final assessment, i.e. by schools/VET providers on behalf of the competent national authority (e.g. in the German and Austrian school-based schemes, the Netherlands, Portugal and Slovenia), by regional

chambers (in the German and Austrian dual systems) or by both (Denmark). Some cases also involve other bodies:

(a) in England, awarding bodies design and issue the qualification even though the VET provider completes the training and assessment;

(b) the Estonian school-leaving certificate and initial occupational qualification is awarded by the school, while the occupational qualification certificate is issued by the awarding body (employers' associations or professional associations nominated by the sector skills councils located within the Estonian Qualifications Authority);

(c) two certificates are awarded in the curriculum-based IVET scheme in Finland: vocational upper secondary certificates are issued by providers and skill demonstration certificates are issued by local boards of skills demonstrations set up at provider level. In the case of CBQ, qualifications are awarded by qualification committees; the certificates are signed by the qualification committee and the CBQ organiser, and the latter hands the certificate over to successful candidates. Graduates of apprenticeship training receive two certificates: the certificate for participating in training is issued by the educational provider (organiser of the apprenticeship training) and the actual qualification certificate (which is based either on vocational skill demonstration or on CBQ) is issued by the competent bodies;

(d) in Hungary, the responsibility for the assessment is shared between an independent examination committee and the examination organiser (school). Certificates, however, bear the seal of the examination committee;

(e) in Romania, certificates are signed by the chairperson of the Certification Commission (set up at examination centres which are VET schools fulfilling specific requirements) and bear the seal of the school;

(f) in Spain, technician diplomas are awarded upon personal request by the education authority of the region where the training/cycle is completed. The VET school/centre delivering the training programme provides the necessary documentation, i.e. records of assessment, individual assessment reports and students' academic records to the education authority. Technician diplomas include information on the final grade of each professional module specifying the year and course as well as the average grade for the whole training programme/cycle.

CHAPTER 4.
Quality arrangements supporting certification processes

4.1. Introduction

As explained in the analytical model (Section 2.2) the study adapted the Fischer model (2013) to explore in detail the arrangements that guarantee quality in certification alongside the input, process, output dimensions at the three levels (macro/meso/micro) of VET in 12 countries. It has collected evidence along those dimensions as presented in Table 1 by examining the following questions: what kinds of quality assurance arrangements exist, and at which level of VET systems; how do they refer to input, process and output quality; how do they systematically support assessment, verification/grading and awarding? The analysis of findings identified eight key features that – if systematically followed – can ensure quality in certification processes. These are:

(a) addressing certification in formal quality assurance mechanisms;
(b) providing clear reference points for assessment;
(c) providing information to stakeholders;
(d) selection, requirements and training of assessors;
(e) quality of assessment methods and procedures;
(f) quality of verification and grading;
(g) appeal procedures;
(h) documentation, evaluation and monitoring of certification procedures.

Interviews with policy-makers and practitioners revealed that these key eight features are aimed at strengthening the following principles that generate trust in the certification process: validity, reliability, impartiality and transparency. References to these principles are found in methodology documents, assessment standards and guidelines that guide the certification process in the countries. A discussion on these principles can be found in Section 5.1.

The eight key quality features and relevant arrangements are described in more detail in the following sections and are illustrated with examples from the IVET schemes identified in this study.

4.2. Addressing certification in formal quality assurance mechanisms

The empirical study shows that, in a few countries, formal quality assurance mechanisms at system or provider level address the certification process. This depends on the way the system (VET and qualification system) is organised, for example whether certification exams take place at the VET schools or at independent examination centres ([12]), and the extent to which the quality assurance system relies on external evaluation or self-assessment.

4.2.1. In accreditation systems

The study explored if accreditation systems and procedures take the certification process into consideration. Accreditation can be defined as a quality assurance process through which a training programme or a training provider is officially recognised and approved by the relevant legislative or professional authorities (Cedefop, 2014b, p. 16).

In Hungary and Romania where certification takes place in independent examination committees and centres, accreditation leads to the permission to provide assessment and certification. This means that not every VET provider is allowed to carry out certification processes. Providers have to undergo a special accreditation procedure to receive permission to implement certification (Box 2). Similarly in England, the awarding bodies during the approval process of the VET providers (similar to accreditation) that apply for the provision of specific qualifications make sure the VET provider has the appropriate resources, expertise, staff and management arrangements to offer a specific qualification (this refers to teaching as well as to certification processes). In Finland for a VET provider to receive and maintain their accreditation they must have at least one local board which supervises the implementation of skills demonstrations (the practical part of the assessment process).

([12]) VET schools can also be examination centres but they have to be accredited and satisfy certain conditions to take up such a rule.

Box 2.   **Accreditation of providers as exam organisers in Hungary**

The training institutions providing VET outside the school system may organise vocational examinations if they hold a permit/licence to organise examinations which they receive on the basis of an authorisation procedure conducted by the Government Office. The database of the licensed institutions exam-organisers is maintained by the National Labour Office, VET Directorate and Adult Education (*). The Government Office shall inspect all the institutions operating as exam-organisers, both within and outside the school system, and their exam-organising processes, ensuring that the conditions required for the exam are fulfilled, for example if they comply with the requirements defined in the vocational and examination requirements (VER). Inspections are carried out through document analysis and site visit at least every four years.

(*) Since 15 December 2014 – National Office of VET and Adult Learning.
Source: Hungarian country report

4.2.2.   **Certification within quality management systems**

The study found some evidence of national quality assurance frameworks for IVET making reference to assessment and certification (Box 3). In some school-based IVET systems (e.g. in the German school-based system, the Netherlands, Romania and in England), direct links were identified between certification and external evaluation, which means that external evaluation of VET providers examines their certification procedures. Evidence was also collected on other forms of external verification and inspection: in Romania, a quality monitor evaluates the activities of each examination centre ([13]). Quality monitors are teachers (not staff members of the school operating as an examination centre) or employers' representatives. The quality monitors' reports are used to improve certification procedures. In England, providers' arrangements are evaluated by external verifiers responsible for checking whether the internal assessment processes and assessment decisions satisfy regulations defined by the awarding bodies.

In general, the final responsibility for quality assurance of certification lies with the management of the school (e.g. headmasters, executive boards). In three of the 12 countries analysed (Hungary, the Netherlands and England), additional specific roles are defined within the certification processes. In the Netherlands, VET providers receive special funding to appoint certification officials with various roles in their organisations. Those persons are responsible for training, support and development on the topic of certification (Box 4).

([13]) An examination centre in Romania is a VET provider with special permission for assessment and certification.

Box 3. **Certification within the national quality assurance framework in Romania**

The national quality assurance framework (NQAF) in IVET has been developed based on the European Common Quality Assurance Framework (CQAF/EQAVET) in VET. The NQAF includes descriptors for seven domains, one of which (domain 6) specifically addresses the assessment and certification of learning. This domain has a range of quality descriptors relating to the assessment and certification processes.

Domain 6: assessment and certification of learning

- registration of learners for final assessment complies with internal and external requirements;
- the summative assessment procedures and conditions are clearly communicated to all relevant stakeholders;
- particular assessment requirements of individual learners are identified and met where possible;
- summative assessment is suitable, rigorous, fair, accurate, and carried out regularly;
- summative assessment is used to monitor learners' progress, to inform individual learners of the progress they have made and how they might improve;
- learners have the opportunity to apply for another summative assessment procedure (where possible) and/or have a second chance to be assessed;
- summative assessment is conducted by appropriately qualified and experienced teachers/instructors;
- summative assessment decisions and practices are regularly sampled and reviewed and findings are acted upon to ensure consistency and fairness;
- teachers/instructors participate in standardisation activities which are carried out on a regular basis;
- only learners who achieve the full summative assessment requirements are awarded a certificate or formal qualification, where this is part of the learning programme;
- achievements towards learning outcomes and qualifications are recorded, accredited and retained;
- certification is formally validated through external accreditation (where available) by legal public authorities or other regulatory and legal bodies;
- external evaluators have access to premises, records, information, learners and teachers/instructors;
- assessment, internal evaluation and external evaluation procedures follow regulatory and legal body requirements;
- learner records, achievement data and certification data are retained in conformity with regulation in force after completion of programme.

Source: Romanian country report.

Box 4.   **Roles of certification officials at VET providers in the Netherlands**

Possible roles (*) of certification officials at VET providers include:
- constructor: person qualified to develop or construct exams;
- assessor: qualified person to assess the performance of students at exams and to document the results in the assessment protocol;
- ascertainer: person qualified to determine the technical or content quality of exams;
- examination expert: person with general expertise on and links to national policy and new policy developments with regard to certification.

(*) 'Possible roles' because VET providers have high autonomy and decide which roles and positions will be put in place.
Source: Dutch country report.

In England, internal verifiers are appointed in VET providers. These specially trained persons have the task to support assessors in their organisations as regards the interpretation of national standards, assessment tools, information about the candidates. Similar to the Netherlands, their role is to ensure compliance with given certification standards

Empirical evidence indicates that defining these specific roles for quality assurance of certification processes within VET providers can strengthen efficiency in conducting certification processes and support a shared understanding of how the provider's certification system is expected to work and to meet legal requirements. Particularly in big institutions with a high number of persons involved in certification (e.g. in the Netherlands), reaching a common understanding on certification requirements and, thus, ensuring impartiality, validity, reliability and transparency, seems to be a permanent challenge.

4.3.   Providing clear reference points for assessment

Cedefop describes the existence of standards against which the candidate is assessed as an important aspect of certification (Cedefop, 2009a, p. 17) because they serve as reference points and ensure consistency regardless of where, when or by whom certification takes place. These standards should correspond to the outcome of an education and training process specified in documents such as training regulations, qualification profiles, framework curricula, educational requirements, etc. The outcome-orientation of such descriptions can be characterised by the presentation of 'a set of knowledge, skills or competences to be attained, irrespective of their name (learning objectives, performance standards, learning outcomes, etc.)' (Cedefop, 2009c, p. 29).

The study revealed that, in all 12 countries, outcome-orientated qualifications descriptions can be observed. However these are not always translated into assessment criteria used across the country. Assessment standards or criteria expressed in terms of learning outcomes are either developed at national level and set by law (e.g. in Estonia, Spain, Hungary, Romania and Finland) (Boxes 5 and 6) or are provided by awarding bodies (e.g. in England). In other systems, where learning outcomes descriptions are used in assessment, they are developed by the VET providers based on the national qualification profiles (e.g. Denmark, the Netherlands)

Box 5.   **Link between learning outcomes based descriptions and assessment criteria in vocational qualifications in Finland**

National qualification requirements (NQR) (*) are developed for each vocational qualification by the Finnish National Board of Education (FNBE). The same NQRs are applied in all forms of VET for completing a vocational qualification, i.e. curriculum-based or competence-based. Depending on the VET form, each qualification consists of a combination of vocational study modules, core subjects and free choice modules.

