

ECVET Manual for VET Providers:

How to implement ECVET for permeability and transferability between non-formal and formal learning.



ECVET PERMIT

ECVET Manual for VET Providers: How to implement ECVET for permeability and transferability between non-formal and formal learning.

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Preface

The challenges of European Union in the field of education, training and employment demand for lifelong learning, flexible learning paths, facilitation of learning and working mobility and transparency of qualifications. Permeability between different learning environments is a core element for lifelong learning.

Permeability between non-formal and formal learning eliminates dead-ends and provides opportunities for people to design their own educational paths in a lifelong learning perspective.

ECVET Permit focuses on the permeability and transfer between the non-formal and formal vocational education and training sectors. We have approached the issue from both national and transnational context, we have developed methodologies and tools, tested and refined them and finally we have documented our experience in this manual.

Throughout the manual, we present step by step the suggested methodology and we provide tips and recommendations for VET institutions either formal or non-formal who want to convert their programmes for the implementation of ECVET. The whole process is challenging, time consuming, with unexpected difficulties, but at the same time it is an important process for the modernization of the VET sector, with multiple benefits both for the learners and the VET providers.

We hope that you will find this manual useful and practical for your work.

ECVET Permit team

2016

Chapter 1. Introduction

1.1 Scope and target audience

In the present training manual, we aim to provide information and guidance for the implementation of the European Credit system for Vocational Education and Training (ECVET) by vocational education and training (VET) providers within the **formal** and **non-formal** learning sector.



Within the scope of the ECVET Permit project we have adopted the following operational definitions:

Formal learning: Learning that occurs within a vocational education or training institution and leads to formal certification e.g. a VET provider that awards recognized certifications and diplomas.

Non-Formal Learning: Learning that occurs within a vocational education or training institution and does NOT lead to certification e.g. a VET provider that offers training without the award of a formal certification or diploma.

Our objective is to guide you through the ECVET Permit methodology for the transfer and accumulation of credits between the non-formal and formal VET sector.



Credits are a set of learning outcomes of an individual which have been assessed and which can be accumulated towards a qualification or transferred to other learning programmes or qualifications. Credit accumulation is therefore a process through which learners can acquire qualifications progressively by successive assessments of learning outcomes.

The manual is intended to be especially useful for VET providers in Member States where all the necessary conditions for the application of ECVET e.g. National Qualification Framework (NQF) and/or the mechanism for the validation of non-formal and informal learning are not in place. In these cases, where the institutional framework is not yet mature to facilitate a credit transfer and accumulation, we propose the ECVET Permit methodology.

Our approach is a bottom-up approach focused on VET providers either within the formal or non-formal sector; we propose an ECVET partnership between VET providers, without involving Qualification authorities. We aim to propose practical solutions for the challenges that have been identified; challenges that are primarily the result of the lack of the necessary national institutional framework for ECVET application.

The manual would be highly beneficial for VET providers' staff such as:

- VET programmes coordinators
- curriculum developers
- teachers and trainers
- quality officers, and
- international mobility officers that manage student mobility.

The process of ECVET implementation involves coordinated efforts of different people with different responsibilities, in the VET institution. The manual deals with all the steps of preparing, implementing and evaluating an ECVET transfer.

→Tip: *As a reader, you may find different parts of the manual more directly relevant to you. Our advice is to go through the whole manual at first to gain an understanding of the complete process and then focus on the sections that are most relevant to your work.*

1.2. The ECVET Permit project

The information and guidelines presented in this manual have been developed and tested in the framework of the [ECVET Permit project](#).

The “ECVET for Permeability and Transferability between the Non-Formal and Formal VET System” (ECVET Permit) project, aimed to test the ECVET methodology in selected VET study programmes within the non-formal and formal VET system, at national and EU level, in an effort to increase the permeability and transferability of the learning outcomes achieved within different learning contexts.

The ECVET Permit project implementation involved three specific objectives:

1. To apply the ECVET methodology in a selected number of technical vocational education and training programmes within the non-formal and formal VET system in three EU countries: Cyprus, Malta and Greece;
2. To test the transferability of learning outcomes from the non-formal to the formal VET system at national and transnational level;
3. To raise awareness about the benefits of the implementation of the ECVET system and promote the implementation of ECVET for permeability and transferability within the non-formal and formal VET system at national and European level.

The ECVET Permit dealt with VET programmes of formal and non-formal sector, from three different European countries, Cyprus, Malta and Greece. The VET programmes were selected from three technical specializations:

- Electrician
- Plumber
- Automotive Mechanic

 The ECVET Permit project developed an operational methodology for the conversion of selected vocational education (e.g. Diploma) and training programmes (e.g. CVET training programmes) in ECVET units of learning outcomes. Following this conversion process, the VET programmes were ready to accommodate the pilot test for learning outcomes transferability between the respective VET partners.

Table 1: ECVET Permit Selected VET programmes

VET Programme Title & Characteristics		VET Provider/ Country
Diploma in Automotive Engineering	EQF 5, 2 years – full time	Intercollege/ Cyprus
Automotive Technician	EQF 4, 6 months acceleration programme	CPC/ Cyprus
Mechatronics Technician	EQF 5, 2 years – full time plus 6 months practical training	IIEK DELTA/ Greece
Advanced Diploma in Light Vehicle Maintenance	EQF 4, 2 years – full time	MCAST/ Malta
Diploma in Mechanical Installations and Technology	EQF 5, 2 years – full time	Intercollege/ Cyprus
Plumbing and Heating Technician	EQF 4, 6 months acceleration programme	CPC/ Cyprus
Domestic Electrical Installations Technician	EQF 5, 2 years – full time plus 6 months practical training	IIEK DELTA/ Greece
Advance Diploma in Electrical Systems	EQF 4, 2 years – full time	MCAST/ Malta

The selected training programmes were diverse; different EQF levels, formal and non-formal learning programmes.

1.3 ECVET Permit project partners

1.3.1. Rational for partnership

The main prerequisites for the partnership formation were as follows:

- Key representation of VET providers, from the public and private sector, representing the formal and non-formal VET system, in order to ensure the validity and impact of project results at national and transnational level;
- The formation of a strong national partnership primarily in the applicant country - i.e. Cyprus - comprising of government, private and policy institutions, to ensure the maximum penetration of the project results at national policy level;
- Participation of partners with previous knowledge and expertise in the ECVET framework to ensure the utilization and transferability of the technical know-how and outputs produced in previously EU funded projects;

- Participation of partners with cross-functional expertise to ensure the effectiveness and efficiency of the project plan and to ensure the quality of results.

Following the above prerequisites, a high impact partnership has been formed, comprising of a total of 6 partners from 3 Member States (Cyprus, Greece and Malta), representing key VET actors from the government, private, and semi-government sector, with cross-functional expertise and experiences.

1.3.2. Intercollege – applicant organisation

Intercollege is one of the leading private colleges in Cyprus, which has been offering a wide range of VET study programs (HE VET) to students since its inception in 1989. Intercollege offers programs in Computer Technology, Information Technology, Electrical and Mechanical Technology, Culinary Arts, Aesthetics and Beauty Therapy, etc. leading to a Diploma or a Bachelor's degree.

Intercollege was the first VET College in Cyprus to offer technical diplomas in the field of Electrical and Mechanical Installations, and more recently in the Oil & Gas and Automotive Technology. In addition, the College was the first to develop appropriate testing facilities and well furnished laboratories in order to offer suitable courses in the renewable Energy sector. The college's academic and administrative staff has extensive experience in project management, research, as well as, in developing and implementing educational/training programs through EU funded programmes such as LLP, EQUAL, ERF etc. Public opinion has recognized the comprehensive contribution Intercollege is making. Indeed, a national survey has found Intercollege to be "the most reputable College in Cyprus". All the above contribute to Intercollege's vision for the future, and are encapsulated in the College's motto "Excellence in Education".

1.3.3. Cyprus Productivity Centre

The Cyprus Productivity Centre (CPC) is a department of the Ministry of Labour and Social Insurance (MLSI) of the Government of Cyprus. It currently employs 60 people. The original long-term objective of the CPC "to assist private and public organizations to utilise their human and capital resources in the best possible way so as to increase productivity" is still valid today. However, following the entry of Cyprus in the EU and the Eurozone, the CPC has focused on areas and actions targeted at supporting and facilitating the adjustment of citizens, organizations, enterprises, the social partners and the state, to globalization.

The CPC channels its activities towards the following areas of high priority for the Government of Cyprus:

- Provide scientific and administrative support to the Productivity Council
- Promotion of the Modernization of the Apprenticeship System
- Modernization of Technical Vocational Training so that it becomes more responsive to the needs in areas where the CPC has the required expertise or can develop it.
- Management of Subsidy Schemes co-funded by the EU and the Government budget such as Flexible Forms of Employment

- Management of European Programs such as Europass.
- Mediterranean Institute of Management (MIM) and International Activities
- Education/Training in management development and promotion of Life Long Learning and Productivity in Cypriot companies and organizations.
- Health and Safety in the workplace- Training Scheme for newly recruited young persons on issues of Health and Safety.
- Provide advisory and support services to the Ministry of Labour and Social Insurance and its departments.
- Respond to the needs of citizens and the labour market affected by the global economic crisis with Incentive Schemes for the Enhancement of Employment and Subsidy Schemes offering training programmes to people who become unemployed because of the economic crisis.

Currently, the CPC uses its own quality system that is not linked to other quality systems.

1.3.4. Human Resource Development Authority of Cyprus (HRDA)

The Human Resource Development Authority of Cyprus is a semi-government organisation which refers to the Government through the Minister of Labour and Social Insurance. It is governed by a 13-strong tripartite Board of Governors comprising of Government, Employer and Trade Union representatives.

The HRDA's mission is to create the necessary prerequisites for the planned and systematic training and development of Cyprus' human resources, at all levels and in all sectors, for meeting the economy's needs, within the overall socio-economic policies.

The HRDA is the dominant actor in the Continuing Vocational Education and Training (CVET) system in Cyprus as it approves and subsidises training programmes implemented by public and private training institutions and enterprises.

HRDA's activities encompass five major areas:

- The formulation of an integrated training and human resource development policy in accordance with the priorities of national socio-economic policies, on the basis of which appropriate training activities are promoted and training costs are distributed.
- The continuous assessment of the economy's training needs on the basis of which an integrated training policy is formulated
- The modernisation of the training system with the creation of the necessary infrastructure, the systematisation and certification of training and the introduction of standards of vocational qualifications.
- The distribution of information to enterprises and the public in general so as to raise their awareness of the need for continuing training and the provision of advisory services.
- The analysis of the *acquis communautaire* in the training field and the promotion of actions for facilitating its adjustment and convergence to European systems and practices.

1.3.5. IDEC

IDEC is a training consulting company located in Piraeus, Greece. Its activities consist of training, management consulting, quality assurance, evaluation and development of ICT solutions for both private and public sector. Clients of IDEC are both SMEs and the bigger Greek companies of a wide variety of sectors.

IDEC co-operates with more than 170 institutes all through Europe and with about 300 experts on specific fields. IDEC has extensive experience in European projects, either as coordinator or as partner from different European programs and Initiatives. The last 8 years IDEC is dealing with the theme of quality assurance in training and has coordinated the projects EQUAL, Quality.net and BEQUAL in the same subject. Moreover IDEC has consulting experience in developing quality management systems in Greek training centres.

IDEC organises in-service training courses for teachers and trainers, organises study visits and informal learning activities for students in initial education and training and provides training courses and workplacements for students in vocational training and people in labour market.

The main areas of expertise are: management consulting, business plans, entrepreneurship, SMEs, quality management, certification, software and multimedia development, internet applications, distance learning, e-business, e-commerce, telecommunications and networks.

In the field of LLL IDEC has experience in European policies regarding LLL and in particular EQF, ECVET, Europass, EQAVET, validation of non-formal and informal learning and in national reforms of education and training systems.

1.3.6. IEK DELTA

Vocational Training Institute (IIEK) Delta is the largest educational organization of post-secondary education in Greece, with 43 years of experience. Over 100 trainers are employed at the moment, while more than 50 specialties operate within our institute. These specialties cover areas of modern labor market such as Motor Vehicle Technicians, Electrical Technicians and Thermo-hydraulics Technicians.

DELTA's trainees are graduates of Unified Lyceums and Technical Vocational Schools. During term, they attend compulsory theoretical, laboratory and mixed lessons in the framework of the educational curricula, which cover a wide range of branches and specializations.

Each year, almost 500 trainees, after successfully completing a 2 year's training course, obtain a Vocational Training Certificate which entitles them to take part in the qualifying examinations leading to the award of a National Vocational Training Diploma, at the level of post-secondary (4) vocational training. In this way professional rights are ensured, depending on the specialty.

1.3.7. MCAST

MCAST is the Malta College of Arts, Science and Technology and is the only vocational institution in Malta. MCAST's mission statement clearly emphasizes the international dimension of the education and training to be provided to all its students. MCAST also offers course through a number of international awarding bodies. Our

mission statement that guides the College and its employees is as follows: “ To provide universally accessible vocational and professional education and training with an international dimension, responsive to the needs of the individual and the economy”.

MCAST’s curriculum is constantly tied to the needs of the labour market while ensuring the educational development of the learner facilitating one’s lifelong learning process. MCAST has set up an organisation structure where Curriculum Development is strongly linked to Staff Professional Development, Research and Innovation, Apprenticeship and Entrepreneurship and which is supported by a strong Quality Management System.

The College, a unique institution on the Maltese Islands, is made up of 10 Institutes, mainly:

- Institute of Information and Communication Technology,
- Maritime Institute
- Business and Commerce Institute
- Mechanical Engineering Institute
- Electronics and Electrical Engineering Institute
- Agribusiness Institute
- Building and Construction Engineering Institute
- Art and Design Institute
- Institute of Community Services
- Institute of Applied Sciences
- Gozo Centre

The College also has a Part time/Ad Hoc courses department, an International Programmes Department, a Sports Department, a Basic Skills Unit.

The full-time student population now stands at 6500students. During each academic year MCAST also provides short courses for approximately 4,000 part-time students. MCAST employs more than 500 members of staff.

The Malta College of Arts, Science and Technology was officially inaugurated in September 2001. MCAST was established by bringing together a number of separate institutes and creating new ones.

