

LIFELONG LEARNING PROGRAMME  
LEONARDO DA VINCI: TRANSFER OF INNOVATION



## WP2: Research and Analysis

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## 1. Aims

The aim of this work package is to compare the VET systems of the countries involved in the one2one project. This research has been devised to show needs and requirements for adapting the ProjectX methodology for each of the participating countries.

VET is organised in various ways from the European point of view. Dual system is often seen as an effective system within VET training students according the real needs of enterprises. On the other hand, majority of VET is given in institutions with minor relations to the world of work. One2one project aims to bring closer the needs of the companies/enterprises to schools and improve pedagogical methodology within VET.

This report aims to:

- describe Finnish VET system
- describe some key points of VET systems of participating countries
- analyze the VET systems

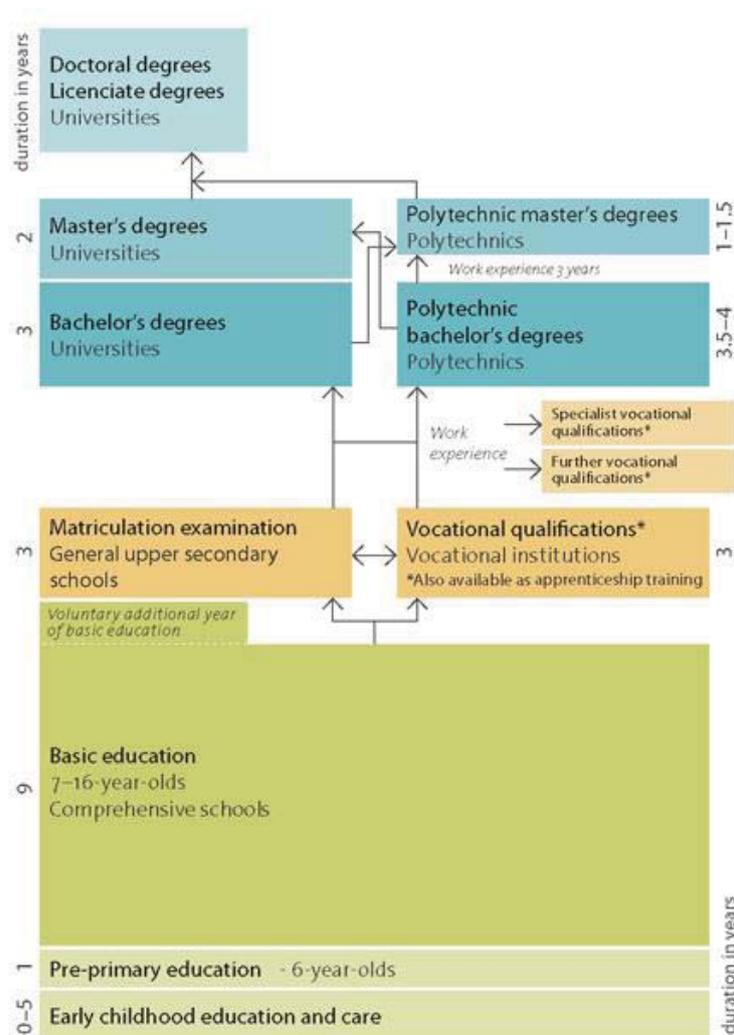
This report has been led by Savon koulutuskuntayhtymä.

## 2. Finnish VET

This chapter will concentrate on Finnish VET system. The main issue of the chapter is to describe IVET organised in institutions.

### 2.1 Finnish VET promotes Lifelong Learning

One of the basic principles in Finnish education is that all people must have equal access to education and training despite of region, age or economic status.



**Figure 1.** Education system in Finland ([http://www.oph.fi/english/education\\_system](http://www.oph.fi/english/education_system))

The aim for the Government is to make Finland the most competent nation in the world by 2020. At present, over 30 per cent of young adults have a higher education degree and some

85 per cent a post-compulsory qualification. Figure 1 presents the Finnish education system. (<http://www.minedu.fi/export/sites/default/OPM/Julkaisut/2012/liitteet/okm03.pdf?lang=fi>.)

The Finnish education system has no dead-ends. Learners can always continue their studies on an upper level of education, whatever choices they make in between. The practice of recognition of prior learning has been developed in order to avoid unnecessary overlapping of studies. Finland has a long history of participation and promotion of adult education. In addition, Finland is proud of highly educated teaching personnel. ([Finnish education in a nutshell](#).)