The requirements of vocational modules (vocational skills requirements) and the objectives of core subjects are defined in terms of learning outcomes (knowledge, skills, competence) and are the basis for learning, teaching and assessment.

For each vocational module, assessment targets and assessment criteria for three levels of competence (satisfactory, good, excellent) are presented in a table. The assessment targets are described in relation to mastering (a) the work process; (b) work methods; (c) equipment and material; (d) underpinning knowledge and the key competences for lifelong learning. Assessment criteria are defined for each assessment target and are derived from the vocational skills requirements.

(*) Most national qualification requirements for VET are also available in English:
http://www.oph.fi/english/curricula_and_qualifications/vocational_upper_secondary_education [accessed 7.10.2012].

Source: Finnish country report.

4.4.   Providing information to stakeholders

Systematically informing core stakeholders about all important issues concerning certification is crucial for the quality of certification procedures. Candidates, assessors, teachers and trainers are the core stakeholders who need to be aware of requirements to be able to follow national, regional and provider-level regulations (see for example Box 7). This typically includes information relating to methods, procedures and admission, assessment and grading criteria.

Box 6.   **Link between learning-outcomes-based descriptions and assessment criteria in vocational qualifications in Hungary**

Vocational and examination requirements (VER) are defined and published in decrees for each qualification in the *Hungarian national qualifications register*. VER are based on learning outcomes, form the basis for elaborating the central (framework) curricula and also build the basis for the examination. They determine the set of competences required, the expected training outcomes by modules and the requirements for passing the vocational examination.

The VERs contain:

• a tasks profile that briefly describes all the duties the vocational qualification enables the qualified graduate to acquire, perform, and practise;

• a characteristics profile that identifies the required vocational competences (as vocational knowledge and vocational skills) and the other (personal, method, social/interpersonal competencies. The exam's assessment methods and evaluation criteria are also included in the elements of the characteristics profile.

Source: Hungarian country report.

Box 7.   **A holistic approach to informing all actors concerned in Denmark**

At the beginning of the training course the regulations from the directives are presented and made available on the students' learning platform Elevplan (student plan). This platform is maintained by the Ministry of Education and is made available to all students on the VET providers' web-pages. The platform includes all formal rules and regulations relating to the studied qualification. Elevplan is also used to inform students about test results and how well they have performed during their training course.

In addition, students are given access to the competence goals and the learning outcomes they are expected to achieve during the training course. Information is provided in different ways both at the beginning and during the training course. The most comprehensive information is given prior to the final tests and exams.

Assessors are well informed about what is expected of them as they are provided with detailed information well in advance of the examinations. For example, they receive a package containing both the projects the students have finalised and all the formal documents including the directive, the goals and the examination plan with the assessment criteria. Prior to the examination, assessors and teachers meet to discuss and agree on how the examination will be carried out. At that point, the assessor is reminded of the assessment criteria again.

Source: Danish case study.

Communication to stakeholders is in most VET systems seen as a shared task, done by different bodies at different levels (e.g. responsible ministries, employers and employees associations, awarding bodies, school inspections and VET providers). All information efforts seek to create a common understanding of certification requirements to support transparency in certification processes. The

countries implement different forms of information activities, adapted for candidates, assessors, teachers and trainers. Table 7 presents an overview.

Table 7. **Information to candidates and assessors, teachers and trainers regarding certification requirements**

Stakeholder Group	Methods and procedures	Country/IVET scheme, examples
Candidates/ students	Websites (e.g. www.examineringmbo.nl for the Netherlands, www.elevplan.dk for Denmark)	DK, EE, FI, NL, RO, SI, England
	Preparatory meetings/information sessions	DE dual, DE school-based, AT dual, HU, FI
	Guidelines and information materials	DK, ES, HU, NL, PT, SI, FI
	(Informal) Information from teachers/trainers to students	All
	Participation in the assessment of other candidates (as preparation for own assessment)	AT school-based
Assessors, teachers and trainers	Websites	DK, DE dual, EE, FI, NL, AT dual, RO, SI and England
	Meetings and conferences	DE school-based, HU, AT dual, AT school-based, SI, FI
	Handbooks and guidelines	DK, HU, AT dual, PT, RO, SI, FI all subsystems,
	Trainings	EE, HU, AT dual, RO, FI and England

Source: Country reports.

The study indicated that providing information to in-company trainers and workplace assessors about assessment criteria seems to be challenging sometimes as it does not always happen in a systematic way. In addition, even though information to candidates is made available via different information channels, it is important that this happens in a timely manner – linked to their preparation for exams – and is supported with examples from their training especially for competence-based assessments to get a clear idea about what is expected of them.

4.5. Selection, requirements and training of assessors

Arrangements relating to the profile, selection and training of assessors are seen as important to ensure the quality of the certification process. Empirical evidence from the 12 countries pointed to the following aspects formally addressed in regulations and guidelines:

(a) rules concerning the selection and competences of assessors:
     assessors are selected and appointed by different institutions across countries depending on the governance of IVET schemes and distribution of responsibilities for certification. Responsibility for selecting or approving assessors varies between VET providers (in the Netherlands, in England), regional school inspectorates (in the Austrian school-based system, in Romania) or social partners such as chambers of commerce, chambers of labour (in Denmark and in the dual systems in Germany and Austria).
     In all 12 countries legal regulations exist for the selection and required competences of assessors. Within mixed assessment teams, regulations for qualification of teachers are very clear, but requirements for labour market representatives are less clear or rather low in some countries (e.g. in Finland). Typical requirements for assessors are: pedagogical training and/or the vocational specialisation in the respective profession, (defined minimum time of) professional experience or defined minimum age. In Hungary there are strict requirements for chairs and members of the vocational examination committees who must be listed in the national register through application following strict selection criteria which are defined by law. The registration is valid for a period of five years. If someone did not receive an assignment as chair of the examination committee for more than three years, he/she is no longer entitled to act in this capacity. Many IVET contexts (e.g. the German and Austrian dual systems or Hungary) follow the approach that the examination board as a whole has to cover a defined set of requirements as it does not seem to be necessary or possible for each individual board member to fulfil all requirements;

(b) composition of examination boards:
     in some IVET systems, examination boards seem to be composed rather homogenously. In Austria (school-based system), Slovenia and England (all subsystems), for example, assessors are VET school teachers; employers are not involved. Other IVET systems, however, try to include a wide range of different stakeholders such as work place instructors, employer and employee representatives, and professional experts in different occupational fields. This for example happens in the German and Austrian dual systems, in the assessment for occupational qualifications and in the school-based system in Estonia and in all sub-systems in Finland. Another interesting finding in Finland points to the participation of candidates in assessing their own performance in the vocational skills demonstrations. The study shows that joint assessment conducted by different stakeholders is understood as a powerful driver for the quality of assessment in many countries. Joint

assessment provides the advantage of different views of candidates' performance and helps ensure impartiality of assessment.

Some IVET schemes (e.g. in the dual systems in Germany and Austria, Hungary or Romania) have a strict division between teaching/learning and final assessment. Teachers are not allowed to assess their own students. This distinction seeks to support impartiality. In the Netherlands, for example, teachers can be involved in assessing their students, but the school inspection framework requires specific attention on the impartiality of assessors. Therefore, VET providers have to implement quality assurance mechanisms to ensure impartiality;

(c) provision of guidelines for assessment and grading:

the provision of guidance material – either prepared at system level or at VET provider level – to assessors is seen as an important measure to ensure consistency in certification. This includes practical explanation of national regulations; manuals or guidelines on how to prepare examinations or to design assessment assignments; instructions on how to prepare, inform or involve candidates and other stakeholders (such as workplace instructors and other professionals) and suggestions on how to implement assessment and assign grades;

(d) training of assessors and sharing of experiences between them:

training of assessors and the possibility to exchange experiences and learn from each other contributes to increasing the reliability and consistency of the assessment process. Training is necessary not only for new, inexperienced assessors but also to inform about new policy developments in relation to certification and changes in assessment standards. Common training topics include assessment criteria and methods, examination tools and assignments, decision-making and grading schemes.

All countries provided evidence of training for assessors, mostly on a voluntary basis ([14]). Compulsory training takes place in a few countries: in Hungary (for the heads of examination boards), Romania and England.

([14]) Assessment is usually also addressed in initial teacher training. This section refers to specific training offers for those involved in assessment.

Box 8.   **Training of assessors in the Finnish competence-based IVET scheme**

In the Finnish competence-based qualification system, teachers and assessors responsible for arranging competence-based qualifications and competence tests can take part in a training programme for gaining the qualification 'specialist in competence-based qualifications'. The training programme is equivalent to 25 credit units and is implemented in line with the qualification requirements of 'specialists in competence-based qualifications' approved by the Finnish National Board of Education. The vocational requirements for this qualification consist of three units:
- designing the provision of competence-based qualifications (eight credit points);
- planning and implementation of guidance and support to students preparing for competence-based qualifications (10 credit points);
- quality assurance of competence-based qualification activities (seven credit points).

Source: Finnish case study.

Specialised training takes place in the Austrian dual system, where examiners for the final apprenticeship exam can voluntarily undergo training to become certified examiners. A similar programme can be found in Finland in the competence-based IVET system (Box 8). In Romania, a 2011 European Social Funds' strategic project on training VET teachers on competence-based assessment and certification is being implemented. Four training standards and four training programmes for VET teachers have been developed ([15]).

Systematic exchange between assessors to share their experience is organised only in a few cases. Exchange about good practice (via publications or online tools) is common, for example, in Romania, Finland and England. Spain's Basque country has implemented a so-called calibration procedure (Box 9) supporting the exchange and professional development of VET teachers:

In summary, assessors must receive training and benefit from possibilities to share experiences; this helps to consistently implement prescribed assessment procedures and to meet legal regulations and standards. Integrating different stakeholder groups (e.g. teachers, work place instructors, professional experts) in examination boards offers the possibility to receive different views on the candidates' performance, to ensure reliability and impartiality of assessment, and to check if gained competences comply with labour market needs.

([15]) All materials developed as part of the project are publicly available on
http://evaluarecompetente.tvet.ro/index.php/.[accessed 8.10.2015].