1.3.8. Roles of partners

Intercollege, the applicant organization, an experienced organization both in European projects and in ECVET managed and coordinated ECVET Permit and led the conversion of the VET programmes to ECVET units of learning outcomes.

Cyprus Productivity Center (CPC), the main public/government provider of technical non-formal VET programmes in Cyprus coordinated the pilot phase of the project. The two partners Intercollege and CPC piloted the credit transfer and accumulation between non-formal and informal learning sector at a national context, in Cyprus.

The third Cypriot partner, the Human Resource Development Authority of Cyprus (HRDA), a semi- government institution contributed to the alignment of project outcomes with the national policies and initiatives. The participation of CPC and

HRDA in the partnership ensures the relevance and mainstreaming of the project results in Cyprus.

IDEC, a pioneer company in the use and application of ECVET in vocational training, undertook the development of the methodological guidelines and the present training manual and the training of trainers that participated in the project.

IEK DELTA, the larger private training institute in non-formal initial vocational training experimented for first time with ECVET, working in collaboration with MCAST, the Malta College of Arts, Science and technology, the leading VET institution in Malta. IEK DELTA and MALTA piloted the transfer and accumulation of credits between non-formal and formal learning sectors, across different countries.

At the same time MCAST, as one of the leading experts in the application of the EU tools such as ECVET and EQAVET, transferred its experience and know-how to the partnership. ECVET Permit methodology and templates were based on MCAST previous experience and work during the CCS project

1.4. Brief overview of the manual

In this manual, we present the conversion process of VET programmes and the methodology for the transfer and accumulation of learning outcomes that we have developed and used in ECVET Permit project.

The proposed methodology focuses on the practical implementation of ECVET between VET providers of different types, in different countries and in different contexts in the same country i.e. formal and non-formal sectors.

The manual is structured in six chapters:

- Chapter 1, gives an introduction to the manual and the ECVET Permit project;
- Chapter 2, gives an overview of the proposed ECVET Permit methodology;
- Chapter 3, presents the ECVET Permit mapping process and the basic ECVET principles and theoretical background
- Chapter 4, presents in detail the methodology for the conversion of the VET programmes in ECVET units of learning outcomes; and
- Chapter 5, presents the methodology for the transfer and accumulation of units of learning outcomes during an ECVET mobility.
- Finally, Chapter 6 presents the lessons learnt and recommendations

For every step of the conversion and the transfer process, we have included examples and figures to illustrate the proposed methodology. In the annexes, you can find the ECVET templates and documents we have developed or adapted.

The manual includes a list of the abbreviations used, a glossary of terms and an extensive list of references for further reading.

Chapter 2. ECVET Permit methodology

The proposed ECVET Permit methodology for building an ECVET partnership between VET providers includes three distinct steps:



Figure 1: ECVET Permit Methodology

The ECVET partnership refers to any number of VET providers at national or transnational level, from the formal and/or non-formal learning sector, who come together with the sole intention to enable credit transfer between their learners.

Step 1: ECVET Mapping Process

The ECVET mapping process should be understood as a preparatory step for the VET providers for the successful application of ECVET. It is an overarching diagnostic exercise intended to ensure (a) the VET providers have a sufficient understanding of the ECVET framework and the necessary conditions for its successful application at unilateral and bilateral level; and (b) a common language of understanding has been established in order to enable VET providers to build a successful ECVET partnership either nationally or transnationally.

The mapping exercise is intended to assist the VET providers to gain a better understanding of the following aspects, which relate to the application of ECVET:

- EU framework
- National institutional framework
- VET provider framework
- VET Programme Framework



The mapping process supports the development of a common understanding of the VET institutions that build together an ECVET partnership. At organizational level, the mapping process helps to identify and reflect on specific characteristics that facilitate or may create challenges for ECVET implementation.

The mapping process is described in detailed in chapter 3.

Step 2: VET Programme Conversion Process

Having gained a detailed understanding of the ECVET basic principles and the VET providers and programmes under examination, the second step is the conversion or re-engineering process of the identified VET Programmes that will be the subject for credit transfer.

ECVET has specific requirements for the credit transfer that impact the design and structure of educational programmes (i.e. curricula) and training programmes. One such key requirement, which forms the core of the ECVET methodology, is the formulation of VET programmes in units of learning outcomes. ECVET requires the formulation of vocational qualifications in units of learning outcomes, expressed in terms of knowledge, skills and competences that can be assessed autonomously. The same concept applies to the formulation of vocational education and training programmes. VET programmes need to be converted or re-written, using the units of learning outcomes in vocational qualifications as a benchmark.

It is important to note that this process of conversion presupposes an embedded quality review process at all levels. Firstly, it is the quality check of the curriculum and in particular of the formulation of learning outcomes. If a National Qualification Framework is in place, normally the training programmes are based on the qualifications and there is a quality assurance mechanism in place. In ECVET Permit project, we propose the composition of a National Industry Advisory Group (NAG), consisting of different types of stakeholders that will review and validate the converted VET programmes. At a second level, we propose an internal peer review of the converted units, by ECVET experts that will make sure that all requirements of ECVET methodology are met.

Chapter 4 presents the proposed methodology for the conversion of the VET programmes using the concept of units of learning outcomes.

Step 3: Transfer & Accumulation Process

The third step is the transfer and accumulation of units of learning outcomes process. This includes a preparatory phase, where the interested parties agree on the terms of the process and prepare the necessary documents, an implementation phase, where the actual transfer is taking place, including acquisition and assessment of the learning outcomes, and a follow up phase that includes validation and recognition of the acquired and assessed learning outcomes. We have approached the transfer and accumulation process from two different perspectives. At first, it is the transnational mobility, the most common and obvious application of ECVET, that is implemented between VET institutions from different countries. Secondly, it is the mobility within a country, the

case where we have transfer of learning outcomes, from non-formal to formal learning setting, within the same country.

The transfer and accumulation process is described in chapter 5.

Below we present in summary the overall methodology used in ECVET Permit project for building an ECVET partnership between VET providers.

Table 2: ECVET Permit Methodology

Steps	Activities	Tools	Quality assurance
Step 1: ECVET Mapping Process	<p>Understand the basic principles of ECVET</p> <p>Map the national context and progress, regarding ECVET</p> <p>Map the VET provider context and identify challenges for ECVET implementation</p> <p>Select and map VET programmes</p>	ECVET Permit Mapping Template	Forming of National Industry Advisory Group (NAG)
Step 2: VET Programme Conversion Process – Rewriting educational and training programmes on the basis of Learning Outcomes	<p>Select units (e.g. modules or courses) for conversion process</p> <p>Identify and validate learning outcomes</p> <p>Rewrite units using learning outcomes</p> <p>Assign ECVET points</p>	<p>ECVET Permit Unit Template</p> <p>General Programme Note</p> <p>Internal Quality Review Form</p> <p>Questionnaires for NAG</p>	<p>Survey to NAG members for validating learning outcomes</p> <p>ECVET Internal Quality Review of converted units</p> <p>NAG review of converted units</p>
Step 3: Transfer & Accumulation Process	<p>Agree terms of transfer and accumulation of learning outcomes</p>	<p>Memorandum of Understanding</p> <p>Learning Agreement</p>	Evaluation of Personal Transcripts for credit transfer

	Assess and validate learning outcomes Recognize, accumulate learning outcomes	Personal Transcript	
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Chapter 3. ECVET Mapping Process

As already mentioned in Chapter 2, the ECVET Mapping process is a preparatory and diagnostic exercise aimed to prepare the VET providers for building an ECVET partnership. An ECVET partnership refers to any number of VET providers at national or transnational level, from the formal and/or non-formal sector, who come together with the sole intention to enable credit transfer between their learners.

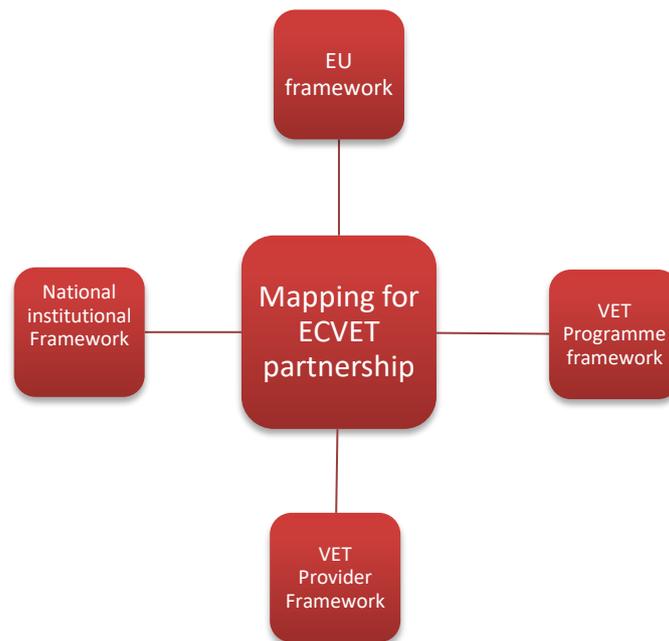


Figure 2: Mapping for ECVET Partnership

The ECVET mapping process entails a number of different steps which are analysed in- detail below.

3.1. Understanding the ECVET European Context

The ECVET mapping process begins with a review of the European context in relation to the ECVET tool. Table 3 includes an indicative list of important EU documents that should be reviewed for a better understanding of the ECVET tool. Although the list is not exhaustive, it includes some important documents that have been published by DG Employment, Cedefop and other Organisations and European ECVET projects.

Also, it is important to note that there is a large number of ECVET projects that have been implemented in the framework of Lifelong Learning and Erasmus+ Programmes. ECVET Projects as well as other resources for ECVET can be found at the web-site of ECVET secretariat <http://www.ecvet-secretariat.eu/en/knowledge-centre>. In table 3, we present a small list of projects that we have reviewed for our own project.

➔*Tip: A VET provider that enters the world of ECVET is encouraged to identify and review the ECVET projects that are related to its qualifications.*

Table 3: ECVET Background & Resources

Important Documents
Legislation
EFQ Recommendation ECVET Recommendation National legislation for Qualifications, validation of non-formal learning, credit transfer
Reports, manuals, guides etc
Cedefop: Analysis and overview of NQF developments in European countries. Annual report 2014 DG EAC: Get to know ECVET better, Q&A Cedefop: ECVET necessary conditions Cedefop: Learning outcomes approach in VET curricula Cedefop: Monitoring ECVET strategies 2013 ECVET projects: Using ECVET for mobility and lifelong learning – lessons from the second generation of ECVET pilot projects ECVET Reflector: Study on the implementation and development of an ECVET system for initial vocational education and training ECVET users group: Using ECVET to support Lifelong learning FINECVET as a pioneer
European projects (indicative list relevant for ECVET Permit project)
ECVET Asset: Automobile sector http://www.assetecvet.eu/documents VQTS Mechatronics/ electronics http://www.vocationalqualification.net/

3.2. Understanding the ECVET principles

3.2.1. ECVET Recommendation

The European Credit System for Vocational Education and Training (ECVET) is one of the instruments of Copenhagen declaration on enhanced European cooperation in vocational education and training. ECVET was formalized in 2009 with the Recommendation of the European Parliament and with the Council of 18 June 2009, on the establishment of a European Credit System for Vocational Education and Training.

ECVET is an instrument to support lifelong learning, learners' mobility and flexibility of learning paths to achieve a qualification. With ECVET an individual learner can recognise learning outcomes achieved in different locations and learning contexts and acquire a formal qualification.

ECVET has been developed through the open method of coordination. Member States have undertaken to create the necessary conditions and promote the gradual integration of ECVET in vocational education and training, while European Commission and Cedefop have provided coordination, support, guidance and monitoring to Member States. ECVET has been developed mainly through European projects, using bottom up approach. A number of national projects (i.e. FINECVET in Finland and DECVET in Germany) and European projects contributed largely to the capacity building of VET authorities and VET organisations throughout Europe.

3.2.2. Basic elements of ECVET

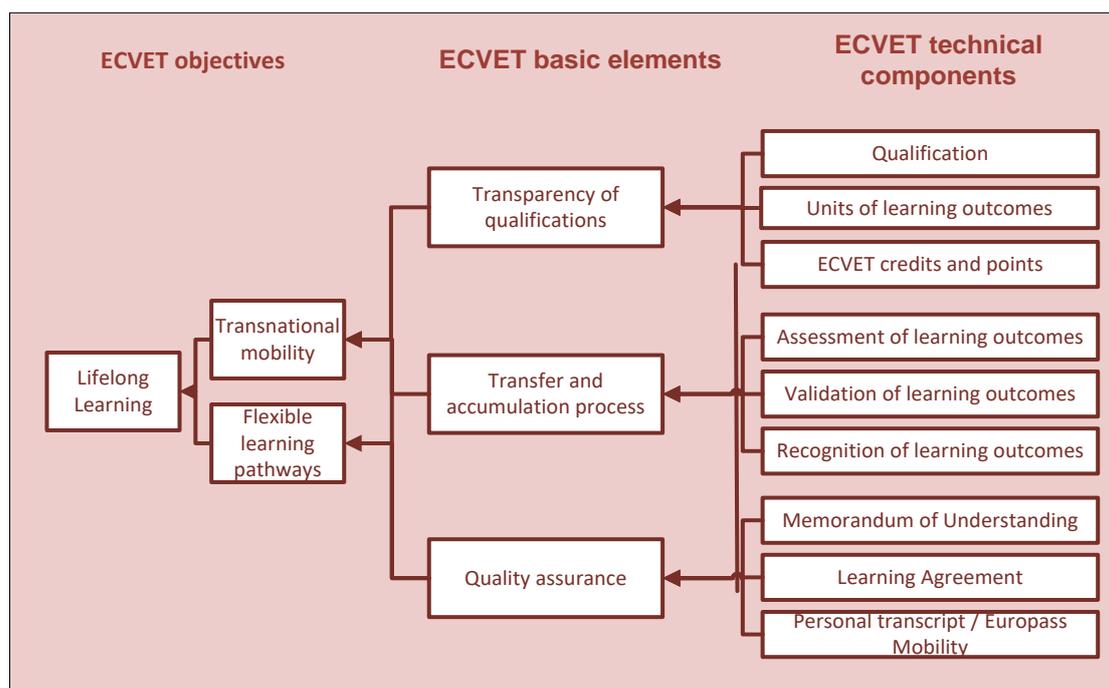
ECVET is a technical framework for the transfer, recognition and, where appropriate, accumulation of individuals' learning outcomes with a view to achieving a qualification.