Vocational education and training is attractive in Finland, 44 % of the relevant age group starts vocational upper secondary studies immediately after basic education. VET comprises initial (IVET) and further training (CVET). Target groups are young people, adults and people in working life needing up skilling or reskilling (15 year ->). Vocational qualifications can be completed in upper secondary VET, apprenticeship training or as competence-based qualifications. (Tammilehto 9.4.2014.)

The majority of young learners complete their upper secondary vocational qualifications at vocational institutions (contact teaching). Competence-based qualifications are usually completed by adults (contact, distance and multiform teaching). VET offers an open pathway to polytechnics (universities of applied sciences) and universities. The biggest fields are technology, communications and transport and social services, health and sports. (Tammilehto 9.4.2014.) Secondary education carries reference to the level 4 in the European Qualification Framework. Specialist vocational qualifications carry reference to the level 5.

### 3.1. Finnish Education Policy

Policy priorities of vocational education and training are, among other things, implementing youth guarantee, developing vocational qualification system, developing more flexible learning pathways, developing guidance and support services, enhancing recognition of prior learning, and enhancing Quality Assurance among VET providers. (Tammilehto 9.4.2014; Kärki 9.4.2014.) See **Figure 2** in the next page.

The Finnish VET system is going through profound changes related to legislation of funding and structure of qualification system. The new acts and decree will come into force in January the 1st 2015 (Vocational Education and Training Act, Vocational education and Training Decree and Act on Financing of the Provision of Education and Culture). Work-based learning will have deeper impact in VET in order to promote employment and correspondent with needs of working life. On-the-job learning periods in IVET has turned out to be successful. Furthermore, education providers are urged to develop and expand work-based learning, e.g. combining

education in institutions and apprenticeship training within IVET. (Rasku 16.1.2014.)