Box 9.   **Calibration procedure in Spain's Basque country**

The calibration procedure seeks to ensure that teachers who deliver the same professional module use similar assessment and grading criteria. Calibration is organised on an annual basis by VET schools/centres. Each teacher takes part every two years. The procedure includes the following steps:

- the teacher who is going to be calibrated provides a written test corrected by him/her, a copy of the uncorrected version and a template for correction (*plantilla de corrección*). Assessment criteria as well as acceptable differences in grading (with ± points) are clarified before the calibration takes place;
- the teachers, who calibrate the examination, correct the test using the template for correction. In doing so, they do not consult or influence each other. Individual assessments are then compared and considered reliable if they are within the limit of the acceptable differences in grading;
- the head of the department (who coordinates the teachers delivering the same professional module) describes in a document the results achieved through the calibration.

Source: Spanish country report.

4.6.   Quality of assessment methods and procedures

Assessment procedures and methods refer to the question 'how are candidates assessed within certification procedures?' and in all countries they follow quality principles defined within regulations such as validity, reliability, impartiality and transparency. Some countries regulate the application of certain assessment methods (e.g. the German dual system), while others provide a general methodological framework: in the Netherlands, for example, VET providers must comply with legal documents which contain examination requirements but they can decide on how final examinations take place, which assessment methods are used and even when they take place (during VET programmes or at the end of programmes).

4.6.1.   Standardisation of final exams

An important method to achieve reliability is the attempt to implement centrally, (partly) standardised final exams in IVET (e.g. in the German dual system, Hungary, the Austrian school-based scheme and in Slovenia). In Hungary, for example, final examinations consist of written and oral tests and a practical exam. One part of the final examination, that is the written test, is centrally organised for all VET programmes (Box 10).

Box 10.   **Standardised written tests as part of final examinations in Hungary**

The written tests are organised centrally, at the same time in the whole country. A teacher supervises the written test session but he/she should not have the same specialisation. He/she collects the candidates' written test papers, and forwards them to the teacher who corrects them in accordance with the centrally developed correction-assessment guide and suggests the grade(s) to be allocated. The corrected test papers will be sent to the chair of the examination committee, who checks and approves with his/her signature.

Source: Hungarian country report.

4.6.2.   Verification/approval of exam assignments

Several VET systems include verification and approval of assessment methods and assignments to ensure quality and compliance with requirements. In the Austrian school-based system, for example, tasks/questions for final examinations are developed by teachers at provider level and have to be approved by the competent regional education board. The regional education board may demand modification of exam questions or ask for new proposals. In England, different staff members/teachers approve (school-based) assignments for certification procedures. The first version of an assignment is always a draft version. Assignments are only issued to learners once they have received internal approval.

4.6.3.   Multiplicity of examination methods

The use of a combination of different methods is, in most countries, seen as a way to ensure the validity of assessment. Combination of methods means, for example, the implementation of theoretical and practical exams by applying different methods such as standardised written tests in combination with a skills demonstration. This gives candidates the opportunity to show their competences in different settings, and assessors get the possibility to achieve a manifold impression regarding a candidate's performance. Various assessment methods and their combination can be observed across countries, including skills demonstrations (demonstrations of practical tasks, role plays, simulations), written exams, oral exams, production of work pieces (e.g. producing a product out of wood or metal, a flower bouquet, a computer programme, a marketing strategy), portfolios or project presentations. Even in cases using complex assessment methods, such as the vocational skills demonstrations in Finland, there might be a need to include other methods to ensure coverage of all relevant competences.

4.6.4.   Assessment in authentic settings

Most countries make a large effort to create assessment settings as close as possible to real work environments. The aim of this approach is to ensure that IVET is providing programmes and competences that meet labour market needs. Although these methods are more complex and often more costly than traditional assessment methods (e.g. written tests, oral exams), most IVET systems simulate real working-life situations in VET schools. But only Spain, the Netherlands and Finland implement assessment in authentic work. This is usually done as part of work-based learning in a company (Box 11). Other countries see the advantages of such an approach and plan to introduce assessment in authentic settings. In the Austrian dual system, for example, there are discussions to introduce case studies and the presentation of a project conducted in the training company.

Box 11.   **Authentic assessment in the Netherlands**

At the beginning of the school year, each student is linked to a learning company that develops a unique and realistic/authentic examination project, based on a real activity of the learning company (in their final year, students take part in three of four of these examination projects, they are in professional practice full time). The examination project is approved (by the student, trainer at school and workplace trainer) and ascertained (by the school ascertainer). After that, the student goes ahead with the examination project for approximately six weeks. During this time, the student is seen as part of the company's project team like a regular employee. At the end of the assignment, the student plans the assessment at the learning company. A report and a presentation are part of the products assessed and through which the student has to show the mastery of learning outcomes. Assessment and grading are done by a minimum of two people: the trainer at school and the workplace trainer. Assuring the quality of the system with unique examination projects means lots of time and work for examination officials and teacher teams and requires investment in local companies. It is a more complex way of certification: however, it conforms to the core of the school's educational vision.

Source: Dutch case study.

Another attempt to ensure that assessments are closely linked to real work contexts is the joint development of assessment tasks in cooperation with labour market stakeholders (e.g. between teachers and representatives from social partners acting as assessors in Denmark).

4.7. Quality of verification and grading

The empirical research shows that most countries regard the assessment and verification/grading processes as one entity with two aspects: (a) assessing the performance of the student against applicable criteria, requirements or standards; (b) deciding the level of the performance by giving grades. The verification process is, however, an important step that follows assessment and which confirms that the candidates' assessed learning outcomes correspond to the learning outcomes required for the qualification.

4.7.1. Verification by an independent qualification committee

Evidence from the interviews shows that if assessment verification is conducted by an external/independent person or committee (other than the ones that assessed the individual) it increases trust in the certification process. This takes place in a few VET systems (Section 3.2.2). For example, in Estonia and in the Finnish competence-based system, after the candidate's assessment is over, the assessment committee prepares its proposal to be sent to the relevant qualification committee. Based on the documentation of the assessment committee, the competent qualification committee makes the final decision about whether the candidate has attained the module and on which performance level.

4.7.2. Use of grading scales

National regulations specify the grading scales to be used and, in some cases, the formula to be used to calculate the final grades. Grading grids or more or less standardised templates for assessment and grading are used in most systems (in all subsystems in Denmark, the German dual system, Estonia, the Netherlands, Austria, Portugal, Slovenia and in all subsystems in Finland). The Dutch example in Box 12 illustrates a search for a certain level of unification by providing supporting materials in a context with a decentralised and individualised approach to assessment.

4.7.3. Grading by a group of assessors

In all 12 IVET systems, national regulations foresee a multiple-eye principle, when it comes to grading decisions within certification procedures. At least two persons (in Spain and Portugal) but in many countries up to five persons (in Germany, Austria and Finland) have to make a joint decision. School-based IVET systems have assessment-conferences of teachers to ensure impartiality and reliability (in Germany, Spain and Austria) as illustrated by the example from Germany in Box 13.

Box 12.   **Supporting materials for grading in the Netherlands**

Even though examination projects are uniquely developed for each student in their learning company, assessment and grading are uniform. To ascertain unity and quality of assessment and grading, the department uses a grading grid (*beoordelingsmatrijs*) as part of the grading procedure by the workplace trainer and school trainer. In the grading grid, each of the learning outcomes (core tasks, work processes and competences) that were included in the examination project are graded (with o=inadequate, v=adequate, g=good, NB=not assessed) and the grade is substantiated. Common understanding is reached through dialogue between both assessors. The definition of these criteria (o, v, g, NB) is presented on the grading grids.

Source: Dutch case study.

Box 13.   **Grading in the German school-based system**

The written exams are corrected and graded by the same teachers who put together the examination; but a second teacher always proof-reads the first correction (second examiner). If those two teachers come to different results, they have to discuss it and if they do not agree, the school's headmaster takes the decision. Each federal State (*Land*) has specific ordinances to regulate how verification/grading must be done. In Bremen, for example, there is a board of examiners for each subject and there is one big examination conference with all teachers involved. This conference takes the decision on the final grades.

Source: German (school-based) country report.

4.7.4.   **Substantiating and reasoning grading decisions**

Some IVET schemes have specific requirements for providing reasons for the grading decision. For example, in the Finnish curriculum-based IVET scheme and in Hungary, grading decisions must be explained and substantiated. The reasons for grading must be clear for candidates as well as for external parties. This seems to be good practice to support grading transparency; however, not much evidence indicates this occurs in other countries. This study found that assessors in most countries must document the assessment processes and the results (i.e. marks, grades), but it seems that many countries do not have clear regulations on how to justify the grading decision.

4.8.   Appeal procedures

An important part of the quality of the certification process is the students' possibility to appeal against the given grade or the results of a certification process (process of rectification). In all 12 countries examined, system level

regulations provide common guidelines on appeal procedures for organisations implementing certification processes (e.g. providers, awarding bodies, examination boards). Country-specific appeal procedures vary not only from one country to another but also between different IVET systems within one country such as in England or in Austria's dual and school-based IVET systems.

It is important for appeal procedures to be handled by an external actor or body, who has not been involved in the actual assessment of a student, to process the appeal. In the Netherlands, for example, specific appeal commissions are established in the VET providers. In Austria (school-based scheme), the regional education board processes appeals of examination results made by candidates.

An essential aspect is to inform candidates (in publications, on websites, orally) of their right to appeal and the details relating to administrative arrangements. It is also important for candidates to receive feedback on their performance to be able to judge whether they should appeal or not. In Finland (curriculum-based), the students actively take part in planning and implementing the assessment of vocational skills demonstrations as well as in assessment discussions; therefore, they are aware of the assessment criteria, the justifications for the assessment and the grade given. However, in most IVET schemes, the structure of the appeal procedure ensures that at least by issuing a formal appeal, usually in writing, the student will be informed of the justifications for the assessment decision.

4.9. Documentation, evaluation and monitoring of certification

Documentation, evaluation and monitoring of certification are important tasks at all levels (macro, meso, micro) which contribute to the improvement of the certification process.

At meso and micro level VET providers and examination committees in all 12 countries document exams by keeping minutes or protocols with core data including the name of the candidate, members of the examination board, assessment methods and assignments and results of the examination. Exam documentation usually has to be preserved for a defined period to serve as a basis in case of appeals and for external evaluation purposes (e.g. done by school inspectors or awarding bodies). Evidence in some VET systems highlights good practices concerning the use of information from certification processes at organisational level. For example in Hungary, the Netherlands, Slovenia, Finland and England, certification results are systematically used to improve certification

procedures. The approach taken in Slovenia (Box 14) demonstrates how this can be organised. What seems to be collected only occasionally is feedback from students on the certification process. In addition when final assessment is separated from teaching and learning VET providers rarely receive feedback on the certification results (e.g. in the German and Austrian dual systems). Certification results are only made publicly available in a few VET systems (e.g. Denmark, the Netherlands, Finland and England) as a means of providing information on the performance of different providers.