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

The ECVET tools and methodology consists of:

- the description of qualifications in terms of units of learning outcomes with associated points,
- a transfer and accumulation process and
- complementary documents such as learning agreements, transcripts of records and ECVET users' guides.

Figure 3 presents the ECVET objectives, basic elements and technical components and their association.



Source: Adapted from Cedefop, 2012

Figure 3: ECVET objectives and technical components

3.2.3. Introduction to Learning Outcomes

According to the definition from the European Qualification Framework (EQF) Recommendation:

 “Learning outcomes are statements of what a learner knows, understand and is able to do on completion of a learning process”.

Learning outcomes describe the outcomes of a learning process, no matter where and how the learning has taken place. In this sense learning outcomes are used in different contexts, in school based education / apprentices / internships, in formal / informal / non-formal education, in general education / vocational training / higher education.

Usually qualification frameworks indicate the overall level of learning outcomes in a qualification. For ECVET purposes the EQF is used as a reference for levels.

Learning outcomes can be used for various purposes such as to establish descriptors of qualification frameworks, define qualifications, design curricula, assessment etc.

Learning outcomes are set out in various levels of detail depending on their purpose and context.

Learning outcomes are developed in the process of designing qualifications. There are different approaches to identifying and describing learning outcomes depending on the qualifications system.

Learning outcomes may be acquired through a variety of learning pathways, modes of delivery (school-based, in-company, workplaces etc.) in different learning contexts

(formal, non-formal and informal) or settings (i.e. country, education and training system...)

Table 4: Descriptors defining levels in the European Qualifications Framework (EQF)

	Knowledge	Skills	Competences
Level 4	factual and theoretical knowledge in broad contexts within a field of work or study	a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities
Level 5	comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	a comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems	exercise management and supervision in contexts of work or study activities where there is unpredictable change review and develop performance of self and others

Learning outcomes and impact on VET programmes

The use of learning outcomes supports the shift from teacher-centred or input-centered teaching to learner-centred or output-centered learning. The emphasis is not anymore on teaching, but on learning, on acquisition of specific competences and on the learner's ability to do something, as result of the learning process. Learning outcomes are not designed to replace the traditional way of describing teaching and learning but to supplement it.

The use of learning outcomes changes the focus of a vocational education and training programme, from the learning objectives to the learning outcomes.



VET Programme refers to a set of structured learning activities, contents and/or methods implemented to achieve specific and stated learning objectives and leading to a certification and after assessment to a qualification.

Learning objectives express the intention of teachers, for example, they are related to the specific content the teacher intends to deliver. On the other hand learning outcomes are always described from the learners' viewpoint rather than from the teachers' viewpoint.

Learning outcomes have been introduced in the mid 1980s as part of educational reforms, and are widely used in English speaking countries and to a lesser degree in France and Germany. With the introduction of EQF and ECVET instruments, learning outcomes have been gradually introduced to all Member States, as a prerequisite for the transparency of qualifications.

3.2.4. Units of learning outcomes



'Unit of learning outcomes' is a component of a vocational qualification, consisting of a coherent set of knowledge, skills and competence that can be assessed and validated autonomously. In principle, a qualification consists of several units and a complete set of units makes up a whole qualification.

In ECVET, a learner can achieve a vocational qualification by accumulating the required units, achieved in different countries and different contexts (formal and, where appropriate, non-formal and informal), while respecting national legislation relating to the accumulation of units and the recognition of learning outcomes. Each unit of learning outcomes is associated with a number of ECVET points, used for the transfer and accumulation of learning outcomes.

The units that make up a qualification are:

- described in legible and understandable terms by referring to the knowledge, skills and competences contained in them,
- constructed and organised in a coherent way with regard to the overall qualification,
- constructed in a way that enables discrete assessment and validation of learning outcomes contained in the unit.

A unit may be specific to a single qualification or common to several qualifications.

The expected learning outcomes defining a unit may be achieved irrespective of where or how these have been achieved. Thus, a unit is not to be confused with a component of a formal learning programme or training provision.



A unit of learning outcomes as a component of a qualification is NOT the same as a component of vocational education and training programme commonly known as modules or courses.

One unit of learning outcome as a component of a qualification may correspond to more than one module of a VET programme (see also figure 5)

The rules and procedures for defining characteristics of units of learning outcomes and for combining and accumulating units for a given qualification are defined by competent institutions and partners involved in the training process according to the national or regional rules.

The specifications for a unit of learning outcomes are:

- The generic title of the unit
- The generic title of the qualification (or qualifications) to which the unit relates, where applicable
- The reference of the qualification according to the EQF level and, where appropriate, the national qualifications framework (NQF) level, with the ECVET credit points associated with the qualification
- The learning outcomes contained in the unit
- The procedures and criteria for assessment of these learning outcomes
- The ECVET points associated with the unit
- The validity in time of the unit, where relevant.

3.2.5. Transfer and accumulation

Units of learning outcomes can be accumulated towards a qualification, in accordance with national or regional rules. Procedures and guidelines for the assessment, validation, accumulation and recognition of units of learning outcomes are designed by the relevant competent institutions and partners involved in the training process.

Competent institution is defined as an institution, which is responsible for designing and awarding qualifications or recognising units or other functions linked to ECVET, such as allocation of ECVET points to qualifications and units, assessment, validation and recognition of learning outcomes, under the rules and practices of participating countries. Competent institutions can be qualification authorities, awarding bodies, certification bodies or training centres, according to the principles and practices in each country.

At implementation level, ECVET transfer and accumulation is being implemented between organisations that deliver, assess, validate and recognise learning in the sending and host country.

The assessment of learning outcomes includes methods and processes used to establish the extent to which a learner has in fact attained particular knowledge, skills and competence, while validation of learning outcomes is the process of confirming that certain assessed learning outcomes achieved by a learner correspond to specific outcomes which may be required for a unit or a qualification. Recognition of learning outcomes is the process of attesting officially achieved learning outcomes through the awarding of units or qualifications.

During an ECVET transfer, a learner acquires learning outcomes that are assessed in the host country and are validated and recognised in the sending country.

Credit transfer and accumulation process is underpinned by ECVET documents, the Memorandum of Understanding, the Learning Agreement and the Personal Transcript.

3.2.6. Memorandum of Understanding

The Memorandum of Understanding is a framework agreement between competent institutions in two or more countries, involved in ECVET.

Signing the MoU the institutions:

- accept each other's status as competent institutions
- accept each other's quality assurance, assessment, validation and recognition criteria and procedures as satisfactory for the purposes of credit transfer
- agree the conditions for the operation of the partnership, such as objectives, duration and arrangements for review of the MoU
- agree on the comparability of qualifications concerned for the purposes of credit transfer, using the reference levels established by EQF
- identify other actors and competent institutions that may be involved in the process concerned and their functions

The MoU has a specific duration and can be renewed. During its validity period, the MoU defines the overall terms of collaboration of the ECVET partners.

3.2.7. Learning agreement

The Learning agreement is an agreement, between two partners - competent institutions and a specific learner that defines the terms of a specific mobility in the framework of a signed MoU. The LA distinguishes between competent 'home' and 'hosting' institutions and specifies the particular conditions for a period of mobility, such as the identity of the learner, the duration of the mobility period, learning outcomes expected to be achieved and the associated ECVET points

The learning agreement should lay down that, if the learner has achieved the expected learning outcomes and these have been positively assessed by the 'hosting' institution, the 'home' institution should validate and recognise them as part of the requirements for a qualification, according to the rules and procedures established by the competent institution

3.2.8. Personal transcript

The Personal transcript is a record of learning achievements. It includes information on learners' assessed outcomes, units and ECVET points awarded. It belongs to the individual learner and it is issued after the completion of a learning mobility. The

Europass Mobility document is commonly used as personal transcript for transnational mobility, as it is recognised and accepted by European Member States.

However, in the case of the implementation of the ECVET at national level, no such document exists. The ECVET Permit projects recommends that VET providers develop a personal transcript template for recording the learning outcomes achieved by each learner.

3.2.9. ECVET credits and ECVET points



‘Credit for learning outcomes’ (credit) means a set of learning outcomes of an individual which have been assessed and which can be accumulated towards a qualification or transferred to other learning programmes or qualifications.

‘ECVET points’ means a numerical representation of the overall weight of learning outcomes in a qualification and of the relative weight of units in relation to the qualification.

In ECVET the allocation of points usually has two phases: ECVET points are allocated first to a qualification as a whole and then to its units. ECVET points have no value independent of the acquired learning outcomes for the particular qualification to which they refer and they reflect the achievement and accumulation of units.

The convention used for the calculation of ECVET points is: 60 points are allocated to the learning outcomes expected to be achieved in a year of formal full time VET.

3.3. VET programme mapping

The VET programme mapping process facilitates common understanding of the qualifications, the training and/or educational programmes and learning outcomes that have been selected and are involved in the ECVET transfer. In parallel, it is a learning process for the participating VET institutions, during which they have the opportunity to reflect on ECVET requirements, their organisational characteristics and expectations and on the characteristics of their study programmes and how they can affect a credit transfer process.

The template used for the VET programme mapping process requires an in-depth analysis of the VET programmes and their learning outcomes in terms of knowledge, skills and competences and promotes documentation in a consistent way.

The objectives of the VET programme mapping process are:

1. Help partners gain an in-depth understanding of VET programmes which are to be converted by each VET provider
2. To make the programmes transparent and comparable both at national and transnational level
3. To define the programme expected learning outcomes according to the stakeholders input and evaluation
4. To share the learning experience of this process with the respective partners for the benefit of the project

The above objectives have been further specified into criteria and required evidence that is presented in table 5.

Table 5: EVET Mapping process objectives and criteria

Objective	Criteria	Criteria type
<p>Prepare the ground for ECVET application for the selected VET programmes.</p> <p>Create a common language and build trust between VET Providers in an ECVET partnership.</p>	ECVET Terminology have been appropriately defined	Evidence of Knowledge
	A thorough description of the National Qualification System has been provided	Evidence of Knowledge
	The description of the National Qualification System is substantiated by relevant documents/links.	Supporting Material
	The term 'Curriculum' as used by the VET Provider is clearly described and explained.	Evidence of Knowledge
	The term Learning Outcome has been appropriately defined	Evidence of Knowledge
	The current profiles of the two study programmes to be converted have been provided on templates as requested.	Templates
	The terms Knowledge, Skills, Competences have been appropriately defined	Evidence of Knowledge
	The different domains of learning have been appropriately defined	Evidence of Knowledge
<p>To make the programmes transparent and comparable both at national and transnational level</p>	Job profile description for both Study Programmes or reference to occupational standards are provided	Supporting Material
	Any legislations which help backup any information provided would surely facilitate transparency and comparability	Supporting Material
	An explanation showing that the partner is aware of the whole process from job profiles to establishing learning outcomes	Application
	The term Learning Outcome has been appropriately applied	Application
	Rationale for the objectives identified for both VET programmes	Evidence of Knowledge

	Feedback on VET programmes selected as provided by the NAG	Supporting Material
	Identification, selection and enrolment of the NAG board members	Supporting Material
	Minutes of the NAG first meeting	Supporting Material
	An official document, provided at a national level, which references the local level descriptors to the EQF	Supporting Material
To define the programme expected learning outcomes according to the stakeholders input and evaluation	Learning outcomes have been established according to the ECVET framework	Application
	Knowledge, Skills, Competences have been appropriately applied for each learning outcomes	Application
	Learning outcomes have been written describing clearly what the students are expected to know and be expected to do at the end of the study programme.	Application
	Feedback on unit specifications has been provided by the NAG as part of the validation and assessment procedures	Supporting Material
	Feedback on final submitted documents has been provided by the NAG as part of the validation and assessment procedures	Supporting Material
To share the learning experience of this process with the respective partners for the benefit of the project	Challenges and recommendations have been identified and provided	Input for Manual
	Lessons learnt have been identified and communicated	Input for Manual
	VET Partner has shown awareness of the process involved in the mapping of two study VET programmes within the ECVET framework	Input for Manual

The methodology for the curriculum mapping process includes three phases:

1. Guidelines for national reports
2. Development of national reports
3. Development of synthesis report.

The main elements that are described and analysed in the national reports during the curriculum mapping are shown in table 6. In ECVET Permit project, each partner worked with two study programmes, therefore the report included details of these two study programmes. The template that has been used is presented in the Annex 1.

Table 6: Structure of National Report for Curriculum mapping

Structure of National Report for VET Programme Mapping	
1.	Introduction Scope of the Report Partner's Brief Profile
2.	Summary of Report
3.	The ECVET Framework An Overview of ECVET System On the Understanding the term Curriculum
4.	Description of the National Qualification System
5.	Current Profiles of Study VET Programmes Details for VET Programme
6.	Understanding of Learning Outcomes Introducing the Concept of Learning Outcomes Understanding and Classification of Different Domains of Learning Approach of the Process to Meet the ECVET Framework
7.	Establishing Study Programme Objectives Description of Occupational Standards / Job Profile for VET Study Programme Mapping Occupational Standards / Job Profile to EQF / NQF to Establish Level for Study Programme Rationale of the Objectives Identified for Study Programme Identification of Units
8.	Establishing Units Learning Outcomes On the Understanding of the terms knowledge, skills and competences Methodology for Establishing Learning Outcomes Unit Specifications
9.	Lessons Learnt
10.	Challenges and Recommendations
11.	Acknowledgements
	Appendixes Study Programme Details

Supporting Material

Chapter 4. Conversion of VET programmes in units of learning outcomes

As it has been discussed in the previous chapter, an operational ECVET system requires the existence of qualifications described in units of learning outcomes . The units of learning outcomes as a component of qualifications are the core of the ECVET principles.

Following the European Qualification Framework Recommendation, the European countries have developed their National Qualification Frameworks and most of them have partial or comprehensive NQFs and qualifications using learning outcomes.