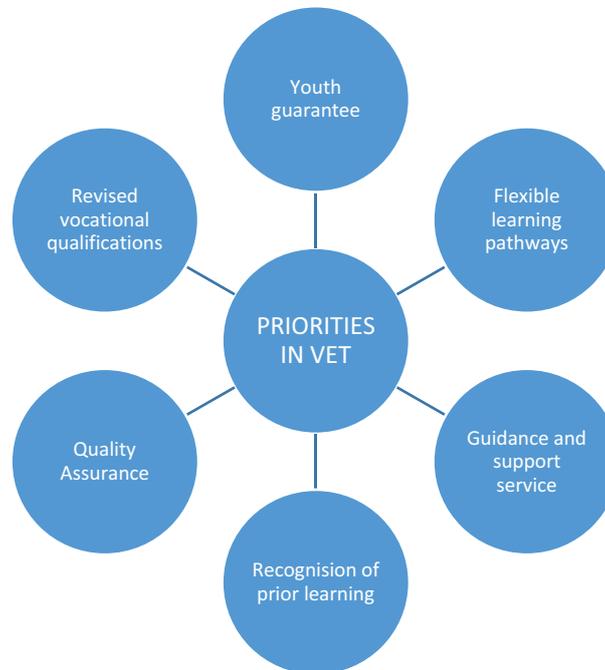


Figure 2. Education policy priorities within Finnish VET

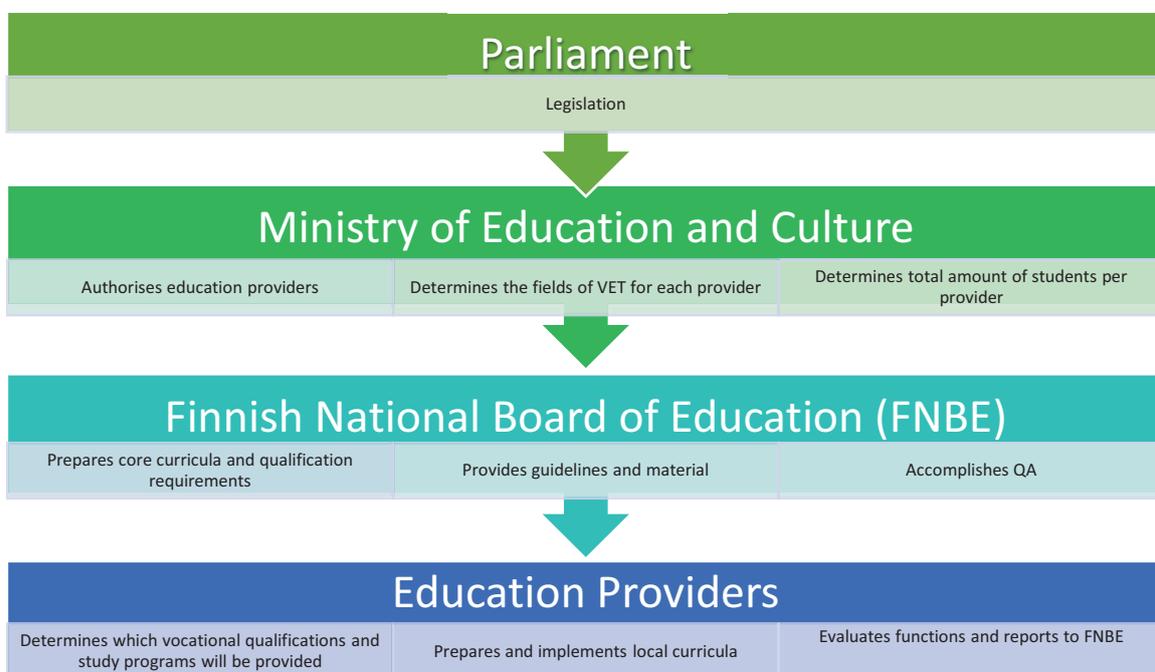


Figure 3. Decision making within VET

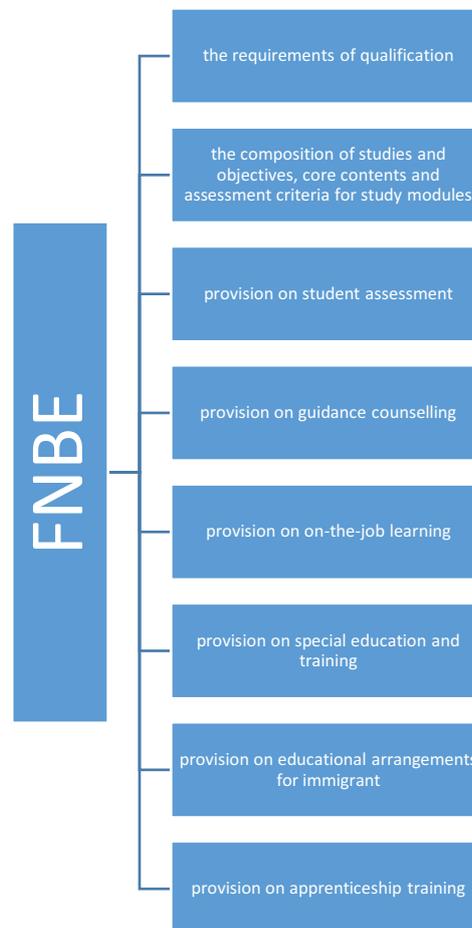
The Ministry of Education and Culture grants authorisations to provide education to education providers, determining the fields in which they are allowed to organise education and training and their total student numbers. The education providers determine which vocational qualifications and which study programs within the relevant fields of education will be organised at their vocational institutions. A provider of vocational education and training (VET) may be a local authority, a municipal training consortium, a foundation or other registered association, or a state-owned company. There are close to 150 VET providers in total.

According to the [Development Plan for Education and Research 2011–2016](#), the Government aims to intensify the network of VET providers. To enhance the service capacity of the network of VET providers in accordance with the vocational institution strategy, providers will be merged into regional or otherwise strong VET providers, whose operations cover all vocational education and training services and development activities. Consequently, larger entities can offer enough vocational modules to ensure that learners can individualise their qualifications and choose studies that match changing learning needs. The institutions will cover all levels and forms of VET (adult education as a limited company).

### 3.2. Curriculum

The curriculum system of VET consists of the requirements of qualifications; each education provider's locally approved curricula and the student's personal study plan. The Finnish National Board of Education (FNBE) decides on the requirements of qualification (Curriculum) for each vocational qualification, determining the composition of studies and objectives, core contents and assessment criteria for study modules. It also includes provisions on student assessment, guidance counselling, on-the-job learning, special education and training, educational arrangements for immigrants and apprenticeship training. The content of local curricula is also defined in the National Core Curricula. The provisions are common to all vocational qualifications. (Eurypedia, Teaching and Learning in Vocational and Technical Upper Secondary Education.)