Box 14.   **Evaluation and monitoring at provider level based on results from centralised tests in Slovenia**

The national examinations centre has developed an efficient and user-friendly feedback system to schools and teachers. For all vocational schools and teachers in Slovenia, an online application to use and analyse the information on the vocational matura was developed to offer information to enable changes and improvements in their teaching and assessment processes. This tool to analyse results on final examination is a computer programme for headmasters and teachers to prepare statistical analyses and comparisons of different parameters, such as candidates' success rates at one school in comparison with the total population of the country or comparison between classes within schools. The tool also allows for analysis of the school's added value: how did the students perform in upper secondary school in relation to their achievements at the end of nine-year primary school (data collected in national examinations). The programme also allows the analysis of students' achievements at general and vocational matura. Monitoring of results since 2002 is possible.

Source: Slovenian country report.

At macro level, information based on certification data can be used to inform funding decisions, training programmes and qualifications' reviews, or to improve the certification process (Box 15). All 12 countries in this study collect at least basic statistical data in the form of assessment fail/pass rates (combined with student characteristics such as gender, age, or enrolled programmes). In a few countries, the number of appeals against individual examination results is seen as a meaningful indicator of the quality of certification procedures (e.g. in Denmark and in the Austrian school-based system). However, evidence from the empirical research show that although in most VET systems/countries data from certification processes are available, these are not used systematically at system level to renew standards and curricula and to improve training process.

Box 15.   **Using results to improve certification at system level in Romania**

Evaluation reports on each certification exam are elaborated at each level (exam centre, county level, national level) with information on number of candidates, human resources involved, equipment, compliance with legislation, relevance of the range, type and content of the assessment tasks and suggestions on how to improve the quality of the certification exam. The information is used to develop a report prepared by the Ministry of Education on an annual basis. On the basis of the recommendations presented in this annual report, improvements are made in the VET system. For example, following the recommendations formulated after the 2014 certification exams, a revised certification methodology for qualifications at NQF level 3 was implemented starting with the school year 2014/15. The revision involved a skills demonstration test in the certification exam.

Source: Romanian country report and case study.

CHAPTER 5.
Increasing trust in certification

This chapter discusses several issues that need to be addressed at national and European level to further support the quality of certification and build trust on the process.

5.1.   Ensuring validity, reliability, impartiality and transparency

Specific principles need to be considered to strengthen trust in certification, and in particular assessment processes. Literature refers to principles such as validity, reliability, transparency and impartiality or fairness ([16]):

(a) validity of assessment ensures that assessment methods, materials and instruments measure as precisely as possible the intended learning outcomes and that evidence fully supports the assessment;

(b) reliability is about whether the same assessment results can be obtained in different cases (e.g. in relation to context, time, assessors or assessment tasks). It refers to the degree of consistency and accuracy of the assessment outcomes;

(c) impartiality or fairness means that assessment is not unequal on the grounds of race, gender or on any other grounds. It does not disadvantage particular candidates or groups of candidates and that personal views or feelings of the assessor have no influence on the assessment;

(d) transparency means that the approach to assessment, the methods and tools used, the context, timing and the criteria applied as well as the implications of its results (e.g. regarding grades or pass/fail decisions) must be known by all the parties involved in assessment (and in particular by the candidates).

These principles are of crucial importance for all assessments and in some contexts they – or at least some of them – are explicitly addressed in quality assurance arrangements. For example, in Romania, the National Education Law specifies that School Inspectorates are in charge of ensuring reliability and

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([16]) Based on: Australian Department of Education and Workforce development, 2013; Stenström et al., 2006b, p. 15; Black, 1998.

validity of the internal assessment across different IVET schools. In the Netherlands, the Inspectorate of Education standards which explicitly refer to reliability and validity of assessment and to impartiality of the assessor are integrated in each VET school's quality assurance arrangements and procedures. Even if these principles are not explicitly expressed in regulations they can – at least to a certain extent – be identified in the design of the assessment methods and procedures. These principles can be met and put into practice in different ways (Section 4). The following paragraphs present some trends identified in the countries studied and discuss tensions between them.

Vocational education and training is understood as 'education and training which aims to equip people with knowledge, know-how, skills and/or competences required in particular occupations or more broadly on the labour market' (Cedefop, 2014b). Therefore the involvement of labour market stakeholders in assessment (for preparing and defining assessment assignments and even participating in assessment) is important to ensure validity of assessment and that assessment tasks are related to or are based on real work assignments. Several IVET systems included in this study follow this practice: in the German and Austrian dual schemes, in both sub-schemes in Estonia, Hungary, the Netherlands, Portugal, Romania, in final examinations under the responsibility of VET schools in Slovenia and in all sub-schemes in Finland. A high degree of validity can be achieved by carrying out assessments in semi-authentic or authentic contexts to ensure similarity with the real working environment (Section 4.6). A range of different methods and complex examination tasks can be used in the assessment process to measure all the intended learning outcomes as precisely as possible.

The principle of reliability is addressed by applying standardised assessment procedures, methods or instruments and by using centrally defined assessment standards and criteria (Sections 4.3 and 4.6). In Romania, consistency is ensured through performance criteria set in the training standards while in England assessment must comply with the assessment scheme set by the awarding body. In addition, preparatory sessions and training ensure that assessors have a common understanding of what to assess, how to gather evidence of learning achievements and how it should be evaluated (Section 4.5).

To ensure impartiality, some IVET systems (e.g. in the German and Austrian dual schemes and in Romania) require that individuals may not serve as an examiner if they have trained, taught, or employed the candidate or if they are related to her/him. External examination centres and independent examination committees (as set up in Romania) can ensure impartiality. In all except two IVET systems analysed in this study, assessors' teams make joint decisions on

assessment to encourage impartiality. An exception was England, where an individual teacher or trainer carries the assessment out but verifiers check the decision. Another exception was Spain where teachers assess their own students. However, impartiality is ensured by the so-called assessment board sessions where the teachers of a candidate meet, discuss and take a joint decision on the average grade of the entire training cycle/programme.

Transparency can be achieved by sharing information about assessment requirements and procedures as well as the appeal procedures. This can be done with systematic procedures, such as specific (obligatory) information sessions to inform students and ensure that they understand the methods, procedures and criteria for assessments (Section 4.4). Further, procedures and standardised instruments should record assessment processes and results in a transparent manner (Section 4.9). Another important aspect of transparency is publishing results or at least giving candidates the right to see their assessment results, which is also a pre-condition for contesting them in appeal procedures (Section 4.8).

Purist application of these four principles does not exist. For example, focusing on validity in assessment in IVET could include developing a project in cooperation with a company or conducting the assessment in a real work situation with real clients. Several practitioners noted that designing such assignments as part of final assessments cannot easily be repeated by the same student (e.g. with other clients), or in assessment processes with other students in other real work situations. Reliability 'is bound up with the extent to which the assessment method employed can resist variation during the assessment process' (Stenström et al., 2006b, p. 16). However, reliability does not mean that every aspect of assessment is replicable: it has to be decided what exactly should be replicable, for example the use of guiding grids, or the general exam pattern (existence of real work situation that belongs to a defined family of work situations, but not necessarily the same work situation).

Thus, the different ways of addressing these principles have their limitations. To cope with these limitations, several IVET systems combine results from multiple assessment methods and instruments (such as written and oral tests as well as projects, case studies, simulations or skills demonstration) and use standardised and non-standardised approaches. Evidence from the case studies shows that, depending on the context, some VET systems introduce lengthier assessments and involve different actors such as teachers and trainers, workplace-instructors, other students and candidates' self-assessment.

In reality, care should be taken to understand the four principles in relative terms, and pay attention to clearly identify how each one should be applied in the specific context.

5.2. Improving articulation and use of learning-outcomes-based standards in certification

According to the principle of reliability it is important for certification to be aimed at consistent results across a system (Section 5.1). Empirical research has shown that assessment standards expressed in terms of learning outcomes are centrally defined and used as a common reference point in half of the countries analysed (Estonia, Spain, Hungary, Romania, Finland and England). In other systems learning outcomes defined at national level in qualification standards are translated into assessment standards by the VET providers who implement certification processes. A detailed analysis of these descriptions in the case studies has shown that they vary in terms of structure, level of complexity and specificity as well as performance criteria.

For example, in Denmark, examinations are based on the goals and competences stated in the specific directive and the teachers and assessors translate those to evaluate students' performance. The competence goals used for assessment in the Danish case study are broad, expressed in short sentences and in most cases only cover one outcome at a time: in the information technology support training course one assessment criterion says 'the student can design and implement a classless IP network (VLSM and CIDR)'.

In Portugal, the teachers define assessment standards/criteria in terms of content, skills and competences in line with the school's assessment guidelines which are based on the standards defined in the *National qualifications catalogue*. In the Portuguese case study for the qualification hotel receptionist the learning outcomes descriptions are very detailed, complex and closely related to the work tasks candidates have to perform: the candidate 'will complete the check-out process by asking for the room number or by verifying the guest card. He/she will take the room key, check the list of departures, ask the customer if he/she has taken any drinks from the mini bar, print the invoice and ask how the customer wishes to settle his/her bill. Upon payment, the receptionist will give the customer the invoice and keep a copy; he/she will ask the customer whether he/she has enjoyed his/her stay and will ask for a taxi to the airport. Then he/she will confirm that the taxi is on its way. [The receptionist/candidate] will thank the customer and say goodbye. He/she will register the check-out in the check-out list'.

Several interviewees expressed the need to have common instructions and guidelines available to define and describe learning outcomes for assessment purposes. This is necessary to ensure consistency in learning outcomes descriptions applied throughout a country. Box 16 exemplifies the case in England.

Box 16.   **Guidelines for writing learning outcomes in England**

In England, there are clear rules for the writing of learning-outcomes-based standards used for assessment. The guidance available in England requires learning outcomes to be written in the following way in order for them to be easy to access. Each individual learning outcome must follow on from the statement:
- 'the learner who is awarded credit for this unit will …' or the shortened form: 'the learner will ...'
- each learning outcome should begin with 'know', 'understand' or 'be able to';
- each individual assessment criterion must follow on from the statement: 'assessment of this learning outcome requires the learner to show that they can …' or the shortened form: 'the learner can ...'

Source: English country report.

Assessment criteria described in terms of learning outcomes must be clear enough, be written in such a way that they facilitate assessment and express performance expectations. An analysis of the case studies shows that the assessment criteria described in terms of learning outcomes are formulated in a higher degree of granularity and specificity compared to the learning outcomes descriptions of qualifications. They are expressed in a high level of detail and express performance criteria (Box 17).