Since one of the primary goals of vocational education and training is to assist learners to obtain a vocational qualification, VET programmes should use the units of learning outcomes described in the specific qualification as a benchmark for VET programme development i.e. training programmes, study programmes (curricula) etc.

Converting a VET programme in units of learning outcomes with a clear reference to the relevant vocational qualification is a crucial step in the conversion process.

Ideally, when a National Qualification Framework exists qualifications are structured in units of learning outcomes, a VET programme is developed at first place based on the qualification and is already structured in parts (modules) that relate to the units of learning outcomes of the corresponding qualification. This is the example of Malta, where, the VET programmes are leading to qualifications and they have the same structure (units) as the corresponding qualifications.

In this manual, we present a methodology for the conversion of the VET programmes that are not necessarily structured in units of learning outcomes and moreover that are diverse; different EQF levels, formal and non-formal learning programmes. For all the different types of VET programmes, we present a common procedure for the conversion of the VET programmes in ECVET units of learning outcomes. Following the conversion process, the VET programmes are revised and are ready for the next steps of ECVET process.

4.1. Steps to convert the VET programmes

The steps to convert VET programmes are displayed in the diagram and are further detailed in the following sections. The template we have used in ECVET Permit project is shown in Annex 2.

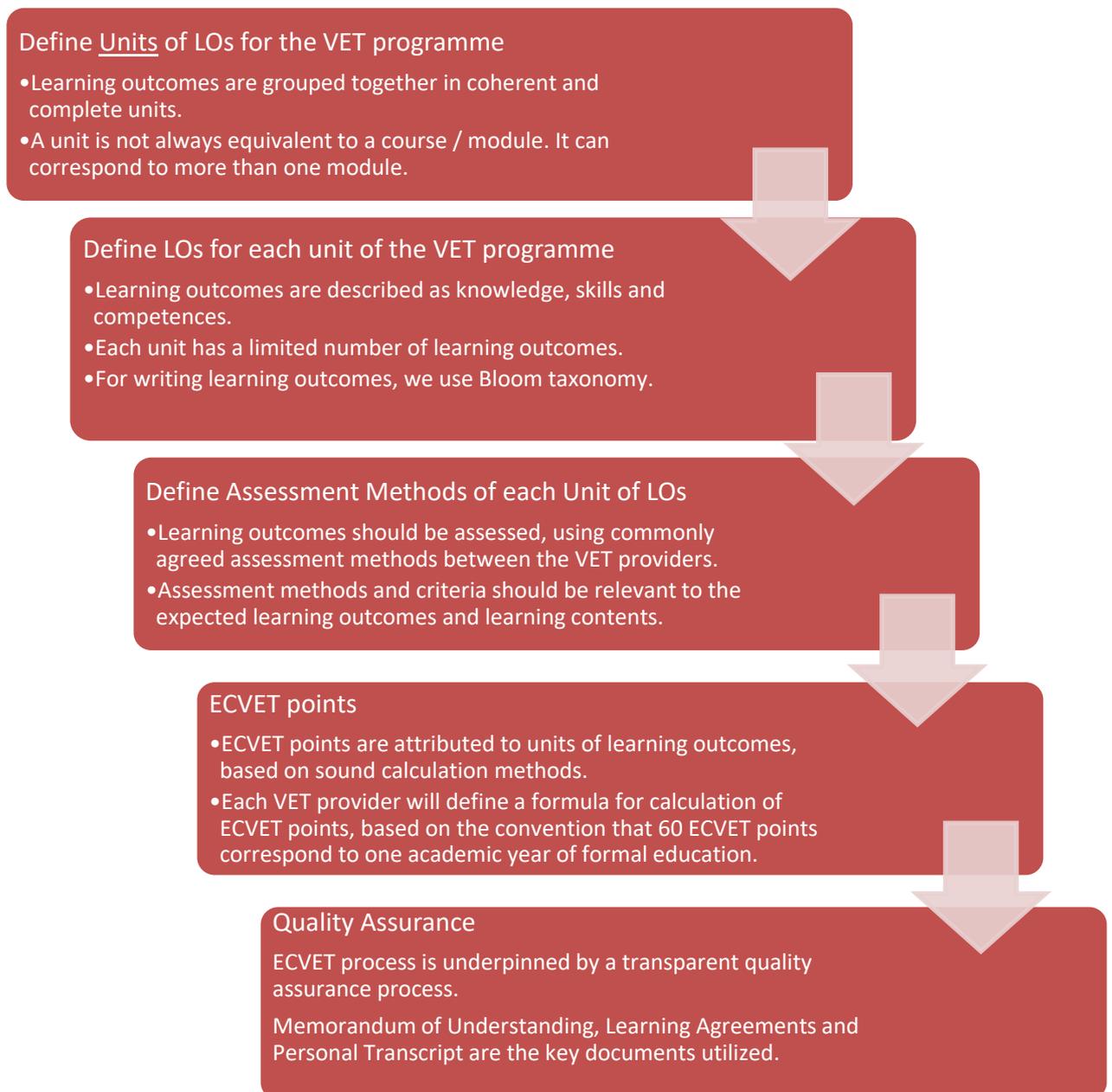


Figure 4: Conversion of VET programme

4.2. Defining the units of learning outcomes for VET programmes

Starting with an existing VET programme, the first step is to define the units of learning outcomes. **Each unit should be a coherent and cohesive set of learning outcomes that can be assessed and validated separately.**

The learning outcomes of a VET programme should be derived from occupational profiles or standards, competence profiles, sector studies or training needs analysis.

During a conversion process for ECVET implementation, it is a good idea to revise the whole study programme and match the expected learning outcomes with updated input regarding professional activities of the specific qualification.

Depending on the EQF level of the study programme, the units of learning outcomes can include:

- Key competences, e.g. language literacy, mathematical literacy, ICT, foreign languages.
- Foundation units, e.g. electrotechnology, electrical systems.
- Common units in different qualifications, e.g. health and safety, mechanical drawing, environmental protection.
- Specialised units, e.g. automobile diagnostics.

A unit of learning outcomes is not always equivalent to a course / module. The link between units of learning outcomes and courses/modules of training programmes can be one-to-one, one-to-many and many-to-one.

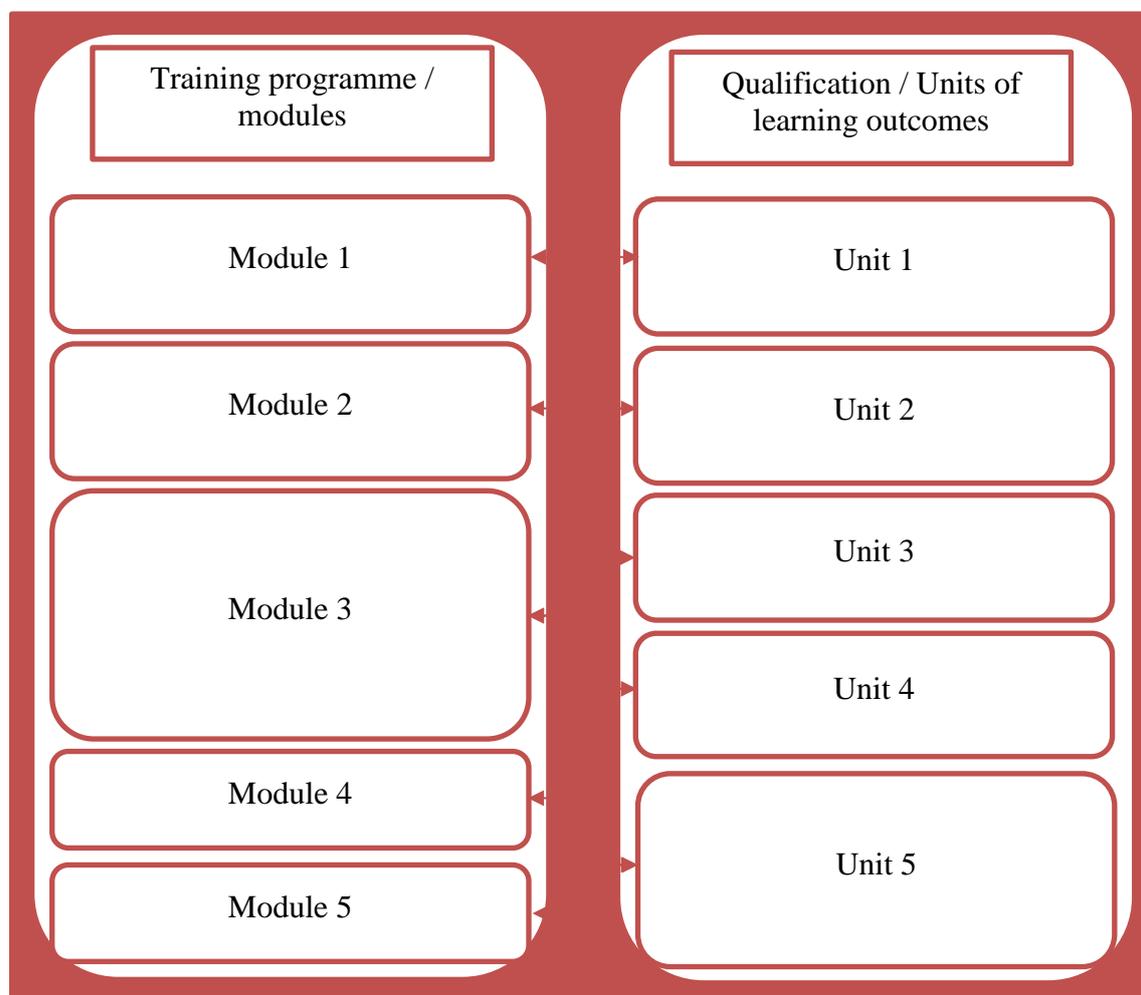


Figure 5: Link between qualification and study programme

Example of a unit of learning outcomes	
Unit title	Electrical Technology 1
VET programme title	MCAST Advanced Diploma in Electrical studies
EQF / NQF level	EQF level 3
The learning outcomes contained in the unit	<p>By completion of this unit the learner should be able to</p> <ol style="list-style-type: none"> 1. Identify the behaviour of simple DC circuits and perform basic calculations on series, parallel and series-parallel DC circuits applying the correct units. 2. Outline the principles of static electricity and apply them in electrical devices such as capacitors. 3. Examine the principles of magnetic properties as applied to permanent magnets and coils and how these properties are used to develop motor and generator principles. 4. Identifies the effects of applying AC voltage to series circuits including passive electrical components by carrying out calculations including the use of phasor diagrams.
The procedures and criteria for assessment of these learning outcomes	<p>Home based assignments</p> <p>Oral examination</p> <p>Time constrained assignments (TCA). Class exams</p> <p>Lab work/experiments</p>
The ECVET points associated with the unit	6
The validity in time of the unit, where relevant.	n/a

Source: ECVET Permit project, MCAST

Example 1: Unit of learning outcomes

4.3 Forming of the National Industry Advisory Group (NAG)

The National Industry Advisory Group is a multi-stakeholder advisory body that provides guidance and support to VET institutions, in the process of identification and formulation of units learning outcomes for the conversion of the VET programmes.

Establishing National Industry Advisory Group (NAG), one for each VET programme, is a critical measure for ensuring that VET programmes are aligned to the industry needs in a fast changing environment.



In Member States where National Qualifications have not been deployed or reviewed, the establishment of a multi-stakeholder National Industry Advisory Group is a necessary measure for ensuring (a) units of learning outcomes are formulated according to the current industry and labour market needs; and (b) that the units of learning outcomes are reviewed and validated by industry professionals according to national legislation and professional requirements.

The NAG does not have formal authority to govern the VET institute, that is, the advisory cannot issue directives which must be followed. Rather, it serves to make recommendations and provide input about how VET programmes can be aligned to the industry needs and better respond to the learner requirements. The

NAG should NOT be seen as an ad-hoc (one-time) measure but rather as a standing, or ongoing measure; that needs to remain operational at least until the end of the ECVET conversion process.

The work of the group is based upon the following Terms of Reference:

- Provide cutting edge information about the needed knowledge, skills and competences required by the industry
- Review and validate units of learning outcomes based on the current industry and professional framework
- Provide up-to-date information about the professional and occupational framework: e.g. legal framework, current and future developments
- Provide a forum for bridging the world of VET and the world of work, sharing best practice and discussing future development needs
- Identify support needs for the implementation of the programmes being developed
- Provide the learner perspective – identified development needs taking into consideration the learner needs

The NAG should be composed of key representatives from identified stakeholders who bring key knowledge and skills for the formulation and evaluation of industry relevant learning outcomes.

The NAG should have an appointed chair, usually an experienced representative of the VET institution, who drives the development of the advisory group and serves as a coordinating central point.

The NAG should be composed of the following members:

- industry representatives (e.g. employers, industrialists etc.) with extensive and up-to-date industry and labour market experience in the area of the units selected
- professional representatives with extensive and up to date knowledge of the vocational qualification

- representatives of the country’s regulatory bodies of the profession as specified by the units selected
- academics, VET instructors with expertise in curricula and training programme development and delivery
- representatives from the cohort (e.g. learners) in the relevant VET programmes.

It is advised that VET providers appoint an experienced person from the institution to coordinate and chair the NAG, and serve as a focus point for the process.

Table 5 provides a general indication of how the national advisory group should operate as well as what are the expected outputs of these operations.

Table 5: Recommended Operations of the National Industry Advisory Group

No	Description	Inputs	Outputs
1	Identification, selection and enrolment of the board members. Identification, selection and enrolment of board chair.	NAG purpose and framework	A list of board members along with their experience as relevant to this process
2	Introductory meeting between all members. Introduce the scope and aims of the board so that it can operate efficiently and effectively.	Material related to programmes selected for background reviewing.	Minutes of the meeting
3	Second meeting in order to discuss job profile in case of missing occupational standards.	Professional context and general overview of objectives of the VET programme	Job profile
4	Third meeting with the objective to provide feedback on draft VET programmes	Draft VET Programmes	Feedback on VET Programmes
5	Fourth meeting with the objective to provide feedback on draft unit specifications	Unit Specifications	Feedback on unit specifications
6	Fifth meeting with the objective to provide final feedback on all material presented	Study Programmes and Unit Specifications as well as ECVET report	Feedback on submitted documents

The outcome of the work of the NAG feeds different steps of the ECVET Permit methodology. In the beginning, the work and outputs of the NAG feed the VET programme and curriculum mapping process. At later stages it feeds the conversion process of VET programmes, the validation and quality assurance of the conversion process.