The Requirements of Qualification (Curriculum) are drawn up by the FNBE in co-operation with employers' organisations, trade unions, the Trade Union of Education and student unions. They are dealt with by Education and Training Committees, which are tripartite bodies established for each occupational field by the Ministry of Education and Culture for a term of three years at a time to plan and develop vocational education and training. Local curricula and students' individual study plans must follow the relevant requirements of qualification. Local tripartite bodies as well as other representatives of the world of work take part in the curriculum work as advisers and consultants. Local curricula are approved by the boards of education providers. (Eurypedia, Teaching and Learning in Vocational and Technical Upper Secondary Education.)



**Figure 4.** Regulations for local curricula by FNBE

The new revised national requirements of vocational qualifications will come into force in August 2015. The requirements of qualifications constitute a legal norm for educational institutions. In addition, the requirements of qualifications must also function as the basis for evaluation of national learning outcomes.

There are 52 upper secondary vocational qualifications including a total of 120 different specializations. At the same time the national education classification will be revised to correspondent the ISCED system. The EQF/NQF level is 4 in IVET. (Rasku 16.1.2014.)

The vocational qualifications are divided to the following sectors: Culture, Humanities and Education, Natural Resources and the Environment, Natural Sciences, Social Sciences, Business and Administration, Social Services, Health and Sport, Technology, Communication and Transport, and Tourism, Catering and Domestic Services. ([http://www.oph.fi/english/curricula\\_and\\_qualifications/vocational\\_upper\\_secondary\\_education](http://www.oph.fi/english/curricula_and_qualifications/vocational_upper_secondary_education).)

The revised requirements of all qualifications stress, for example, that student (Rasku 16.1.2014.)

- is responsible for his/her work
- works safely for his/her own, customers and work environment sake
- works as an entrepreneurship way and has competencies and skills to work as an entrepreneur
- works according to ethical and occupational principles
- follows procedures according to sustainability
- assesses his/her competence and develop him-/herself and his/her way of working
- shares his/her skills with others
- maintains his/her skills and working ability
- works with different people in co-operation and networks, as well as in multicultural working environments.

According to the development plan 2011-2016, VET must offer a broad skills basis to students, enabling them to work in varying tasks. These skills should also be such that they can be transferred from one workplace to another and form a basis for lifelong learning. Upper secondary qualifications are developed so that they flexibly support the transition to the labour market and improve the updating of the skills of the adult population.

The flexibility of the vocational qualifications is further enhanced by increasing opportunities to choose elements from other specialisations, vocational qualifications (incl. further vocational qualifications and specialist vocational qualifications) or polytechnic degrees. Furthermore, it is meant to give education providers an opportunity to meet the demands of the regional and local world of work more effectively.

Each requirements of qualification is drawn up in such a manner that the qualification will provide extensive basic vocational skills for the various assignments in the field and more specialised competence and the vocational skills required by the world of work in one sector of the qualification.

(<http://www.minedu.fi/export/sites/default/OPM/Julkaisut/2012/liitteet/okm03.pdf?lang=fi>.)

The revised curriculum comprises 180 competence points based on ECVET points instead of credits (study weeks). Curriculum includes (Rasku 16.1.2014):

- vocational studies and on-the-job learning, which vary according to the qualification (135 competence points)
- core subjects, common to all qualifications (35 competence points out of which 19 are compulsory and 16 are optional) comprising
  - Communication and interaction competence



- Mathematics and natural science competence
- Community and working life competence
- Social and cultural competence
- free-choice studies (10 competence points), which may include e.g. appropriate work experience, vocationally complementary courses or core subjects

**Table 1.** An Example of a Vocational Qualification

Vocational qualification in metalwork and machinery, specialisation in manufacturing technology, upper secondary qualification, 180 competence points (cpts)	
Vocational modules 135 competence points, Specialisation in manufacturing technology, machinist	The modules include a minimum of 35 cpts of on-the-job-learning, a minimum of 8 cpts of entrepreneurship
Compulsory modules 75 competence points	Fundamentals of installation and automation (10 cpts) Fundamentals of machining (10 cpts) Fundamentals of plate work and welding (10 cpts) Machining (45 cpts)
Optional modules 60 competence points	e.g. Manual machining (15 cpts) / Precision mechanical CNC machining (15 cpts) / Precision machining (15 cpts) / IW welding (15 cpts)
Core subjects 35 competence points	
Compulsory modules for all 19 competence points	Incl. e.g. mother tongue, foreign languages, mathematics, social studies, health education
Optional modules 16 competence points	Incl. e.g. environmental studies, ethics, IT, psychology
Free-choice modules 10 competence points	
Free-choice modules can be vocational studies in one's own or other vocational fields, or core subjects, general upper secondary studies or studies preparing for the matriculation examination or further studies, work experience or guided interests, which support the general and vocational objectives of education and training and the growth of the student's personality.	