Although we could assume that such detail would facilitate assessment, interviewees revealed that this is not necessarily the case for people without pedagogical background. For example, in the assessment of in-company training in the Spanish case study, company representatives have difficulty understanding and using the nationally defined assessment criteria which are more detailed and specific than the more general learning outcomes descriptions of the competence units associated with the qualification. As a result, the assessment sheets for in-company training include the competence units (and not the assessment criteria). Similarly in the case study from the German dual system, interviewees reported that for the practical part of the final assessment (in-company order/task, *Betrieblicher Auftrag*) examiners assess apprentices in a holistic way, meaning that they do not consider the competence-oriented descriptions in the trainings regulations but they base their judgement on the fulfilment of an occupation-typical task. Even students in the Finnish case study

stressed that understanding the long list of learning-outcomes-based assessment criteria can be quite demanding and requires a lot of time for contextualising them and addressing them in the preparation of their skills demonstrations.

Box 17.   **Vocational skills requirements and assessment criteria – Practical Nurse in Finland**

Each vocational-qualification module expresses skills requirements and assessment criteria in terms of learning outcomes. An example of a learning outcome reads: 'the student or candidate applies an approach to work which promotes the client's or patient's ability to function and to advance in rehabilitation, health and well-being'.

Assessment criteria are presented in a table in relation to four assessment targets that indicate those areas of competence on which special attention is focused during the assessment process; mastering (a) the work process; (b) work methods; (c) equipment and material;(d) underpinning knowledge and the key competences for lifelong learning. One or more sets of assessment criteria for three levels (1 = satisfactory, 2 = good, 3 = excellent) are defined for each specific aspect allocated to these four assessment targets.

For example, the following criteria are (among others) defined for the assessment target: 'mastering the work method, equipment and material: the support and guidance of growth'.

Assessment targets	Assessment criteria		
Mastering the work method, equipment and material	**Satisfactory 1**	**Good 2**	**Excellent 3**
	The student or candidate		
The growth support and guidance	listens to and observes the client and discusses his/her needs with him/her.	listens to and observes the client and discusses his/her needs with him/her. Takes the client's personal circumstances into account.	listens to and observes the client and discusses his/her needs with him/her without undue restraint. Takes the client's personal circumstances into account in many ways.
	provides the client with opportunities for activities and uses different materials, equipment and facilities in his/her work.	provides the client with opportunities for activities and uses materials, equipment and facilities appropriately in his/her work.	provides the client with opportunities for activities in an inspiring and motivating manner, and uses materials, equipment and facilities appropriately and creatively in his/her work.
	exploits methods which are appropriate for the setting, to promote and support the client's growth and development.	diversely exploits different methods which are appropriate for the setting, to promote and support the client's growth and development.	diversely and creatively exploits methods which are appropriate for the setting, to promote and support the client's growth and development.

Source: Finnish case study; FNBE, 2011, p. 31.

The above findings suggest that learning outcomes' descriptions should not be too rigid and that they should be linked to the context where they are applied. They should also relate to the language of company representatives when these are involved in assessment. In other words, a balance needs to be kept between reliance on (national) standards and context-sensitiveness or local flexibility (Biemans et al., 2009, p. 280). In some cases, teachers need to put much effort into explaining learning outcomes used in assessment to company representatives or to 'translate' them to make them more comprehensible for them. In particular, broadly formulated learning outcomes need to be placed in the given professional context to be useful in the assessment process. No matter how challenging or time-consuming a task this may be, it is necessary to allow their use as common reference points which ensure reliability in certification.

It can be concluded that there is no commonly accepted perfect way of formulating and presenting learning outcomes; the main issue is that they are 'fit for purpose' in the context they are applied. The above examples underline the fact that the mere existence of learning outcomes' statements in regulations and guidelines is not enough. For learning-outcomes-based standards to achieve their potential of clarifying expectations, enhancing transparency and operating as a clear reference point for assessors and learners, effort is needed to establish dialogue and reach a common understanding and interpretation of them among all stakeholders involved in the assessment process.

5.3. Balancing centralised approaches and local autonomy

Most IVET systems involve a range of actors for assuring the quality of certification processes, representing the macro, meso and micro levels. These actors include representatives of ministries, inspection and monitoring bodies, regulatory bodies, awarding bodies, training providers, examination centres, quality assurance bodies, social partners and individual learners. (Cedefop, 2009a) distinguishes between three broad models to ensure the quality of certification processes based on the continuum of divisions of responsibilities between these actors:

(a) the prescriptive model refers to entirely centralised procedures where the responsibility lies with one specific body and IVET providers have no responsibility at all in relation to quality assurance of certification processes and are 'little more than a conduit between the individual learner and the awarding body' (Cedefop, 2009a, p. 36);

(b) the cooperative model refers to cooperation and sharing of responsibilities in relation to quality assurance of the certification process between VET providers and external agencies (such as awarding or examination bodies);

(c) the self-regulated model refers to completely decentralised procedures: 'in this case the VET provider is also the awarder of the qualification certificates, taking on the responsibility of quality assuring all aspects of the certification process, without deferring to any higher governmental or sub governmental agency' (Cedefop, 2009a, p. 38).

Cedefop (2009a) underlines that the prescriptive model and the self-regulated model represent two ends of a continuum and that 'in practice, it is comparatively rare to find such extremes in terms of the division (or lack) of responsibilities' (Cedefop, 2009a, p. 36). The same study also stresses that it is usually not possible to place an entire country's certification process into any of the models. There are variations within one country's IVET system and there can also be differences in terms of ensuring the quality of specific elements of the certification processes (assessment, verification/grading and awarding).

The current study did not identify any entirely centralised or entirely decentralised approaches for ensuring the quality of certification processes. All 12 IVET systems in this study use elements from both approaches and have a system of shared responsibilities (see example in Box 18).

Box 18.   **Division of responsibilities in the Austrian IVET schemes: dual and school-based system**

In the Austrian dual system, responsibilities for the apprenticeship-leave examination are shared between the Ministry of Economy providing the training regulations (in cooperation with social partners) as well as relevant laws and apprenticeship offices located at the Economic Chambers in the federal provinces and that carry out the final examinations. They work as authorities on behalf of the Ministry of Economy and cooperate with the Chamber of Labour. In its capacity as training provider, the company has no role in the certification process.

In the Austrian school-based system, the Ministry of Education provides the legal framework and issues framework curricula. It is the competent body responsible for quality assurance in VET schools and colleges but quality management is also legally established as a responsibility of the Regional Education Boards and of the school principals. The Regional Education Boards, in particular their regional school inspectors and subject inspectors (*), are responsible for executing national legislation and for the educational supervision of VET schools and VET colleges. This also includes the quality assurance of the certification process (Lassnigg, 2009; Musset, 2013, p. 31).

(*) '*Fachinspektoren*' in German. Within the Regional Education Boards, they are responsible for a particular subject or group of subjects.
Source: Austrian country report.

Analysis of the observations point to a trend whereby systems are moving away from the self-regulation towards introducing some kind of standardisation, stronger external evaluation and regulatory control. In several IVET systems, specific inspection or regulatory bodies at macro level play an important role in ensuring quality of certification processes at provider level. Such inspection bodies can be identified in IVET systems with and without a high degree of provider autonomy. For example, the Inspectorate of Education in the Netherlands performs on-site supervision as part of a triennial institutional analysis as well as a quality assessment of programmes which includes examinations and certification (Inspectorate of Education, 2011). In addition, as of 2014, certification exams in Dutch and mathematics in IVET are centralised. In Romania, the school inspectorates approve the composition of each certification commission and conduct regular inspections to guarantee reliability and validity of the internal assessment across the different schools. Such inspection and regulatory bodies protect, on the one hand, the labour market from fake qualifications and, on the other hand, the learners from receiving qualifications not valued for employment and further learning.

By way of conclusion the study points to the need for a shared responsibility to guarantee the quality of certification processes at all levels (macro, meso, micro) and by different organisations such as qualification regulators, awarding bodies, VET providers and examination committees. Annex I illustrates the interplay between bodies at national, regional and local level in two different systems in Romania and in England, and their role in guaranteeing the quality of the certification process.

When policy-makers design certification processes and allocate responsibilities in their VET systems, they should reflect on the consequences of each option (centralised or decentralised) on the quality of the process.

Standardised tests and centrally designed examinations can help achieve reliability, consistency of exams and comparability of results across the country. The results of centrally designed and organised exams can be used to monitor the quality of a VET system and could be seen as more credible if the candidate wants to progress in lifelong learning. Centralised approaches can also be related to efforts to reduce costs, strengthen efficiency and increase VET providers' accountability.

On the other hand, VET systems with decentralised approaches face challenges in terms of ensuring transparency and comparability of results. This happens when VET providers and examination centres organise their own exams developing their own examination methods and procedures – even with centrally defined assessment standards. Evidence from the case studies shows that

countries with decentralised approaches often try to support the standardisation of certification processes with initiatives such as examination board and VET providers' meetings and the provision of supporting materials related to assessment. Box 19 demonstrates how VET providers in the Netherlands address the challenges linked to their autonomy in the certification process.

Box 19. **Ensuring standardisation in assessment in upper secondary VET programmes in the Netherlands**

To stimulate a higher degree of standardisation or unification of certification processes across VET institutions, the Ministry of Education has funded various projects during the last years. One specific project is the initiation of a national service point for vocational examinations ([a]). The service point develops services (workshops, instruments, conferences) and service documents to support VET institutions to guarantee the quality of certification processes.

One commonly used instrument of the service point examination is the so-called process architecture ([b]). It was developed jointly with VET institutions and is understood as a guideline for VET institutions with regard to organising and improving the quality assurance of their certification process. The process architecture is a schematic display of the certification process in VET, using four phases (planning, implementation, evaluation and review). It helps to critically consider one's own certification process. It consists of six process-areas and each of them contains underlying process steps. It starts with forming a vision on certification and ends with certifying the student.

([a])   *Servicepunt examinering mbo*: http://www.examineringmbo.nl/ [accessed 7.10.2015].
([b])   *Procesarchitectuur Examinering*: http://kwaliteitsborging.examineringmbo.nl/home/uitleg.html [accessed 7.10.2015].
Source: Dutch case study.

Many IVET schemes have developed compromises to resolve the tension between these two approaches by dividing assessments into centralised and decentralised elements (see also Yu and Frempong, 2012). For example, Hungary has centrally organised written tests and oral exams given to the whole country at the same time. However, the exam organiser (i.e. the respective VET school) designs and defines practical activities. Practitioners interviewed for the purposes of this study considered this to be good practice because the tasks can be defined in terms of the local conditions and needs. In the Czech Republic, all upper secondary level qualifications are completed through the double examination system. The exams are divided into two parts: a standardised (State) part and a profile part defined by VET schools and focusing on VET subjects.

In all cases, assessment standards with centrally defined learning outcomes were seen as important in terms of ensuring assessment consistency and at the same time allowing for flexibility when needed (Sections 4.3 and 5.1).