4.3. Defining learning outcomes for VET programmes

Figure 6 presents the process from the identification of learning outcomes, to formulation of learning outcomes and establishment of assessment criteria. Learning outcomes normally derive from the occupational profiles, competence profiles or studies. In ECVET Permit project, we established a methodology for the identification and formulation of learning outcomes, through the forming of a National Advisory Industry Group, as discussed in the previous chapter.

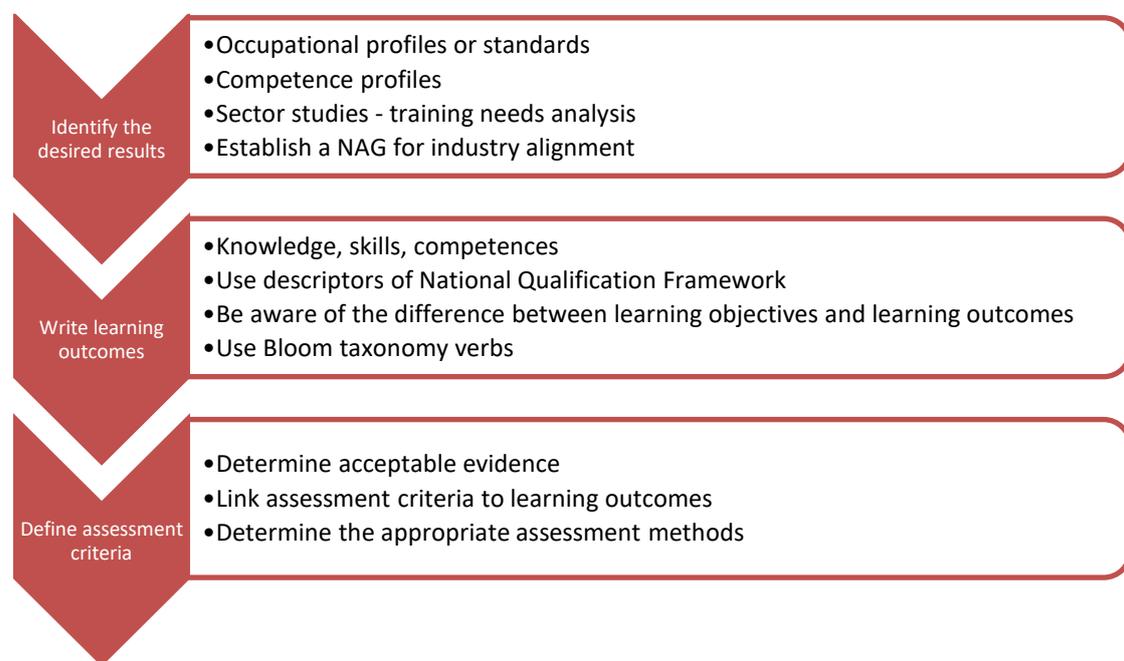


Figure 6: Defining learning outcomes

For the definition of learning outcomes in VET study programmes, we commonly use Bloom taxonomy. Bloom's taxonomy provides a hierarchy of complex processes and for each one proposes a list of active verbs that one can use to describe learning outcomes. There are three different domains, one for cognitive skills, one for emotive skills and one for psychomotor skills, associated with knowledge, competences and skills of the EQF recommendation. Using Bloom taxonomy and active verbs, we can describe in detail the learning outcomes of a study programme, linking learning outcomes to specific knowledge, skills and competences.

4.4. Bloom’s taxonomy – a theoretical framework for writing learning outcomes

A theoretical foundation of learning outcomes lies on the educational psychologist Benjamin Bloom (1913 – 1999). Bloom looked on learning as a process – one builds upon former learning to develop more complex levels of understanding. Bloom carried out research in the development of classification of levels of thinking behaviours in the process of learning and worked on drawing up levels of these thinking behaviours from the simple recall of facts at the lowest level up to evaluation at the highest level. In 1956, Bloom developed its taxonomy, consisting of a hierarchy of increasingly complex processes which we want our students to acquire. Bloom’s taxonomy provides a very useful aid to writing learning outcomes, a ready-made structure and list of verbs. Following the initial taxonomy for cognitive domain, two more taxonomies, for emotive skills domain and for psychomotor domain were proposed. Emotive skills domain (“Feeling”) concerned with value issues: involves attitudes. Psychomotor domain involved co-ordination of brain and muscular activity.

Hereunder, we present the three taxonomies that are widely used for describing learning outcomes in qualifications and learning programmes.

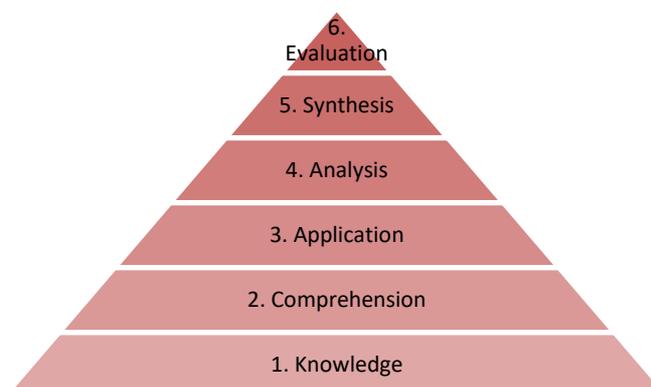


Figure 7: Bloom taxonomy in cognitive domain

Table 7: Levels and action verbs in Bloom taxonomy – cognitive domain

Levels in cognitive domain	Action verbs
Knowledge - ability to recall or remember facts without necessarily understanding them	Arrange, collect, define, describe, duplicate, enumerate, examine, find, identify, label, list, memorise, name, order, outline, present, quote, recall, recognise, recollect, record, recount, relate, repeat, reproduce, show, state, tabulate, tell.
Comprehension – ability to understand and interpret learned information	Associate, change, clarify, classify, construct, contrast, convert, decode, defend, describe, differentiate, discriminate, discuss, distinguish, estimate, explain, express, extend,

	<p>generalise, identify, illustrate, indicate, infer, interpret, locate, predict, recognise, report, restate, review, select, solve, translate.</p>
<p>Application – ability to use learned material in new situations, e.g. put ideas and concepts to work in solving problems</p>	<p>Apply, assess, calculate, change, choose, complete, compute, construct, demonstrate, develop, discover, dramatise, employ, examine, experiment, find, illustrate, interpret, manipulate, modify, operate, organise, practice, predict, prepare, produce, relate, schedule, select, show, sketch, solve, transfer, use</p>
<p>Analysis – ability to break down information into its components, e.g. look for inter-relationships and ideas (understanding of organisational structure)</p>	<p>Analyse, appraise, arrange, break down, calculate, categorise, classify, compare, connect, contrast, criticise, debate, deduce, determine, differentiate, discriminate, distinguish, divide, examine, experiment, identify, illustrate, infer, inspect, investigate, order, outline, point out, question, relate, separate, sub-divide, test.</p>
<p>Synthesis – ability to put parts together</p>	<p>Argue, arrange, assemble, categorise, collect, combine, compile, compose, construct, create, design, develop, devise, establish, explain, formulate, generalise, generate, integrate, invent, make, manage, modify, organise, originate, plan, prepare, propose, rearrange, reconstruct, relate, reorganise, revise, rewrite, set up, summarise</p>
<p>Evaluation – ability to judge value of material for a given purpose</p>	<p>Appraise, ascertain, argue, assess, attach, choose, compare, conclude, contrast, convince, criticise, decide, defend, discriminate, explain, evaluate, interpret, judge, justify, measure, predict, rate, recommend, relate, resolve, revise, score, summarise, support, validate, value</p>

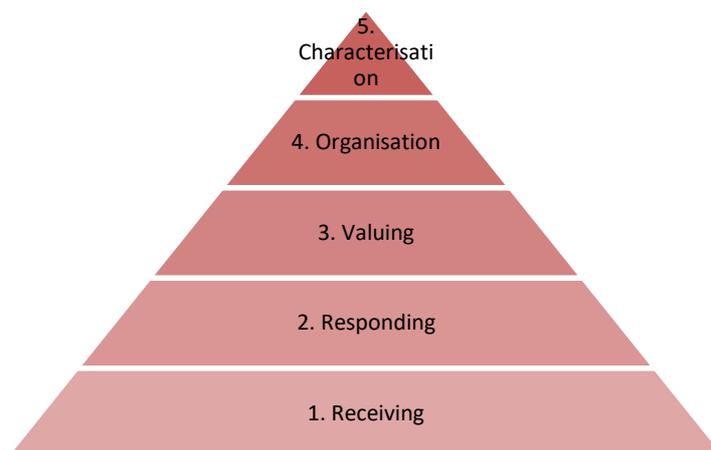


Figure 8: Bloom taxonomy in emotive skills domain

Table 8: Levels and action verbs in Bloom taxonomy – emotive skills domain

Levels in emotive skills domain	Action verbs
Receiving – Willingness to receive information	Appreciate, accept, assist, attempt, challenge, combine, complete, defend, demonstrate (a belief in), discuss, dispute, embrace, follow, hold, integrate, order, organise, join, share, judge, praise, question, relate, share, support, synthesise, value.
Responding – Active participation in own learning	
Valuing – Commitment to a value	
Organisation – Comparing, relating, synthesising values	
Characterisation – Integration of beliefs, ideas and attitudes	

Table 9: Levels and action verbs in Bloom taxonomy – psychomotor domain

Psychomotor (doing) domain	Action verbs
Involves co-ordination of brain and muscular activity.	Bend, grasp, handle, operate, perform, reach, relax, shorten, stretch, differentiate (by touch), and perform (skilfully).

4.5. Tips for formulating good learning outcomes

It is standard practice to list the learning outcomes using a phrase like “On successful completion of this module, students should be able to:” and then list the learning

outcomes in bullet points. Learning outcomes need to be expressed explicitly, in understandable, simple phrases that can be read by teachers, students and stakeholders. Avoid using complicated sentences. Use strong, clear, concrete verbs such as those found in Bloom’s Taxonomy. Doesn’t mix verb tenses: choose either future or present and stick with it: e.g. Students can ... or Students will be able to ... Avoid vague language and phrases such as Be familiar with ... Gain an understanding of ... Learn about ... Demonstrate knowledge of If necessary use more than one sentence to ensure clarity.

In phrasing learning outcomes, you can use the SMART approach

Student-centered

Measurable

Action-oriented

Results-driven

Tailored to specific programs

As a general recommendation, you may use 4-8 learning outcomes per unit. If you have less or more learning outcomes, you may reconsider the structure of the units. Learning outcomes cannot be too broad or too narrow.

Table 10: Checklist for writing learning outcomes

Checklist	
<ul style="list-style-type: none"> • Each learning outcome begins with an active verb • There are no terms like know, understand, learn, be familiar with, be exposed to, be acquainted with, be aware of ... • Learning outcomes across the range of levels of Bloom’s Taxonomy are included • Learning outcomes are observable and measurable • Learning outcomes fit within the aims and content of the unit • Learning outcomes are consistent with the EQF level of the qualification and the study programme. 	

4.6. Examples - from traditional programmes to LOs

Two examples from the conversion process of ECVET Permit project are presented below. Example 2 demonstrates the change of the Unit before and after the conversion process. We can see how the objectives of the training units were reformulated into learning outcomes.

	Before Conversion	After conversion
AUTO-100	<ul style="list-style-type: none"> • Obtaining knowledge on the various types of internal combustion engines. 	By completion of this unit the learner should be able to:

**Internal
Combustion
Engines I**

- Learning about the various subsystems of internal combustion engine.
- Understanding physical concepts and quantities that are needed on this subject.
- Familiarization and identification of basic engine parts through workshops.

1. Understand the Otto and Diesel cycles for internal combustion engines
2. Describe the different types of valve timing systems
3. Identify of the major engine parts through practical workshops

Source: ECVET Permit project - Intercollege

Example 2: Conversion of Unit of learning outcomes

Example 3 presents a converted ECVET unit. One can see the formulation of specific learning outcomes and its categorisation into knowledge, skills and competences.

Learning outcomes		
By the end of this unit a learner is expected to:		
1. Understanding the Otto and Diesel cycles for internal combustion engines	K	<ul style="list-style-type: none"> • Being able to describe the different IC engines cycle of operation (petrol and diesel) • Two stroke and four stroke • Pressure – volume diagrams
	S	<ul style="list-style-type: none"> • Not applicable
	C	<ul style="list-style-type: none"> • Not applicable
2. Describe the different types of valve timing systems	K	<ul style="list-style-type: none"> • Methods of valve timing (chain, gears and belts) • Variable valve timing principles
	S	<ul style="list-style-type: none"> • Extract information from valve timing • Diagram
	C	<ul style="list-style-type: none"> • Perform measurements in workshop and • adjust valve/cam clearance
3. Identification of the major engine parts through practical workshops	K	<ul style="list-style-type: none"> • The exact location of each component on the IC engine
	S	<ul style="list-style-type: none"> • Determining the kind of tools and equipment needed to do a job. • Identification of worn parts that need to be replaced
	C	<ul style="list-style-type: none"> • Complete disassembly and assembly of the • IC engine by the students • Measure the engine cubic capacity in workshop • Imagine how something will look after it is moved around or when its parts are moved or rearranged. • Use of supporting software for the utilization of correct/proper methodologies in assembling and disassembling an engine

Source: ECVET Permit project – Intercollege

Example 3: Definition of learning outcomes

4.7. Link learning outcomes to learning programmes and assessment

As we have already seen the introduction of learning outcomes has implications to training programme development and curriculum design.

The use of learning outcomes facilitates the understanding of qualifications and supports their relevance to the needs of the labour market. Moreover, the use of learning outcomes guides the development of learning contents, learning methods and assessment methods.

VET training programmes need to define teaching and learning methods and assessment methods, consistent with the intended learning outcomes. Assessment may encompass different methods for different types of learning outcomes. The used verb

in the phrasing of the learning outcome is a good guide for the choice of the assessment method. Having designed curricula and training programmes in terms of learning outcomes, the next step is to define assessment criteria and methods to find out if students have achieved these intended learning outcomes.