The National Core Curricula governing different upper secondary vocational qualifications determine the key lifelong learning skills, which are included in the vocational skills requirements set for vocational modules and core subjects. These key lifelong learning skills include learning and problem-solving, interaction and co-operation, vocational ethics, health, safety and ability to function, initiative and entrepreneurship, sustainable development, aesthetics, communication and media skills, mathematics and natural sciences, technology and information technology as well as active citizenship and different cultures. The vocational skills are defined as functional areas in the world of work. (Eurypedia, Teaching and Learning in Vocational and Technical Upper Secondary Education.)

Prior learning acquired in training, working life or other learning environments has to be recognised as part of the qualification. Vocational studies include guidance counselling. (Eurypedia, Teaching and Learning in Vocational and Technical Upper Secondary Education.)

The education includes a period of on-the-job learning, during which students familiarise themselves with practical assignments required in the occupation and achieve the core objectives of the occupation as laid down in the curriculum. All 180-competence point upper secondary vocational qualifications include a period of on-the-job learning with a minimum scope of 35 competence points. One of the aims of on-the-job learning is to enhance young people's employment opportunities. (Eurypedia, Teaching and Learning in Vocational and Technical Upper Secondary Education.)

On programs leading to upper secondary vocational qualifications, students' learning and its development as well as the competence acquired as a result of learning are assessed throughout the period of study. Assessment always involves students' individual self-assessment. (Eurypedia, Teaching and Learning in Vocational and Technical Upper Secondary Education.)

Students' learning and competence are always assessed in terms of the vocational skills requirements and assessment criteria determined within the relevant requirements of qualification (curriculum). Students' learning is assessed by giving verbal or written feedback on the progress of their studies. Assessment of competence forms the basis for awarding grades for all qualification modules on students' certificates, using the following three-step grading scale: Satisfactory 1, Good 2, and Excellent 3. Free-choice studies may, with the consent of the student, be given a pass mark without indicating a grade. (Eurypedia, Teaching and Learning in Vocational and Technical Upper Secondary Education.)

In vocational qualification modules, competence is assessed by means of vocational skills demonstrations, which entail performing work assignments relevant to the vocational skills requirements in the most authentic settings possible. Vocational skills demonstrations were introduced as a way of assessment as from August 2006 and they will mostly take place



during periods of on-the-job learning either at workplaces or at vocational institutions. Where necessary, other assessment methods are used to supplement vocational skills demonstrations. Skills demonstrations are designed, implemented and assessed in co-operation with representatives of the world of work within the framework of the requirements of qualification. (Eurypedia, Teaching and Learning in Vocational and Technical Upper Secondary Education.)

Assessment is conducted by the teachers and, for on-the-job learning periods and vocational skills demonstrations, the teacher in charge of the period or demonstration together with the on-the-job instructor, workplace instructor appointed by the employer or the demonstration supervisor. The assessment must guide and motivate the students as well as develop their abilities in self-assessment. (Eurypedia, Teaching and Learning in Vocational and Technical Upper Secondary Education.)

Once students have completed all modules included in a qualification to an acceptable standard, they receive a qualification certificate, which consists of a vocational upper secondary certificate and a certificate of skills demonstrations. The certificate of skills demonstrations includes information on the vocational skills demonstrations taken and the grades awarded for these, while the vocational upper secondary certificate covers the qualification modules and their grades. (Eurypedia, Teaching and Learning in Vocational and Technical Upper Secondary Education.)

### 3. IVET systems in countries involved with One2one project

Description of educational systems in participating countries Finland, France, Portugal, Romania, Spain, Turkey, and UK is based on following key elements:

- legislation and policy related to the curricula
- correspondence to the European Qualification Framework (EQF)
- flexibility of VET
- assessment

Additionally, these elements comprise requirements adapting ProjectX as a working method.

#### 3.1 Provision of IVET

In general, IVET is organised either in institutions or as apprenticeship training. **Dual** system, accomplished e.g. in Germany and Denmark, has often been seen as a favourable way to produce skilful work force to labour market.