5.4.   Using certification results to review IVET

The certification process has an important place in the interface between IVET and the labour market (see analytical model in Section 2.2). This position makes it important for experiences from the certification process to be considered when improving IVET, in relation to renewing standards and curricula and providing feedback for the education and training process. As certification is closely followed by labour market entry, learning-outcomes-based descriptions of qualifications can benefit from certification results, to be kept updated and relevant to labour market needs.

The study's findings show that monitoring and evaluation activities regarding certification processes are not systematically used to review IVET and to improve the way learning outcomes are used (see also Section 4.9). Policy-makers and practitioners in the countries must keep in mind that collecting and analysing certification results can provide important information at different levels and for different purposes. In particular, information from learners and assessors including labour market stakeholders who participate in assessment can be used, for example, to provide:

(a) feedback to individual learners (e.g. in relation to their competence development process, their strengths and weaknesses);

(b) feedback to the VET provider (e.g. in relation to the design and organisation of the certification process, but also of other processes such as pedagogical and didactical approach, learning sites, etc.);

(c) feedback at system level (e.g. in relation to learning-outcomes-based standards, requirements for teachers and assessors, stakeholder involvement).

At system level, for example in Finland, data from all skills demonstrations are analysed by the National Board of Education every three years to evaluate the use of learning-outcomes-based standards for specific qualifications. This is one form of systematic reviewing and renewing of the vocational requirements at national level and evaluation is based both on quantitative and qualitative material. In Slovenia, annual reports on vocational matura and final examinations are prepared by the national committees for final examinations. These reports are discussed by the national group vocational education experts and may result

in improvements on assessment methodology, rules and guidelines for schools or assessment standards for specific educational programmes. Further, the German Trade Union Confederation (DGB) conducts an annual survey on apprentices' satisfaction levels with their training; final examinations are always an important topic of this survey.

At meso and micro level, company representatives involved in assessment have very valuable perspectives in terms of providing feedback on the education and training process. Their involvement and feedback can help ensure that the assessment focuses on competences needed in professional practice. They can identify training shortcomings reflected in mismatches between competences acquired by students and required at the workplace. In addition, emerging competence needs can be identified and this information could be used to improve training provision. Box 20 presents an example from the Spanish case study (health and care sector); this illustrates how feedback from company representatives (collected as part of the assessment process of the in-company training module) leads to changes in terms of the education and training provided at the VET school.

Box 20.   **Impact of feedback from in-company trainers on the education and training process at a VET provider in Spain**

In Spain, each autonomous community defines the obligatory documentation required for the in-company training certification process. VET schools/centres can adapt their content and use additional tools and documents. The Colegio San José de Calasanz uses a questionnaire for company instructors at the end of the in-company training. It includes the following parts:

- evaluation of organisational aspects (relating to the cooperation between VET provider and company);
- assessment of students' transversal competences;
- assessment of students' technical competences (including the following question: what knowledge or professional competences, software, equipment, etc. should be strengthened in the technical training of students to better prepare them for the in-company training?);
- overall assessment by the company: pass/fail (*apto/no apto*); observations may also be included (such as suggestions on new/emerging competence requirements that should be addressed in the training process at school).

Feedback from in-company trainers referred to lack of specific competences required in professional practice in this context. As a result, the Colegio San José de Calasanz implemented changes in their teaching process. For example, the simulation of real work situations has become an important method in the training programme and the 'virtual hospital' project was launched to improve students' technical and transversal competences, to better prepare them for the in-company training and, eventually, for their professional practice.

Source: Spanish case study.

The above examples once again highlight the importance of involving representatives from the world of work in the certification process. Although the feedback loop between labour market and education and training may take some time to be implemented at system level, at provider level the involvement of labour market representatives can contribute to the improvement of IVET, and more specifically to the reviewing of training programmes and methods as well as to the content and process of students' assessment more quickly.

5.5.   Applying EQAVET in certification

The EQAVET recommendation proposes that Member States implement the EQAVET framework at VET system, VET provider and qualification awarding level. However, the EQAVET framework does not provide a clear picture about how certifying (qualification awarding) organisations should implement the framework in relation to certification, for example the criteria and methods it should be based on. It only includes the following general references:

(a) in Annex I of the EQAVET recommendation, several quality criteria and indicative descriptors are proposed to support initial and continuing VET provision in Member States. The list of quality criteria and indicative descriptors follows the plan-do-check-act quality cycle. Within the set of indicative descriptors referring to the planning phase, one indicator explicitly draws attention to certification by recommending the use of defined standards and guidelines for recognition, validation and certification of the competences of individuals (European Parliament and Council of the EU, 2009a, Annex I);

(b) Annex II of the EQAVET framework contains a reference set of selected quality indicators for assessing quality in VET. These indicators do not directly relate to the main certification elements but they could be seen as relevant since they provide useful information on the certification results: indicator 4, completion rate in VET programmes; indicator 5, placement rate of VET graduates; indicator 6, utilisation of acquired skills at the workplace and indicator 9, mechanisms to identify training needs in the labour market (European Parliament and Council of the EU, 2009a, Annex I).

As a result, the European Commission report to the European Parliament and to the Council underlines the importance of an outcome-based approach and calls for EQAVET to find ways to address the quality assurance of assessment and certification (European Commission, 2014). The study examined the extent to which the 12 countries explicitly address the certification process in their

quality assurance frameworks and approaches. Four countries seem to systematically implement the plan-do-check-act cycle as well as quality criteria and indicators in the certification process:

(a) in Hungary, through the common quality management framework for VET (ESZMK) and the common VET self-assessment model;

(b) in Romania, through the national quality assurance framework in IVET (NQAF);

(c) in Finland, through the national quality management recommendation for VET;

(d) in the Netherlands, where VET providers are supported by the 'process architecture' guideline which directly refers to quality assurance of certification procedures and was developed with the aim of increasing common standards for assessment to ensure transparency, validity and comparability. ([17])

Based on the evidence collected in these four countries and on the eight quality features of the certification process described in Chapter 4, the following guidelines are produced to support Member States in their efforts to guarantee the quality of certification in IVET by applying the plan-do-check-act cycle:

(a) plan: criteria, standards and guidelines for the certification process are in place. These standards may refer to:

    (i) involvement of core stakeholders in defining certification standards (e.g. learners, assessors, providers/qualification awarding bodies);

    (ii) provision of certification standards covering content and process (e.g. general principles, timelines, permissions to repeat parts of or whole assessments, learning-outcomes-based descriptions, prescribed methods or framework for methods, standardised and/or not standardised exams, appeal procedures);

    (iii) roles and responsibilities within certification processes (e.g. assessors' required competences, examination board composition, quality management responsibilities of people responsible for certification at provider/qualification awarding level);

    (iv) documentation, evaluation and monitoring of certification processes;

    (v) resources (e.g. financing, materials and equipment, human resources);

([17]) Procesarchitectuur Examinering: *Kwaliteitsborging examinering [Examination process design: quality]*. http://www.kwaliteitsborging.examineringmbo.nl [accessed 8.10.2015].

(b) do: implementation plans and procedures for certification are in place at different levels (system level, provider/qualification awarding level). These plans may refer to:

(i) communication strategies concerning stakeholders involved (e.g. learners, assessors, teachers, providers/qualification awarding bodies);

(ii) assessor selection and training, examination team composition;

(iii) student/learner preparation; (e.g. via websites, preparatory meetings, guidelines and materials);

(iv) guiding material provision (e.g. handbooks, manuals, websites);

(v) certification procedures' organisation (e.g. materials and equipment, financing);

(c) check: monitoring and evaluation of certification processes and results are carried out regularly. This may refer to:

(i) evaluation methodology devised and implemented for internal and external monitoring covering the content (e.g. respect of learning-outcomes-based standards) and certification process;

(ii) involvement of stakeholders, at all levels in the monitoring and evaluation of certification is agreed and implemented;

(iii) feedback from all stakeholders collected (e.g. learners, assessors, providers/qualification awarding bodies);

(iv) implementation of indicators in relation to certification (e.g. EQAVET indicators 4, 5, 6, 7 and 9 adapted to national requirements) at different levels;

(v) communication of evaluation results to stakeholders (e.g. learners, assessors, providers/qualification awarding bodies) at different levels.

(d) act: monitoring and evaluation results are used to improve certification processes, teaching and learning processes, curricula and qualifications. This may refer to:

(i) procedures and instruments to improve certification processes (e.g. applied methods, provision of supporting materials, assessor training) are defined and regularly implemented at different levels;

(ii) a strategy or plan is defined to consider certification results when reviewing IVET; responsibilities at different levels are clearly described;

(iii) information about improvement procedures is provided to all stakeholders involved;

(iv) Action plans are implemented at different levels (practitioner level, provider/qualification awarding body level, system level).

The application of these guidelines may contribute to a coherent and systematic approach in terms of addressing the quality of certification, something which for the moment seems to be fragmented in most countries.

The study revealed that one of the most challenging areas in certification is when assessment takes place at the workplace. Annex 2 makes an attempt to address the above guidelines in a practical way, in four steps: plan-do-check-act. Therefore it can be an interesting tool for VET providers.

CHAPTER 6.
Conclusions and recommendations

6.1. Key messages

To strengthen trust in certification, results across the system based on the same qualification standards must be comparable. Comparability of results ensures that holders of the same qualification have actually achieved the learning outcomes required for it and therefore qualifications can be trusted. The study examined how different Member States ensure that certification processes are consistent across their systems and how quality and comparability of results is ensured. Specific principles were considered – such as validity, reliability, impartiality and transparency – and eight key quality certification features were identified:

(a) addressing certification in formal quality assurance mechanisms;
(b) providing clear reference points for assessment;
(c) provision of information to stakeholders;
(d) selection, requirements and training of assessors;
(e) quality of assessment methods and procedures;
(f) quality of verification and grading;
(g) appeal procedures;
(h) documentation, evaluation and monitoring of certification.

Consistency can result from standardisation through measures such as the provision of standardised tests and centrally defined examination tasks. Countries have a tendency to standardise and centralise the theoretical parts of final examinations. However, IVET contexts with autonomous providers or with a strong focus on work-based learning need other measures to ensure consistency while allowing sufficient flexibility. These measures include learning-outcomes-based descriptions of qualifications (as reference points for teaching and learning as well as certification processes), assessment criteria, guideline provision, supporting material (such as examples of quality checked examination tasks) and training for assessors. Centrally appointed assessors and independent inspectors or regulatory bodies also contribute to guarantee the quality of certification processes at provider (micro) level.