Table 11 provides examples of teaching and learning activities and assessment methods that you can choose from.

Table 11: Linking learning outcomes, to learning and assessment methods

Learning Outcomes	Teaching and Learning Activities	Assessment
Cognitive (Demonstrate: Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation)	Lectures	End of module exam.
	Tutorials	Multiple choice tests.
	Discussions	Essays.
	Laboratory work	Reports on lab work and research project.
	Clinical work	Interviews/viva.
Emotive (Integration of beliefs, ideas and attitudes)	Group work	Practical assessment.
	Seminar	Poster display.
	Peer group presentation	Fieldwork.
Psychomotor (Acquisition of physical skills)	etc.	Clinical examination.
		Presentation.
		Portfolio.
		Performance.
		Project work.
	Production of artefact	etc.

An example of defining assessment methods for an ECVET unit is presented below.

Assessment method	Description	Assessment criteria	Share to final grade
Final written exam	In the theoretical part, students will take written assessment tests. The duration of the theoretical part exam is 3 hours		

Formative assessment	Each trainer can give students short tests (true/false, multiple choice, matching). The grades of the tests count, if they are registered in IEK secretariat	It is defined by the trainer and announced to students.
Assignments	Each trainer can give assignments in the taught subjects.	It is defined by the trainer and announced to students.

Source: ECVET Permit project – IIEK DELTA

Example 4: Assessment of learning outcomes

4.8. Allocation of ECVET points

Allocations of ECVET points are normally part of the design of qualifications and units. They are produced by the competent institution responsible for the design and maintenance of the qualification or specifically empowered for this task. In countries where there is already a national system of credit points, the relevant competent institutions establish arrangements for the conversion of national credit points to ECVET points. The successful achievement of a qualification or of a unit triggers the award of the associated ECVET points, independently of the actual time required to achieve them.

Usually the transfer of a unit entails the transfer of the corresponding ECVET points so that they are included when the transferred learning outcomes are recognised, in accordance with national or regional rules. It is up to the competent institution to reconsider, where necessary, the ECVET points to be taken into account, as long as the rules and methodologies which are laid down for this purpose are transparent and underpinned by quality assurance principles.

Any qualification acquired through non-formal or informal learning for which a formal learning pathway reference can be identified, and the corresponding units, carry the same ECVET points as the reference, since the same learning outcomes are being achieved.

The allocation of ECVET points is being done in two phases:

1. Allocation of ECVET to the qualification as a whole
2. Allocation of ECVET points to units.

For a given qualification, one formal learning context is taken as a reference and, on the basis of the convention the total number of points is assigned for that qualification.

From this total, ECVET points are then allocated to each unit according to their relative weight within the qualification.

For qualifications which do not have a formal learning pathway reference, ECVET credit points can be allocated through estimation by comparison with another qualification which has a formal reference context.

To establish the comparability of the qualifications, the competent institution should refer to the equivalent EQF level or, possibly, NQF level, or to the similarity of the learning outcomes in a closely related professional field.

For the calculation of the relative weight of a unit of learning outcomes, different criteria can apply:

- the relative importance of the learning outcomes which constitute the unit for labour market participation, for progression to other qualification levels or for social integration,
- the complexity, scope and volume of learning outcomes in the unit,
- the effort necessary for a learner to acquire the knowledge, skills and competence required for the unit.

The relative weight of any given unit common to several qualifications, as expressed in ECVET points, may vary from one of these qualifications to another.

Code	Units of Learning outcomes title	Total learning hours	ECVET points
AUTO-100	Internal Combustion Engines I	150	6
AUTO-110	Vehicle Electrical and Electronic Systems	150	6
AUTO-200	Internal Combustion Engines II	150	6
AUTO-205	Diesel Engines Technology	150	6
AUTO-220	Transmission and Propulsion Systems	150	6
AUTO-230	Vehicle Heating and Air Conditioning Systems	150	6
AUTO-250	Steering and suspension systems	150	6
AUTO-260	Vehicle Diagnostics	150	6
AUTO-270	Engines and Vehicles Electronic Management Systems	150	6
AUTO-280	Braking Systems	150	6
		1500	60
Note:	<p>All Units at Intercollege at Level 5 have duration of 15 weeks and of total 150 learning hours, including instructed hours as well student workload that is represented by activities and tasks that students need to perform during the period of the 15 weeks including formal examination (mid-term and final exams)</p> <p>Intercollege utilizes the ECVET credit point 1 ECVET credit point = formula of 25 learning hours</p>		

Source: ECVET Permit project - Intercollege

Example 5: Allocation of ECVET points

Code	Units of Learning outcomes title	Hours theory	Hours laboratory	ECVET points
1	Organization, operation and workshop safety - environment	30		3
2	Electrotechnology and electronic systems	45	45	9
3	Mechanical drawing		45	4.5
4	Applied engineering	30	60	9
5	Practice work in specialty		180	18
6	Structure and function of computer units	30	45	7.5
7	Power systems	45	45	9
8	Transmissions systems	45	45	9
9	Theory and network communication systems	30	30	6
10	Operation, maintenance and repair (automobiles)	30	75	10.5
11	Operation, maintenance and repair (motorcycles)	30	60	9
12	Electrical systems	30	45	7.5
13	Automobile diagnostics		90	9
14	Motorcycle diagnostics		60	6
15	Vehicle dynamics	30		3
	Work placement – six months			30
Total		375	825	120
Note	<p>All VET study programmes of post-secondary initial education and training (IEK) have a duration of two years or four semesters (1200 total contact hours) plus six months work placement in industry.</p> <p>The total ECVET points are 150 (2.5 years full time VET), therefore, we use the convention that 10 contact hours provides 1 ECVET credit point, while 30 ECVET points are given to the work placement.</p>			

Source: ECVET Permit project – IIEK DELTA

Example 6: Allocation of ECVET points

4.9. Quality assurance criteria for conversion process

The conversion process of VET study programmes is underpinned by the principles of quality assurance with the involvement of all interested parties in different roles:

VET teachers and curriculum designers undertake to revise the VET study programmes and develop the units.

ECVET experts undertake to ensure the application of ECVET principles and the transparency of the conversion process.

Stakeholders undertake to review the VET study programmes and verify their relevance to the industry.

4.10. Review by ECVET experts

Objective: To ensure that the converted units of learning outcomes fulfil the requirements of ECVET Recommendation.

Review by ECVET experts is recommended to be done on a sample of converted units of learning outcomes.

The review includes a typical check that all the requirements of the ECVET implementation have been met and that the converted units include all the necessary information:

- Unit title
- VET programme title
- Reference of the Unit according to the EQF level
- Reference of the Unit according to the NQF level
- ECVET credit points associated with the Unit
- Learning outcomes contained in the Unit
- The procedures and criteria for assessment of these learning outcomes
- ECVET points associated with the Unit
- The validity in time of the Unit, where relevant

For the qualitative assessment of the converted units, the following quality criteria are proposed:

1. Language used in learning outcomes

- Break down in knowledge, skills, competences
- Use descriptors of National Qualifications Framework and where applicable as references to the European Qualification Framework.
- Use of learning outcomes and instructional objectives
- SMART learning outcomes: **S**tudent-centered, **M**easurable, **A**ction-oriented, **R**esults-driven, **T**ailored to specific programs
- Understandable by teachers / students / stakeholders
- Not too broad / Not too narrow
- Use of strong, clear, concrete verbs such as those found in Bloom's Taxonomy
- Use one verb per one learning outcome.
- Consistency of verb tenses
- Avoid vague language: be familiar with . . . have an understanding of . . . demonstrate knowledge of . . .

2. Link of learning outcomes with teaching methods

The chosen teaching methods are relevant to the expected learning outcomes, e.g. we expect to see lectures, presentations for cognitive skills, laboratory work for manual skills, project work for building competences etc.

3. Link of learning outcomes with assessment methods

The chosen assessment methods are relevant to the expected learning outcomes, e.g. we expect to see tests, oral exams for cognitive skills, observation for manual skills, assignments for competences etc.

4. Quality assurance of assessment methods

Assessment if there is a procedure for reviewing the assessment methods, and if this is adequate for ECVET partnership.

5. Calculation of ECVET points

Assessment, if there is a description of the convention used for the calculation of ECVET points and if this is adequate for ECVET partnership.

In annex 3, you can find the template for the review form of VET programme units, by ECVET experts.

4.11. Review by stakeholders

Objective: To ensure that the converted units of learning outcomes are relevant for the industry.

Review by stakeholders is recommended to be done on a sample of converted units of learning outcomes, by the representatives of the industry, qualification authorities or sector experts. The quality assurance criteria that apply for this type of review are:

- Level of satisfaction of stakeholders with the converted units
- Relevance of the converted units with the national professional qualification
- Relevance of the converted study programme with the industry needs

Review by stakeholders can be done via a questionnaire or during a focus group. In ECVET Permit project, review of the converted VET programmes by stakeholders is one of the core tasks of the NAG.

Chapter 5. Transfer and accumulation of learning outcomes

The transfer and accumulation process includes a preparatory phase, the mobility phase and the follow-up phase. Institutions engaged in ECVET transfer and accumulation have concrete roles and tasks in this process.

Preparatory phase

During the preparatory phase, the ECVET partners will need to decide on the terms and conditions of the ECVET transfer and will develop the necessary documents for the implementation phase.

The partners need to reach an agreement on the overall characteristics of the ECVET transfer (qualifications concerned, units of learning outcomes, assessment methods, documentation of learning outcomes, validation, transfer and accumulation). Institutions involved in an ECVET partnership need to have a good understanding of the qualifications subject of the ECVET transfer as well as of the quality assurance systems in the peer institution, in order to build mutual trust. The overall terms of the ECVET partnership agreement are documented in the Memorandum of Understanding.

Example 7 presents an overall comparison of units of two different institutions, units that are the subject of the ECVET transfer.

MCAST	IIEK DELTA
Title of unit: Electrical technology	Title of unit: Electrotechnology and applications
LO1: Identify the behaviour of simple DC circuits and perform basic calculations on series, parallel and series/parallel DC circuits, applying the correct units.	LO1: Recognise, describe and apply in practice the basic law of electricity.
LO2: Outline the principles of static electricity and apply them in electrical devices such as capacitors and examine the principles of magnets and how these properties are used to develop motor and generator principle.	LO2: Describe the basic methods for passive voltage measurements, volume, resistance and power in low power circuits.
LO3: Identify the effects of applying AC voltage to series circuits including passive electrical components by carrying on calculations including the use of phases diagram.	LO3: Measure electrical quantities, resolve simple DC and AC circuits.

Source: ECVET Permit – MCAST & IIEK DELTA

Example 7: Matching of learning outcomes

At a second stage, the specific arrangements of the mobility are defined and organized. These include the identification of the persons, objectives, duration and expected learning outcomes of the mobility. If the application of ECVET does not involve a transnational mobility, but an organisational mobility, between VET organisations in

the same country, then specific arrangements include the identification of the persons and learning outcomes of the ECVET transfer. At this stage of the preparatory phase, a learning agreement is signed between the involved institutions and the individual learner of each ECVET transfer.

Transnational mobility

During the mobility phase, the learner is engaged in a learning activity in the host country under the terms specified in the Memorandum of Understanding and the Learning Agreement. The learning activity can be attendance of a learning programme of formal or non-formal sector, work placement, volunteering work or other form of informal learning. The acquired learning outcomes of the mobility are assessed by the host institution, using commonly accepted assessment methods.

Following the completion of the learning activity and the assessment of the learner, the Personal Transcript is prepared. In transnational mobilities, the Europass Mobility document is widely accepted as a Personal Transcript.

Organisational mobility

There are cases, where the mobility is not transnational but it is between organisations in the same country. That can be between different VET providers (e.g. a non-formal and a formal VET provider), between a VET provider and an employer, between a VET provider and an NGO etc. In such cases, the learner spends a period in the host organisation, acquires learning outcomes and these learning outcomes are validated, recognized and accumulated towards a qualification. The acquired learning outcomes are recorded in the Personal Transcript.

Follow – up phase

Following the mobility phase, the acquired learning outcomes are validated and recognized by the sending VET institution, based on the assessment and on the completion of the Personal Transcript.

Follow-up phase can also include an evaluation and feedback process of the ECVET transfer, using different methods and tools, such as evaluation questionnaire, interview and debriefing discussion.

5.1. ECVET documents

5.1.1. Memorandum of Understanding

The Memorandum of Understanding (MoU) forms the framework for cooperation between VET organizations, members of an ECVET partnership.

The MoU aims to establish mutual trust between the partners engaged in mobility and/or in validation, transfer, recognition and accumulation of learning outcomes, acquired in a different VET organization. In the Memorandum of Understanding, partner organisations mutually accept their respective criteria and procedures for quality assurance, assessment, validation and recognition of knowledge, skills and competence for the purpose of transferring ECVET credit. The MoU identifies the VET organisations, study programmes and corresponding qualifications. The MoU is valid for one year and it is renewed with consensus of all contracting parties. Annex 4 presents an example of a MoU prepared for ECVET Permit project.

The presented MoU includes as an Annex some elements of the quality assurance framework for the two VET organisations that has been consider critical for building common understanding and mutual trust:

- Review of VET programmes - Description of the reviewing process of the VET programmes in place, how often study programmes are reviewed, who participates in reviewing, who authorises the new programmes and what quality assurance procedures are in place.
- Calculation of ECVET points - Description of the basis for the calculation of ECVET points.
- Calculation of learning hours - Description of the basis for the calculation of total learning hours from the contact hours.
- Assessment methods - Overall description and detailed information of the assessment methods used by each VET organisation.
- Quality assurance of institution - Brief information on the quality assurance system, regarding teaching and students assessment that is relevant for building mutual trust.

5.1.2. Learning Agreement

The Learning Agreement (LA) defines the specific details of each learner mobility (either geographical or organisational mobility): identity of the VET organisations and the learner, the duration of the mobility period, learning outcomes expected to be achieved and the associated ECVET points, agreed method of assessment of learning outcomes. The LA is valid for the specific mobility and it is conducted under the terms of the MoU.