In Finland, France, Portugal, Spain, Turkey, and UK the educational systems comprise apprenticeship training providing a qualification certificate. In Finland, apprenticeship trainees get approximately 75 % of full-time salary. Government supports the companies providing apprenticeship contracts by giving subsidiary for wages and guidance. In France, Portugal, Spain, and UK, the apprenticeship trainees attend to lessons at college one or two days a week. The student may get salary. Apprenticeship training is under construction in Romania. In Turkey, apprenticeship training is delivered as so called non-formal training.

**Institutional** system is a traditional way to accomplish IVET in Finland. The student attends to theoretical lessons and workshops at college and compulsory 20-week on-the-job learning periods at companies.

Formal VET in **UK** is organised within several national qualifications frameworks related to VET: QCF in England and Northern Ireland, CQFW in Wales, SCQF in Scotland. The NQF includes qualifications that are available in parallel with QCF/CQFW. Some of the qualifications can be found in on the NQF. The young people are required to take part in training or education. VET is available as school-based programmes, broad vocational programmes and specialist occupational programmes. There is an upward trend in numbers of apprenticeships in the UK. Within the UK, VET qualifications are designed and delivered according to local, regional and national priorities and labour market information received.

Another factor encouraging delivery is the level of funding attached to courses which are sometimes weighted to encourage providers to deliver the types of programmes required.



The main agencies providing labour market information are the Confederation of British Industry (CBI), Local Enterprise Partnerships (LEP), Chambers of Commerce, and Local Government.

The UK Government has a range of initiatives aimed at raising participation particularly the 'Study Programme' for 16-18 year olds, requiring VET providers to deliver vocational qualifications combined with English, Mathematics and employability skills up to 600 hours per annum to make learners more work-ready.

In **France** young unemployment is increasing, particularly among young with secondary education. Higher education guarantees a work place better: even within the CVT, training goes to the trained. Qualifications are awarded by several ministries apart from Finnish system. The majority of secondary pupil are educated in state schools. Vocational education is organised either as full-time education or as apprenticeship training. Approximately 23 % of population was educated in initial and training system year 2010.

In France, the training market is free; this means that training bodies have no obligation to make public the way they construct their courses and/or qualifications. Nevertheless, in 2011, the RNCP (see § 3.3) had 6920 qualifications, of which 4529 (those created by the State) were legally registered and 2931 were self-registered. (Report to the Prime Minister. CNCP. 2011.)

The **Portuguese** vocational education system is very similar to Finnish. There is a separate path for arts. After completed nine-year basic education, the student can choose either science and humanistic path or vocational path. Finished his/her studies, the student is awarded by educational and vocational certification.

In **Spain** they have three different ways for Vocational Training. Initial Vocational Training, Continuous Training and Occupational Training

- **Initial Vocational Training** is ruled by a specific law, passed in 1990. This law structures vocational training in two cycles, Middle Level (2 years) and Upper Level (2 years) of VET. Access to Middle Level is after passing compulsory education and to Upper Level after Baccalaureate or Middle Level of VET. In 2014 there has been a new law which has introduced the Low Level of VET that takes place in the two last years of the Secondary School. At the same time it has been approved The Dual System of Vocational Training: 2014 is the first year to apply this new system.
- **Continuous Training** may be an initiative of the companies or of the individuals. In both cases, in Spain, they can count on the financial and organizational support of the Government which administer funds for the "Vocational Training Quota" (0,7 % of the total wages bill). Unfortunately the participation of the Spanish companies in Continuous Training in 1999 was only 33,6 %.



- **Occupational Training** is aimed to adult people: its objective is to foster the professional insertion and reinsertion of the individuals seeking work, with special attention to those groups with greater difficulties. As regard the age, over 75 % of those that followed these courses were less than 35 years old, which means a great concentration in younger ages. As regards the level of studies of the users of this training, it is quite diverse, and although the weight of the lower levels is very high (close to a half), it also includes some students with baccalaureate and university levels.

During communist era in **Romania**, tertiary vocational education has been encouraged. Profound reforms related to the vocational education system started in the beginning of 2000. Vocational secondary education is provided at e.g. technological high schools. The program lasts two years. After graduating a technological path, and having completed a practical training, the student has got a possibility of taking a certification exam for the qualification associated to the certification level established through the NQF. Practical training can be done in the educational units or in the public institutions or in enterprises.

The secondary education in Turkey is divided in two categories: general secondary education and vocational–technical secondary education. Secondary education lasts minimum 4 years including 9th and 12th grades and covers ages between 14-17 years. The vocational and technical education system has two paths: theoretical (school training) and practical (in-company training).