The labour market stakeholders are seen as important members of assessment committees but sometimes do not have sufficient time for this task. There is increased awareness of the importance of sufficiently complex assessment assignments that allow students to demonstrate their professional

competence. This relates particularly to assessment carried out over a longer period of time and in real working life situations. In particular the introduction of learning-outcomes-based approaches has, in some cases, led to discussions on whether a final assessment carried out at one point in time and which provides a snapshot of a candidate's competences is sufficient to ensure that the candidate has gained the required vocational competences. When assessment settings are as authentic as possible, this allows the assessment to not only focus on theoretical or explicit knowledge but to gain evidence as to whether candidates can apply their competences in real work situations. This, however, requires an adaptation of the assessment process to the reality of the specific working environment. Diversified approaches are in many cases seen as a strength because they can adapt to the learner's needs and to the local context, as long as results are comparable.

A key study finding is the fact that few countries articulate in their policies the important role of the certification process and its links to qualifications and quality assurance policies. Issues related to the certification process and its quality are in most cases found implicit in the teachers' and trainers practices and rarely in regulations or legislation on the different modalities of IVET. Establishing the latter may be the first step into strengthening public perception of a certificate as the accurate and meaningful record of professional competence.

Trust in qualifications is not only an issue at national level. At European level, several tools for transparency, recognition and quality have been developed and are being promoted to ensure mutual trust and increase mobility and lifelong learning. The tools relevant for VET include the EQF, ECVET, EQAVET and guidelines for validation of non-formal and informal learning. These tools – and the common ground of learning-outcomes approach – are not yet consistently implemented across European countries. An integrated (instead of tool-by-tool implementation) and comprehensive approach is needed for further conceptual development as well as a stronger focus on actually achieved learning outcomes (Cedefop, 2014a, p. 13). Certification should be seen as an integrated part of this comprehensive approach.

While this study focussed on the quality of certification processes in IVET, future research needs to widen the perspective. For example, to ensure progress in lifelong learning, it is important to also address the potential bridging function of certification in relation to continuing VET, higher education, the recognition of prior learning (including validation of non-formal and informal learning) or international sectoral qualifications.

6.2. Recommendations

This section focuses on recommendations for policy-makers, bodies involved in certification and practitioners in relation to the quality of certification in IVET. These recommendations are derived from the certification processes analysed in this study. They are based on observations and considerations discussed in the previous sections; the main findings and conclusions are framed here as recommendations. The first seven recommendations are mainly related to the national level while the eighth recommendation is particularly addressed to the European level.

Recommendation 1: articulate clearly certification in VET policies
Certification processes are either directly or indirectly influenced by development in VET such as enhancing VET quality and attractiveness, implementing quality assurance arrangements, changing VET teaching and assessment methods, and introducing learning-outcomes-based approaches. It is recommended that policy-makers systematically address certification in VET regulations and carefully consider its important role and links to qualifications and quality assurance policies. Attention should be paid to the four principles of validity, reliability, impartiality and transparency that strengthen quality in certification as discussed in Section 5.1.

Recommendation 2: ensure the appropriate definition and use of learning-outcomes-based standards
To make sure that the certification process is consistent for the same qualification at national level it is essential that learners are assessed against a set of clear reference points that are expressed in terms of learning outcomes. In addition, for the learning outcomes' descriptions to fulfil their role, they need to clearly express performance expectations and be formulated in such a way that they are comprehensible for both learners and assessors. There needs to be an adequate balance between descriptions that can be used as clear reference points nationally but leave sufficient room for flexibility locally (i.e. for being adapted to learners' needs and to the local context). There is no perfect way of formulating and presenting learning outcomes; they must fit the context in which they are used. To facilitate the definition and understanding of learning outcomes used in certification, instructions and guidelines should be prepared and made available at national level. The learning-outcomes-based descriptions also need to be updated regularly to adapt to changes in the working life.

Recommendation 3: strengthen the involvement of labour market stakeholders in certification and relevant quality assurance processes

The involvement of labour market stakeholders at different levels of the system with shared responsibilities is essential. For example, they should be involved in bodies with important roles for ensuring the quality of certification and at different stages, from formulating qualification requirements to participating in joint assessment processes. The involvement of professionals from the respective field in certification processes can increase the credibility of certification processes and trust in qualifications. This approach can also be used to gain feedback on the candidate's achieved learning outcomes and the teaching and learning approach used to achieve these learning outcomes. Social partners should develop measures to motivate employers, trade union representatives and other professional experts to take part in the certification process.

Recommendation 4: support the development of a common understanding of certification requirements among stakeholders

Certification requirements, assessment procedures and methods have to be comprehensible and meaningful for all parties involved, in particular for teachers/trainers, workplace instructors, assessors and learners. Information needs to be provided to all target groups in a transparent and appropriate way. It is recommended that bodies at different levels (e.g. national VET institutes, awarding bodies, employers and employees associations, VET providers) promote a dialogue between stakeholders to develop a common understanding of regulations and requirements such as learning outcomes descriptions and assessment criteria.

Recommendation 5: ensure assessors are competent and trained

Training of assessors and other professionals participating in certification is crucial to ensure quality of the process. It is recommended that policy-makers take actions to make sure that people involved in certification have the necessary competences to act as assessors and verifiers, they are trained on how to interpret and use learning outcomes and assessment criteria. Moreover, awarding bodies, national VET institutes, VET providers or professional teachers and trainers' associations can develop handbooks and guidelines to support assessors in their tasks and enhance the quality of the certification processes. They should promote sharing of experiences between assessors to help them consistently implement prescribed assessment procedures and to meet legal regulations and standards.

Recommendation 6: share responsibility for quality assurance of certification at all levels

All bodies involved in certification (such as regulators, awarding bodies, VET providers) must share responsibility to guarantee the quality of certification processes and should develop relevant and complementary activities. This is necessary to ensure a continuum and strengthen accountability at all levels. It is recommended that policy-makers choose a combination of centralised and decentralised approaches to ensure quality depending on the context but they need to make sure that standards and requirements (set at macro level) are met throughout the country (via inspection, external monitoring and evaluation).

Recommendation 7: strengthen evaluation and review in certification

Certification results can provide important information on the certification process, the teaching and learning process as well as the learning outcomes that form the basis of a programme or qualification. It is recommended that national VET institutes with a monitoring and evaluation role systematically collect and analyse results from certification processes and feedback from all stakeholders involved. The information gained should be used to decide on any changes required in relation to learning outcomes, teaching, learning and assessment methods and procedures or quality assurance arrangements.

Recommendation 8: consider possibilities to complement the EQAVET framework

A handbook could be developed to apply EQAVET principles in a coherent and holistic way to guarantee the quality of the certification process. This study provides some ideas on what this handbook may include (Section 5.5) as well as examples from different countries on what can be done in practice.

List of abbrevations

CBQ	competence-based qualifications (Finland)
ECVET	European credit system for vocational education and training
EQAVET	European quality assurance in vocational education and training
EQF	European qualifications framework
EU	European Union
ICT	information and communication technology
ISCED	international standard classification of education
IVET	initial vocational education and training
NQF	national qualifications framework
NQR	national qualification requirements (Finland)
OECD	Organisation for Economic Cooperation and Development
Ofqual	Office of Qualifications and Examinations Regulation
VER	vocational and examination requirements (Hungary)
VET	vocational education and training

Glossary

Assessment	a process of identifying the extent to which a learner has attained particular knowledge, skills and competences (relating to part of a qualification or to the whole qualification)
Awarding	a process of officially attesting achieved learning outcomes by issuing a certificate to an individual
Certificate	an official document, issued by an awarding body, which records the achievements of an individual following assessment against a predefined standard
Certification process	the multiple (and sometimes interrelated) processes starting with the assessment of individual learners that leads to the awarding of a qualification.
Learning outcomes	statements on what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competences
Qualification	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
Quality assurance	activities involving planning, implementation, evaluation, reporting, and quality improvement, implemented to ensure that education and training (content of programmes, curricula, assessment and validation of learning outcomes, etc.) meet the quality requirements expected by stakeholders
Standard	series of elements whose content is defined by concerned actors
Verification and grading	a process following assessment; it is about confirming that certain assessed learning outcomes achieved by the learner correspond to specific learning outcomes which may be required for a qualification or a part of it; it usually includes the decision on the specific grades learners will receive for their performance

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ANNEX 1.
Shared responsibilities for certification in Romania and England

The certification process in Romania and related responsibilities in quality assurance

The main institutional stakeholders involved in the certification process and their responsibilities to guarantee the quality of the process are the following:

(a) the National Centre for the IVET Development (NCTVETD) coordinates the development of the training standards, develops the methodologies for examination for certification, guides for assessment, the training materials for the teachers and trainers involved in the internal assessment and in the examination process, delivers trainings to key actors involved in the certification process;

(b) the Ministry of National Education (MNE) approves the methodologies for examination for certification and the members of the National/County Assessment and Certification Commission;

(c) the social partners and representatives of the Sectoral Committees validate the training standards;

(d) the school inspectorates conduct regular inspections to ensure the reliability and the validity of the internal assessment across different schools providing the same qualification and to approve the members of each Certification Commission;

(e) the quality monitors are in charge of monitoring the examination for the certification process;

(f) the schools are responsible for implementing the national quality assurance framework for IVET, which includes specific descriptors for assessment and certification;

(g) the companies providing work-based-learning are responsible for implementing the assessment for the work-based learning component of the training programme.

Qualification exams are coordinated at the national level by the National Assessment and Certification Commission constituted annually under approval of the Ministry of Education. An Assessment and Certification Commission is constituted in each country on an annual basis. The County Assessment and Certification Commission authorises schools to organise qualification and

certification exams, appointing schools to become examination centres. Certification exams are organised at examination centres and conducted by Certification Commissions, each composed of:

(a) a president (the director/deputy director of the respective VET school);

(b) a vice-president (representative of social partners);

(c) two evaluation members (a representative of employers and a VET teacher, if possible from a different VET school than the one candidates are coming from).