5.1.3 Personal Transcript

The Personal Transcript documents the learning outcomes acquired during ECVET mobility. The Personal Transcript is issued by the hosting VET organization, following acquisition and assessment of the learning outcomes. The personal transcript provides information on the VET programme, the unit(s) achieved and assessed, the acquired learning outcomes, results of the assessment and other details, necessary for the validation of the learning outcomes.

In Annex 5, you can find templates of Personal Transcripts used in ECVET Permit project.

5.1.4. Transfer of units of LOs

During an ECVET mobility, the host VET organisation assesses the learning outcomes achieved and awards credit to the learner. The methods of assessment should be agreed before the mobility in cooperation with the sending VET organisation. The assessment can be of different types, e.g. formative, summative and using different methods. After successful assessment the learning outcomes achieved and the corresponding ECVET points are recorded in the learner's 'personal transcript'.

Based on the Personal Transcript, the sending VET organisation validates the credit as a suitable record of the learner's achievement, and recognises the learning outcomes

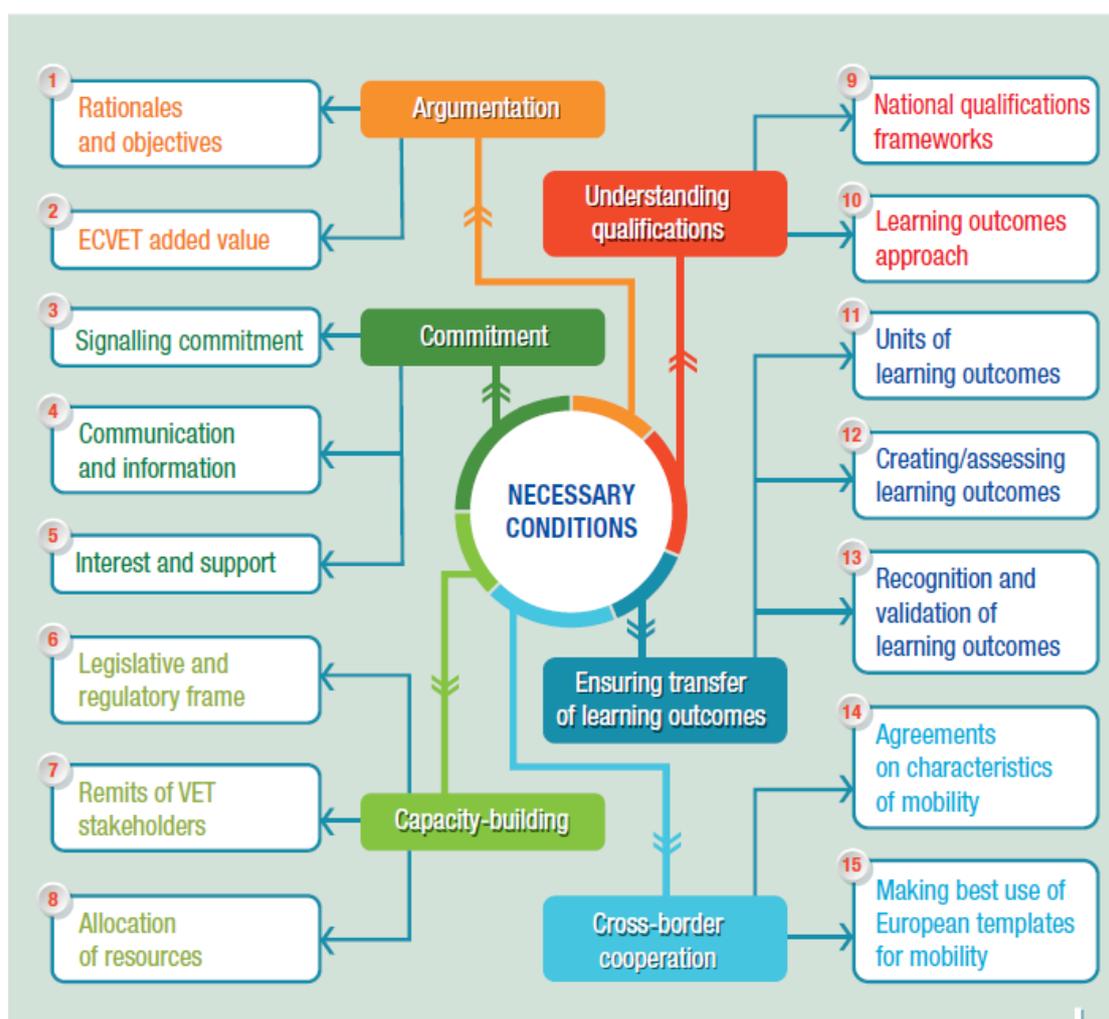
that have been acquired. This recognition gives rise to the award of the units and their corresponding ECVET points, according to the rules of the sending country qualification system.

Validation and recognition by the sending VET organisation depend on the successful assessment of learning outcomes by the host VET organisation, in accordance with the agreed procedures and quality assurance criteria.

Chapter 6. Sharing experiences and recommendations

It would be useful to the reader to mention the challenges that we encountered and how we managed to overpass them (or not). Some challenges may be relevant for other VET providers as they refer to institutional or organisational barriers. Others may refer to the organisational culture and to the dedication and coordinated efforts that ECVET needs from its conception to its actual realisation.

In figure 9, we present the necessary conditions for ECVET implementation, as they are captured by Cedefop. Taking into account these requirements, we provide our own lessons learnt, after having implemented the ECVET Permit project.



Source: Cedefop

Figure 9: Necessary conditions for ECVET implementation

6.1. Lessons learned

The Cypriot team included Intercollege, the Cyprus Productivity Centre and the Human Resource Development Authority (HRDA), working together with professional associations and their learners. The ECVET Permit project was a unique opportunity to establish a common understanding of the value of ECVET methodology as well as

establish tools that will allow them to create a bridge between non-formal and formal VET in Cyprus.

Through their participation in the project, CPC have decided to adapt the ECVET PERMIT methodology for re-engineering their training programmes that will include the following steps:

- Utilize LOs for curriculum development
- Increase clarity in description of Assessment Methods – define knowledge / skills and competencies level
- Program Alignment –Curriculum Matrix – Position vocational programmes in alignment with EQF as well National Qualification standards
- Continuous Alignment with the Industry – Utilise NAGs as well sectoral advisory committees (SAC) for continuously aligning programme to the actual industry needs

IEK DELTA cooperated with different parties, such as professional associations and industry providers in a highly challenging process. DELTA gained a deep understanding regarding the value of the ECVET methodology, as well as practical competences for the technical issues of its implementation.

MCAST had previous experience in ECVET, nevertheless, during this exercise the various constraints that need to be respected while designing/mapping a study programme came into stark view. The fact that a programme needs to be transferable, designed at the correct level, easily validated with concrete assessable learning outcomes requires that programme designers need not only have expertise in the area of study but also skills pertaining to curriculum development.

Having standard templates for programme content helps in getting partners from different institutions to converge on a common programme content while at the same time respecting all the constraints imposed by the mapping process.

6.2. Challenges and Recommendations

In practice, there are different challenges that need to be addressed, so that the VET providers are ready for ECVET transfer:

- A lot of European countries have not concluded their National Qualification Frameworks. Some have developed partial NQFs (e.g. only for VET, or for some levels of EQF), some have included only qualifications of formal learning etc.
- Most NQFs use the learning outcome approach, however not all of them have structured their qualifications in units of learning outcomes ready for ECVET process.
- There are conceptual differences between the different frameworks, in particular in the definition and interpretation of knowledge, skills and competences coming from the different education cultures.
- The units of learning outcomes are not easily comparable, some countries use larger units, some other smaller ones.

ECVET PERMIT has faced a number of challenges since the project began in 2015. The greatest challenge at the start was for all partners to fully understand the ECVET approach and methodology, including the technical specifications and components. In particular, adapting to a learning outcome approach for curriculum development has been challenging especially for VET institutions whose curriculums have been based on an input approach to date.

In addition, in some partner countries (such as Cyprus) the National Qualification Framework (NQF) has not been adapted or fully deployed yet while the mechanism for the validation of non-formal and in-formal learning has not been developed. The project partners found it difficult to implement the ECVET in the absence of the tools and instruments to support and validate the changes. Also the absence of professional qualifications made it more difficult to design units based on learning outcomes. This is why the National Industry Advisory Group was established to ensure that learning outcomes were properly linked to the industry needs.

The lack of ECVET knowledge from industry providers is a challenge in Greece and Cyprus. Partners had to provide background information to the people engaged in the process, especially to the members of the National Advisory Groups. On the other hand, this lack of awareness presents an opportunity for the partners to act as pioneers for the introduction of ECVET.

In Cyprus, the National Qualification Framework will be ready soon and this was a big drawback as the partners did not have a clear mapping of their vocational qualifications. At the moment only Standard Vocational Qualifications (SVQ) exist and there are under pilot testing. CPC's qualifications follow the SVQ, but Intercollege qualifications are of a higher level.

MCAST reported two challenges that hindered the mapping process:

The first is the different job specifications/occupational standards between partner institutions/countries. For example, if a mechanic in one country is expected to be able to fix small to moderate electrical problems while in another country small electrical problems are immediately referred to an electrician, the job specification of a mechanic would differ. This will not necessarily result in the development of programmes at different EQF levels but will potentially drive programme contents apart. This is linked to the second challenge.

The second challenge is that because of such differences, the partners' institutions had to remove/add or combine/split units within their study programmes. These actions are not simple tasks and to be performed correctly requires the involvement and approval of several entities within the respective institutions. Such changes require a concerted effort.

Glossary

‘Qualification’: the formal outcome (certificate, diploma or title) of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards and/or possesses the necessary competence to do a job in a specific area of work.

‘VET programme’: VET Programme refers to a set of structured learning activities, contents and/or methods implemented to achieve specific and stated learning objectives and leading to a certification and after assessment to a qualification.

‘Unit of learning outcomes’: a component of a qualification, consisting of a coherent set of knowledge, skills and competence, that can be assessed and validated

‘Credit for learning outcomes’: a set of learning outcomes of an individual which have been assessed and which can be accumulated towards a qualification or transferred to other learning programmes or qualifications;

‘ECVET points’: a numerical representation of the overall weight of learning outcomes in a qualification and of the relative weight of units in relation to the qualification.

‘Assessment of learning outcomes’: methods and processes used to establish the extent to which a learner has in fact attained particular knowledge, skills and competence;

‘Validation of learning outcomes’: the process of confirming that certain assessed learning outcomes achieved by a learner correspond to specific outcomes which may be required for a unit or a qualification;

‘Recognition of learning outcomes’: the process of attesting officially achieved learning outcomes through the awarding of units or qualifications;

‘Competent institution’: an institution which is responsible for designing and awarding qualifications or recognising units or other functions linked to ECVET, such as allocation of ECVET points to qualifications and units, assessment, validation and recognition of learning outcomes, under the rules and practices of participating countries;

“Learning outcomes are statements of what a learner knows, understand and is able to do on completion of a learning process”

The **open method of coordination (OMC)** in the European Union may be described as a form of ‘soft’ law. It is a form of intergovernmental policy-making that does not result in binding EU legislative measures and it does not require EU countries to introduce or amend their laws. Definition from EUR-Lex

Acronyms

Acronym	
EQF	European Qualification Framework
NQF	National Qualification Framework
ECVET	European Credit transfer system for Vocational Education and Training
MoU	Memorandum of Understanding
LA	Learning Agreement
EM	Europass Mobility
LO	Learning Outcome
VET	Vocational Education and Training
NAG	National Advisory Group

Further reading

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Websites

ECVET toolkit <http://www.ecvet-toolkit.eu/>

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

European ECVET network <http://www.ecvet-secretariat.eu/en>

Cedefop ECVET page <http://www.cedefop.europa.eu/en/events-and-projects/projects/ecvet-european-credit-system-vocational-education-and-training>

Cedefop ECVET publications <http://www.cedefop.europa.eu/en/tags/ecvet>

European Commission ECVET page http://ec.europa.eu/education/policy/vocational-policy/ecvet_en.htm

Annex 1: Curriculum Mapping National Report



CURRICULUM MAPPING WITHIN THE ECVET FRAMEWORK

NATIONAL REPORT

Created by:
Lead Partner:
For ECVET Permit project
Agreement Number:

Veronica Sultana / Joshua Bugeja
MCAST

2014-1-CY01-KA202-000276



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1. Introduction

1.1. Scope of the Report

1.2. Partner's Brief Profile

Notes:

This chapter serves as an introduction to the report. Section 1.1 delves into the extent of the area or subject matter to which this report is relevant.

Section 1.2 should serve as a means to introduce the VET partner.

Any relevant reference material should be added to Appendix 3.

2. Summary of Report

Notes:

Although being the second chapter of the report, it is expected that the summary is to be actually filled in after having completed all other chapters of the report. This should make it easier to summarise, in one page, the contents of this report.

3. The ECVET Framework

3.1. An Overview of ECVET System

3.2. On the Understanding the term Curriculum

Notes:

In our opinion two of the most important terms during this outcome are ECVET and Curriculum. We understand that different VET institutions can (and will) have different definitions and meanings associated with both terms. Here each VET partner has the chance to explain what is meant by the terms ECVET and Curriculum.

We are not only interested in the literal definitions of both terms, but also how these are adopted at the VET partner.

Any relevant reference material should be added to Appendix 3.

4. Description of the National Qualification System

Notes:

This chapter is aimed at providing information about the National Qualification System in use in the country from which the VET partner originates.

If the National Qualification System developed for your country is not yet operational, please also describe the system that is being used and implemented for the scope of this project.

Any relevant reference material should be added to Appendix 3.

5. Current Profiles of 2 Study VET Programmes

5.1. Details for VET Programme 1

Study Programme Title:

Study Programme Code:

Study Programme Description:

Study Programme Details:

Level of Qualification (EQF/NQF)	
Awarding Body	
Duration	
Entry Requirements	
Learning Hours	
Training Methods	
Assessment and Validation Methods	
Career Opportunities	

Structure of the Study Programme

Unit Number	Unit Name

5.2. Details for VET Programme 2

Study Programme Title:

Study Programme Code:

Study Programme Description:

Study Programme Details:

Level of Qualification (EQF/NQF)	
Awarding Body	
Duration	
Entry Requirements	
Learning Hours	
Training Methods	
Assessment and Validation Methods	
Career Opportunities	

Structure of the Study Programme

Unit Number	Unit Name

Notes:

In this chapter you are requested to fill in the details presented for two study programmes as they are implemented at the moment. We understand that this information has been prepared for O1; and in effect this is a summary of the information that was already presented.