### 3.2 Curriculum

All participating countries have a national level regulation related to curricula. Regional curricula are used in Spain in order to correspond regional requirements. Local curricula are used in Finland.

**Table 2.** Regulation and decision making within IVET

Country	National level	Regional level	Local level
Finland	Ministry of Education and Culture: policy, legislation funding FNBE: core curricula qualification requirements assessment, objectives etc.		Local curricula: Operative actions considering needs of local companies



Country	National level	Regional level	Local level
France	Government: general goals + curricula , funding, assessments		Engineering colleges deliver their own diplomas validated by the Ministry of Education. Hence equivalent ratings if students want to pursue their studies at university or do further studies in another College
Portugal	National Agency for Professional Training and Education Ministry of Education Ministry of Labour		
Romania	Ministry of Education: - general directions - 80 % of curricula in technical pre-university education		Technical pre-university education: 20 % of curricula decided by the college and local companies
Spain	Ministry of Education / Ministry of Employment: units of competencies number of hours some assessment criteria	Spanish regions complement compulsory contents -> adapt the qualification to the needs of the local labour market	In Dual System, schools can agree with the Company half of the final curricula
Turkey	Ministry of Education prepares the curricula The Supreme Council of National Education: discusses and decides on curricula and regulations Consortium of Experts school types, the core departments, branches objectives, contents, assessment, modular books		
UK (England & Wales)	Labour Market Information types of programs SFA and EFA national requirements funding (SFA 19+; EFA 16- 18)	Labour Market Information types of programs	Labour Market Information types of programs

### 3.3. Correspondence to EQF

The European Qualifications Framework for lifelong learning (EQF) provides a common reference framework which assists in comparing the national qualifications systems, frameworks and their levels. It serves as a translation device to make qualifications more readable and understandable across different countries and systems in Europe, and thus promote lifelong and life-wide learning, and the mobility of European citizens whether for studying or working abroad. ([http://ec.europa.eu/eqf/home\\_en.htm](http://ec.europa.eu/eqf/home_en.htm))

Point of reference is Finnish initial vocational qualification corresponding the level 4 in EQF (see table 3 below). Comparison between the National Finnish Qualifications Framework and EQF is made by FNBE. Most of the graduating students achieve the required level.

**Table 3.** Level 4 in EQF ([http://ec.europa.eu/eqf/compare/eqf\\_en.htm](http://ec.europa.eu/eqf/compare/eqf_en.htm))

<b>European Qualification Framework Level 4</b>	
	The learning outcomes relevant to EQF Level 4 are
<b>Knowledge</b> In the context of EQF, knowledge is described as theoretical and/or factual	Factual and theoretical knowledge in broad contexts within a field of work or study
<b>Skills</b> In the context of EQF, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments)	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study
<b>Competences</b> In the context of EQF, competence is described in terms of responsibility and autonomy	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

Correspondence of initial vocational qualifications to European Qualifications Framework (EQF) on the level 4 is described below in Table 4.

**Table 4.** National Initial Vocational Qualifications and EQF level 4

France	Portugal	Romania	Spain	Turkey	UK
4 BP and BT	4 All vocational qualifications	3	4 Some Vocational Qualifications of Higher Level	4	3 NQV and QCF

### 3.4. Structure of an initial vocational qualification

In this chapter some issues (see Table 5 below) related to structure of a curricula and initial vocational qualifications are described.

**Table 5** Overview of the Structure of NQF of participants' countries

Country	Hours	Competencies	Modularity	Practical training
Finland <sup>1</sup>	Based on competencies instead of hours or credits from 1 <sup>st</sup> of January 2015	Described as Learning Outcomes Assessed as competence points in skills demonstrations	Curricula are modular enhancing individual learning pathways	Compulsory and guided practical training in enterprises (minimum 30 competence points)
France	34 hours a week 670 hours vocational subjects	Based on professional skills needed in the world of work	-	School-based program: 6 weeks / year within companies
Portugal	Based on teaching hours	Described as Learning Outcomes	Curricula can be adapted to the needs of local companies Two pathways depending on the students profile	25 %
Romania	30 lessons / week	8 general learning outcomes and study sector specified outcomes	Different pathways exist	Technical education: 3 weeks / year  Professional education: 1 <sup>st</sup> year 6 weeks 2 <sup>nd</sup> year 20 weeks