Figure 2. **Interrelations of the structures involved in the certification process in Romania**
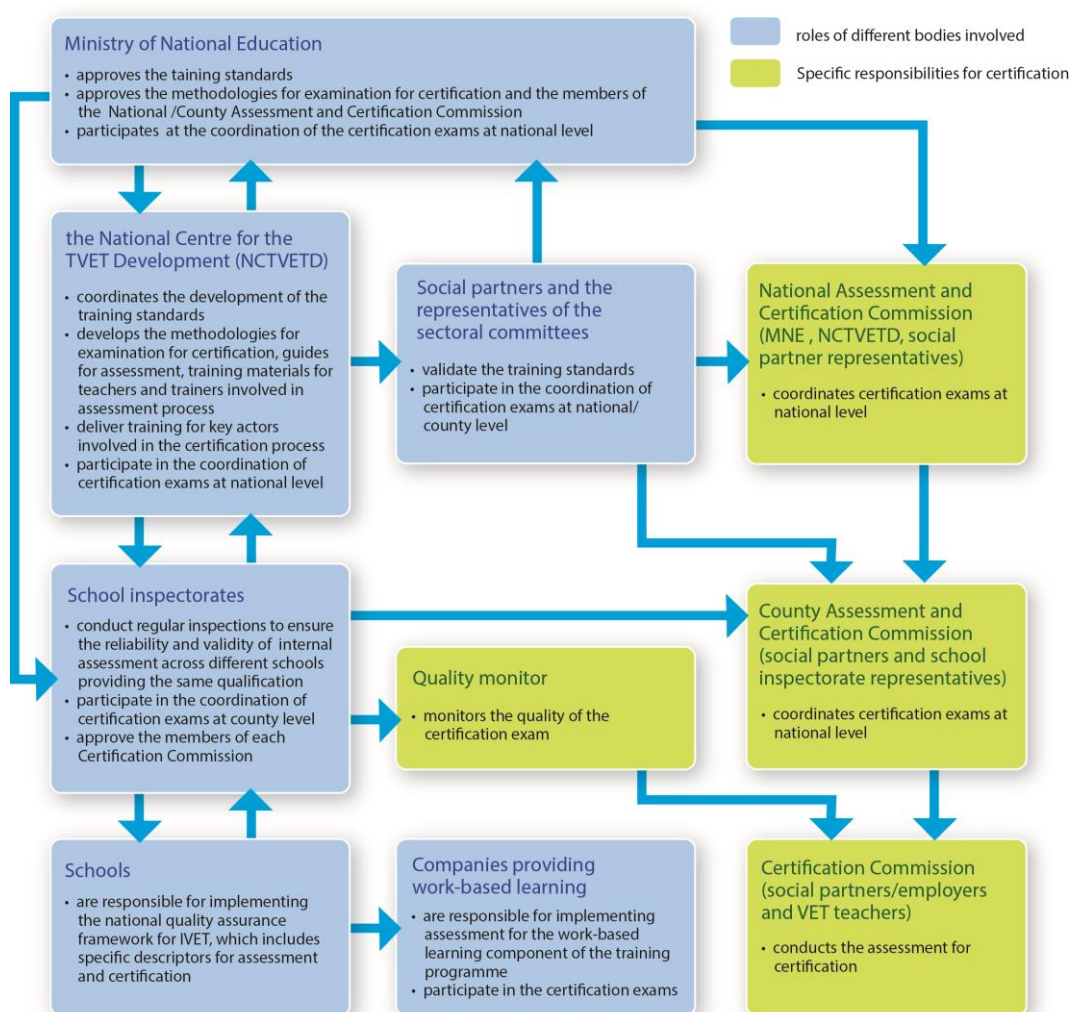
Source: Romanian country report.

# Shared responsibility for certification in England

In England, there are accreditation processes to determine whether an organisation can be an awarding body – and an approval process for each qualification that an awarding body wishes to offer. The national regulator for qualifications (Ofqual) manages these processes. Part of the approval process for a qualification includes a requirement for the awarding body to show how the national occupational standards have been met. The national occupational standards are designed by Sector Skills Councils in consultation with employers in each sector.

As part of the process relating to quality assurance measures, awarding bodies require approved VET providers to use their assessment scheme; put in place an internal verification process; take part in an external verification process; and meet all the requirements of the qualification's specification (e.g. the content of individual units, assess learners using the learning outcomes as set out in the unit or qualification, organise any work-based training element in the qualification, etc.)

The Ofqual monitors actions and performance of the awarding bodies. The schools inspectorate monitors actions and performance of the schools/colleges (Ofsted). Ofsted only inspects VET providers that receive funding from the Skills Funding Agency – a government funding body. The outcome of each Ofsted inspection is published. These reports contain recommendations for improvement as well as a commentary on the evidence of a school or college's performance. Individual reports are collated and analysed each year and used to inform the Chief Inspector's annual report on the overall performance and quality of school and college provision (for both VET and general education).

The relationship between these processes and organisations is illustrated in the figure below.

Figure 3.   **Shared responsibility for certification in England**
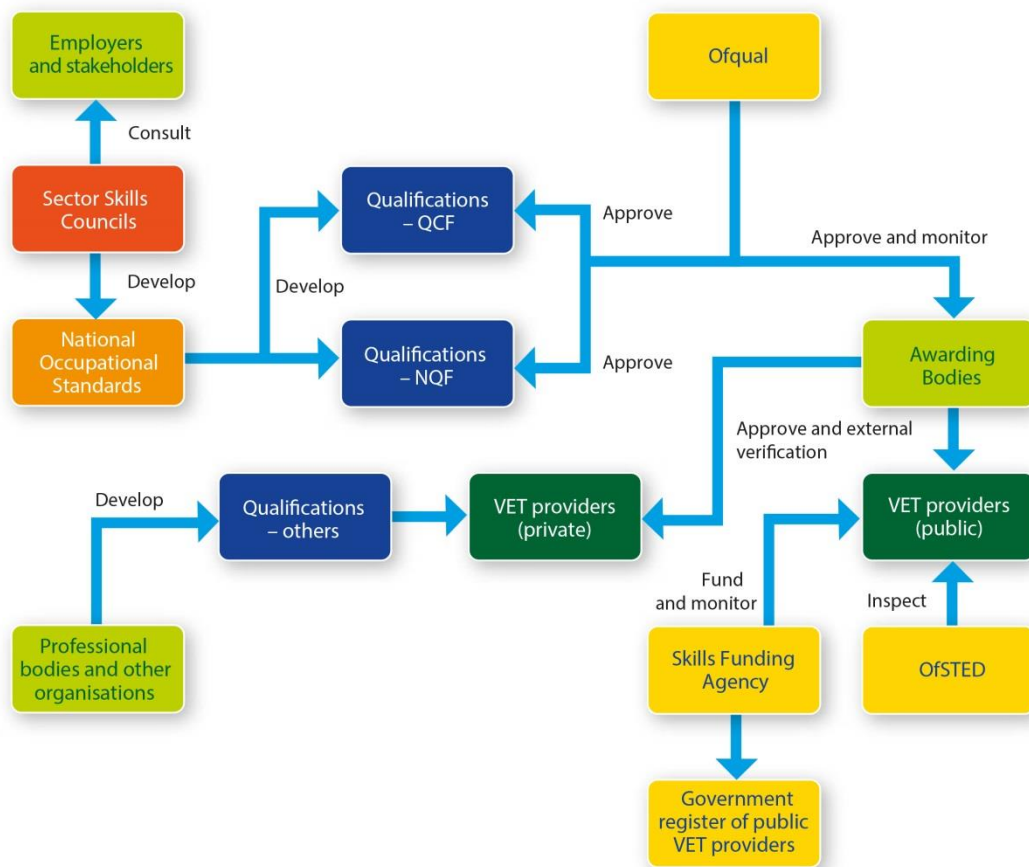
Source: English country report.

ANNEX 2.
Ensuring quality of assessment at the workplace

Plan

As a first step, the workplace must be suitable for conducting assessments and the trainers or instructors are able to act as assessors (e.g. they have the necessary competences or time available to develop them). Close cooperation between schools and workplace representatives is necessary to develop a common understanding regarding competences to be developed and assessed, as well as requirements relating to assessment methods and procedures. Representatives of companies who should be involved in the assessment of learners might need specific training or instructions to be provided while considering the specific situation of the enterprise. Learners should also be well informed and prepared for assessment in the authentic context. Since the degree of their mastery of occupational tasks will be evaluated, they need to have sufficient time to familiarise themselves with these tasks (i.e. by work-based learning in the authentic setting) and should also be involved in designing the assignment. The assignment and the assessment procedure need to be carefully planned to ensure that they are adequate for deciding whether required learning outcomes are met. Standardised procedures and templates (such as assessment grids) should be used and taken into account as far as possible but should be adapted to the needs of the specific workplace as required. The limitations of this form of assessment also have to be considered. For example, some competences might be difficult to cover in a specific authentic context because there might be no real need in the company for an activity related to these competences or ethical issues might emerge (e.g. the privacy of clients in the social and health care should not be violated by the assessment).

Do

The assessment should be conducted jointly by different stakeholders (i.e. IVET teachers and mentors or trainers from companies) to be able to include different perspectives. Learners' self-assessment as well as discussions and reflections on their performance can support their further learning and competence development process even in the final certification assessment. The results of the

assessment are documented in a transparent way that is agreed upon and comprehensible for all parties involved.

Check

The assessment process should be evaluated by collecting feedback from all stakeholders involved. The evaluation should, for example, address the following aspects: did all the stakeholders involved (including learners) have a common understanding of the expected learning outcomes and the assessment criteria? Was the assessment assignment sufficient to cover all expected learning outcomes? Was the assessment grid useful or are any changes needed? The feedback should be documented and analysed to implement improvements.

Act

Based on the results of the evaluation, options for improving the assessment should be discussed between the school and the specific workplace; these discussions should yield an agreement to implement changes. Necessary changes on a more general level should be identified based on the evaluation of several assessment procedures (e.g. regarding training provision or competence requirements).

ANNEX 3.
The research team

The following table provides an overview of the research team who has contributed to the study

Country	Country expert	Country report	Case study
Coordinator	Karin Luomi-Messerer	X	X
Consultant	Michaela Jonach		
AT	Monika Auzinger, Janine Wulz	X	X
DE	Franz Gramlinger, Sigrid Hartl	X	X
DK	Kim Faurschou	X	X
EE	Krista Loogma	X	
ES	Mariya Dzhengozova	X	X
FI	Jouko Luomi	X	X
HU	Katalin Molnar-Stadler	X	X
NL	Patricia Brouwer, José Hermanussen	X	X
PT	Maria Emilia Galvão	X	X
RO	Dana Stroie	X	X
SI	Darko Mali	X	
UK	Keith Brumfitt	X	X

Ensuring the quality of certification in vocational education and training

Qualifications have great value as they are used by people to progress in education and training and to find employment. Qualification holders who have completed a programme and passed the required exam must inspire confidence that they have acquired the learning outcomes associated with the qualification. The role of certification in safeguarding this confidence and trust is crucial. A transparent and quality-assured certification process becomes even more important nowadays, with qualification systems increasingly allowing qualifications to be acquired through different learning pathways.

This report provides interesting insights into how the certification process quality is ensured in IVET. It explores national approaches in 12 European countries and identifies eight key quality features, which guarantee that the certification processes are consistent across a VET system. This publication discusses key messages and recommendations for policy-makers, bodies involved in certification, and practitioners, and hopes to stimulate further debate, research and action in Europe.