Any relevant reference material should be added to Appendix 3.

6. Understanding of Learning Outcomes

6.1. Introducing the Concept of Learning Outcomes

6.2. Understanding and Classification of Different Domains of Learning

6.3. Approach of the Process to Meet the ECVET Framework

Notes:

This chapter is particularly concerned with the notion of learning outcomes and with the meaning of learning outcome as attributed by each VET partner. In fact 6.1 should serve as the place where each VET partner explains the concept of the learning outcome.

Learning is more than just remembering facts. Section 6.2 should serve to describe the different domains of learning as understood and implemented by the VET partners.

Section 6.3 is not only interested in the process up to the point of this report, but the complete conversion process in order to meet the ECVET framework by the end of this project. The idea here is to give an opportunity to the VET partners to go through the mental process of the complete conversion that needs to be followed so that everyone is aware of the final aim to be achieved. You might want to take a look at page 19 of the VET Credit Conversion System Manual for a brief overview.

Any relevant reference material should be added to Appendix 3.

7. Establishing Study Programme Objectives

- 7.1. Description of Occupational Standards / Job Profile for VET Study Programme 1
- 7.2. Description of Occupational Standards / Job Profile for VET Study Programme 2
- 7.3. Mapping Occupational Standards / Job Profile to EQF / NQF to Establish Level for Study Programme 1
- 7.4. Mapping Occupational Standards / Job Profile to EQF / NQF to Establish Level for Study Programme 2
- 7.5. Rationale of the Objectives Identified for Study Programme 1
- 7.6. Rationale of the Objectives Identified for Study Programme 2
- 7.7. Identification of 2 Units

Notes:

Occupational standards play a very important role and need to be respected when developing or designing study programmes. Hence sections 7.1 and 7.2 should be used to describe any occupational standards which govern the area of the Study Programmes selected. When occupational standards do not apply or are not available, a job profile should be built with the help of the NAG.

With the information obtained from the Sections 7.1 and 7.2 the VET partners should now be in position to establish a level for the study programmes. Sections 7.3 and 7.4 should be used to describe the process by which the level for the study programme was established and mapped to the EQF / NQF.

Sections 7.5 and 7.6 should be used to list the set of reasons or logical basis for the objectives identified for both study programmes.

Section 7.7 should name the 2 units which have been selected for further development.

This chapter requires that Appendix 1 (Study Programme 1 Details) and 2 (Study Programme 2 Details) are also filled in with the relevant data.

Any relevant reference material should be added to Appendix 3.

8. Establishing Units Learning Outcomes

8.1. On the Understanding of the terms knowledge, skills and competences

8.2. Methodology for Establishing Learning Outcomes

8.3. Unit 1 Specifications

Study Programme Code:

Study Programme Title:

Unit Code:

Unit Title:

Unit level (EQF/NQF):

Unit description:

Learning Outcomes

On completion of this unit the learner will be able to

1. Learning Outcome 1 (LO1)
2. Learning Outcome 2 (LO2)

Knowledge, Skills & Competences

<i>Competences At the end of the unit the learner will have acquired the responsibility and autonomy to</i>	<i>L01</i>	<i>L02</i>
1.		
2.		
<i>Knowledge At the end of the unit the learner will</i>		
1.		
2.		
3.		
4.		
<i>Skills At the end of the unit the learner will have mastered the following skills</i>		
1.		
2.		

3.		
4.		

8.4. Unit 2 Specifications

Study Programme Code:

Study Programme Title:

Unit Code:

Unit Title:

Unit level (EQF/NQF):

Unit description:

Learning Outcomes

On completion of this unit the learner will be able to

1. Learning Outcome 1 (LO1)
2. Learning Outcome 2 (LO2)

Knowledge, Skills & Competences

<i>Competences At the end of the unit the learner will have acquired the responsibility and autonomy to</i>	<i>L01</i>	<i>L02</i>
3.		
4.		
<i>Knowledge At the end of the unit the learner will</i>		
5.		
6.		
7.		
8.		
<i>Skills At the end of the unit the learner will have mastered the following skills</i>		
5.		
6.		
7.		
8.		

Notes:

For Section 8.1 the VET partners are expected to provide their interpretations of the terms skills, knowledge and competences.

For Section 8.2 it is being expected that the VET partner describes the process that will be followed to write the 3 to 4 learning outcomes required for each unit. The starting point for this exercise should be the current learning outcomes which are already available. As a general reminder, this exercise is akin to the workshops which were conducted during the Cyprus training.

Once the process is described the VET partners can proceed to fill in the tables in 8.3 and 8.4.

9. Lessons Learnt

10. Challenges and Recommendations

11. Acknowledgements

Appendix 1 – Study Programme 1 Details

Study Programme Title:

Study Programme Code:

Study Programme Description:

Study Programme Details:

Awarding Body	
Duration	
Entry Requirements	
Main Objectives of the Study Programme	1. 2. 3. 4.
Learning Hours	
Career Opportunities	

Units Forming Part of the Study Programme:

Unit Number	Unit Name

Appendix 2 – Study Programme 2 Details

Study Programme Title:

Study Programme Code:

Study Programme Description:

Study Programme Details:

Awarding Body	
Duration	
Entry Requirements	
Main Objectives of the Study Programme	1. 2. 3. 4.
Learning Hours	
Career Opportunities	

Units Forming Part of the Study Programme:

Unit Number	Unit Name

Appendix 3 – Supporting Material

Notes:

Each VET provider may add other documents to the appendix of this template, which the VET provider thinks will help the purpose of this Intellectual Output 3.

Annex 2: Unit template



Unit of Learning Outcomes Template

Institution:	
Study Programme/Training Programme Title:	
Unit Title / Code:	
Type of Unit (e.g. major, minor, elective):	
Level of Unit:	
Duration:	
Pre-requisites:	
Instructor:	
Number of ECVET credits:	

Learning Outcomes

By completion of this unit the learner should be able to

1. ..
2. ..
3. ..



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Learning outcomes <i>By the end of this course a learner is expected to:</i>	Method of assessment	KSC Breakdown (Knowledge – Skill - Competence)		Estimated student work time in hours
1.	<ul style="list-style-type: none"> • Mid-term and final exams • Class discussion • Class participation 	K	•	
		S	•	
		C	•	
2.	•	K	•	
		S	•	
		C	•	
3.	•	K	•	
		S	•	
		C	•	
TOTAL				

Explanatory Note:

- K: Knowledge
- S: Skills
- C: Competence

Unit Outline:

1. 1.1. 1.2. 2. 2.1.

Teaching Method:

--

Assessment Methods:

Assessment methods	Description	Assessment criteria	Share to final grade
Write the type of assessment method (e.g. final test, progress test, written assignment etc)	Depending on the type describe the assessment method (e.g. for written assignments estimated length, for exams, duration, type of exercises, etc) Mention the assessment scale (e.g. 1-10, 1-100, abc.. etc) and the pass grade.	Depending on the type of exercise, describe the assessment criteria	What is the share of the assessment in the final students mark? (e.g. final exam 50%, written assignment 50%)

Required books:

Author	Title	Editor	Year	ISBN

Suggested books:

Author	Title	Editor	Year	ISBN

Annex 3: ECVET expert review form



Review form for ECVET experts

Name of ECVET expert:
Name of VET provider:
Title of VET study programme:
Title of the Unit:

Formal criteria

Please assess, whether the ECVET specifications have been met and the following elements are present.

The generic title of the unit	Yes <input type="checkbox"/>	No <input type="checkbox"/>
The generic title of the qualification to which the unit relates	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Reference of the qualification according to the EQF level	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Reference of the qualification according to the NQF level	Yes <input type="checkbox"/>	No <input type="checkbox"/>
ECVET credit points associated with the qualification	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Learning outcomes contained in the unit	Yes <input type="checkbox"/>	No <input type="checkbox"/>
The procedures and criteria for assessment of these learning outcomes	Yes <input type="checkbox"/>	No <input type="checkbox"/>
ECVET points associated with the unit	Yes <input type="checkbox"/>	No <input type="checkbox"/>
The validity in time of the unit, where relevant	Yes <input type="checkbox"/>	No <input type="checkbox"/>

If something is missing please comment



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Qualitative assessment

1. Language used in learning outcomes

- Break down in knowledge, skills, competences
- Use descriptors of National Qualifications Framework and where applicable as references to the European Qualification Framework.
- Use of learning outcomes and instructional objectives
- SMART learning outcomes: **S**tudent-centered, **M**easurable, **A**ction-oriented, **R**esults-driven, **T**ailored to specific programs
- Understandable by teachers / students / stakeholders
- Not too broad / Not too narrow
- Use of strong, clear, concrete verbs such as those found in Bloom's Taxonomy
- Use one verb per one learning outcome.
- Consistency of verb tenses
- Avoid vague language: be familiar with . . . have an understanding of . . . demonstrate knowledge of . . .

2. Link of learning outcomes with teaching methods

The chosen teaching methods are relevant to the expected learning outcomes, e.g. we expect to see lectures, presentations for cognitive skills, laboratory work for manual skills, project work for building competences etc.

3. Link of learning outcomes with assessment methods

The chosen assessment methods are relevant to the expected learning outcomes, e.g. we expect to see tests, oral exams for cognitive skills, observation for manual skills, assignments for competences etc.

4. Quality assurance of assessment methods

Assess if there is a procedure for reviewing the assessment methods, and if this is adequate for ECVET partnership.

5. Calculation of ECVET points

Assess, if there is a description of the convention used for the calculation of ECVET points and if this is adequate for ECVET partnership.

Summary of the review - suggestions for improvement

Annex 4: Memorandum of Understanding



MEMORANDUM OF UNDERSTANDING

Created by:

Natassa Kazantzidou

Lead Partner:

IDEC SA

For ECVET Permit project

Agreement Number:

2014-1-CY01-KA202-000276



Co-funded by the
Erasmus+ Programme
of the European Union

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Agreement number: 2014-1-CY01-KA202-000276

1. Introduction and objectives

The Memorandum of Understanding (MoU) forms the framework for cooperation between VET organizations, partners of the Erasmus+ project ECVET Permit: Permeability between the non-formal and formal vocational and education system.

The project ECVET Permit aims to implement the European Credit System for Vocational Education and Training (ECVET) methodology in the curricula of VET study programmes within the non-formal and formal VET systems, at national and EU level, in an effort to increase the permeability and transferability of the learning outcomes achieved within different learning contexts.

Specifically, the project aims to apply the ECVET methodology for describing, assessing and validating learning outcomes in the VET study programmes of three non-formal technical specializations:

- Electrician
- Plumber
- Automotive mechanic

in order to test the transferability of credits from the non-formal to the formal VET system, firstly within the national borders and secondly on a European level.

The MoU aims to establish mutual trust between the partners engaged in mobility and/or in validation, transfer, recognition and accumulation of learning outcomes, acquired in a different VET organization. In this Memorandum of Understanding, partner organisations mutually accept their respective criteria and procedures for quality assurance, assessment, validation and recognition of knowledge, skills and competence for the purpose of transferring ECVET credit.

2. Identification of organizations signing the MoU

ORGANISATION 1

Country	
Name of VET organization	
Address	
Telephone/fax	
E- mail	
Website	
Contact person	Name: Position:
Telephone/fax	
E-mail	

ORGANISATION 2

Country	
Name of VET organization	
Address	
Telephone/fax	
E- mail	
Website	
Contact person	Name: Position:
Telephone/fax	
E-mail	

3. Information about the qualifications covered by the MoU

ORGANISATION 1

STUDY PROGRAMME 1

Country	
Title of study programme	
EQF level	
NQF level	
Unit(s) of learning outcomes for the transfer	
Annexes	General note on VET programme Unit outline Europass Mobility Template

QUALIFICATION 2

Country	
Title of qualification	
EQF level	
NQF level	
Unit(s) of learning outcomes for the transfer	
Annexes	General note on VET programme Unit outline Europass Mobility Template

4. Assessment validation and recognition of learning outcomes

By signing this Memorandum of Understanding, we confirm that we have discussed the procedures for assessment, documentation, validation and recognition of learning outcomes and have agreed on the terms of credit transfer.

- We accept QA processes
- The units of learning outcomes that are subject of this MoU, have been elaborated during ECVET Permit project, following ECVET principles and guidelines and the methodology developed in our project.
- We have identified the learning outcomes as well as the teaching/learning methods and the assessment methods and criteria that the contracting VET organization uses.
- We have compared the learning outcomes and confirm that we can recognize learning outcomes acquired and assessed by the contracting VET organization.
- We accept each other status as a Competent Institution.
- We accept the assessment methods and criteria, used by the contracting VET organization, as appropriate for the objectives of credit transfer within the frame of ECVET Permit project.

5. Validity of the memorandum of understanding

This Memorandum of Understanding is valid for one year from the date of the signature of the last party.

The Memorandum of Understanding may be reviewed and renewed, by both contracting VET organizations.

6. Signatures

Organisation/ country (use where necessary)	Organisation/ country (use where necessary)
Name, role	Name, role
Place, date	Place, date

Annexes

1. General note on VET programme
2. Unit Outline
3. Europass Mobility Templates

Annex 1: General note on VET programme

Name of VET provider:

Title of VET study programme:

Duration of the study programme:

Total contact hours:

Total learning hours:

Total ECVET points:

Review of study programmes

Please describe if there is a reviewing process of the study programmes in place, how often study programmes are reviewed, who participates in reviewing, who authorises the new programmes and what quality assurance procedures are in place.

Calculation of ECVET points

What is the basis for the calculation of ECVET points? Please provide details on the formula that you have used.

Calculation of learning hours

What is the basis for the calculation of total learning hours from the contact hours? Please provide details on the formula that you have used.

Assessment methods

Please provide an overall description and detailed information of the assessment methods that you use. E.g. formative and summative assessment, how final grades are calculated, how quality of the assessment is ensured, etc.

Quality assurance of institution

Please provide brief information on the quality assurance system of your institution, regarding teaching and students assessment that is relevant for building mutual trust.

--

Annex 5: Personal transcript