<sup>1</sup> School-based system

Country	Hours	Competencies	Modularity	Practical training
Spain	Learning Modules include the necessary learning to acquire that competence unit, the assessment criteria and the number of hours for that competence unit defined by Ministry of Education	Competence units (the minimum set of professional competence) which are linked to learning modules Assessed in exams and skills demonstrations	Flexible: Alternative pathways Distance courses	School-based: 12 weeks  Dual system: 33-50 %
Turkey	Hours designed by the MoNE	Competence based and modular	The Consortium of experts decides the school types and the core departments and the branches under it. Each school has to apply the modular system.	Dual system: 12th grade students 3 days/week apprenticeship. The students in Technical High School 320 hours in summer holiday.
UK	Credit based / hours and competencies	Skills based	Programmes are unitized and may be transferred between partners. According to local arrangements student can study individual aspects.	Apprenticeships: 4 days/week (age 16-18) full-time or part-time studies (age 19+), some on day release from work



### 3.5. Assessment

In this chapter we make an overview of assessment, using information provided by partners.

**Table 6.** Overview of Assessment in participants' countries

Country	Key elements of assessment	Institutions assessing LO's
Finland	Skills-demonstrations (theoretical/practical)	College (teacher)  In skills-demonstration teacher / student / (representant of company)
France	Skill demonstrations (theoretical and practical + oral presentation of their industrial project)	The Ministry of Education after an agreement from both technical teachers and professionals of the dedicated field.
Portugal	<p>Early in the process interviews and psychometric tests are performed</p> <p>Assessment of modules is done through a formal written assessment and practical simulations (offered by companies).</p> <p>In the workplace the student is assessed according to the evaluation model proposed by the school (skills development) and the company submits a report on the tasks performed.</p>	<p>The theoretical evaluation is the responsibility of teachers.</p> <p>The practical assessment is made by a board composed of teachers, representatives of business and specialist technical area.</p> <p>The recognition of certification is made by the ministry of education and the business sector entities.</p>

Country	Key elements of assessment	Institutions assessing LO's
Romania	<p>Through exams for certification of learning outcomes in different levels:</p> <ol style="list-style-type: none"> <li>1. Only practice examination</li> <li>2. Practice examination + graduation project</li> <li>3. Only graduation project – at high school graduation</li> </ol>	<p>Commission established centralized, for each county of Romania. In this commission takes part:</p> <p>A person from the school. This person is teaching practice program. He/she does not have a university degree.</p> <p>An evaluator teacher from a different school named by the local representative of the Ministry of Education</p> <p>A specialist from a company or the local Employment Agency as vice-president</p> <p>The president of the commission is a teacher of the school named by the county Educational Department. Also it is named a teacher from a different school to monitor the correctness of procedures application.</p> <p>The schools could be authorized or accredited by a national evaluation agency ARACIP. If the school is only authorized, the graduation exam should be organized in a different accredited school.</p>
Spain	<p>In Spain Assessment and validation of formal learning are competences of accredited educational centres.</p> <p>Each centre defines the types of evaluations, usually are exams and skills-demonstrations (theoretical/practical)</p>	<p>Accredited education centres are the only ones who can validate Learning Outcomes</p> <p>Recognition of learning outcomes are competence only of national bodies:</p> <p>The Ministry of Education, Culture and Sports (central government) is the awarding body for VET qualifications (Formal Learning)</p> <p>The Ministry of Employment is the awarding body for Certificates of Professional Standards (Informal Learning)</p>

Country	Key elements of assessment	Institutions assessing LO's
Turkey	The assessment is made both theoretical and practical.	Students' success is evaluated by their written exams and their practical skills at school and also their performance is evaluated by the responsible masters at the company during their apprenticeship
UK	Skill based assessment, with English and Mathematics integrated.	Awarding bodies, teachers, verifiers and assessors, including 'On the Job' assessors



## 4. Conclusion

### 4.1 Possibilities

ProjectX as a working method is applicable in the Finnish IVET and in all the schools participating in the One2One Project. European Education Policy promotes work-based learning methods and close co-operation with the world of work within VET. Furthermore, modular structure of curriculum enhances projectX's.

ProjectX could be one assignment within a module. One module comprises a set of projectX's which accomplish objectives and core content of requirements of qualification. Acquired competence of a module will be assessed and assimilated to certificate.

The IVET "reform" stipulates a new teacherhood. In the future teachers are encouraged to teach and guide students at work places in order to combine theory and practice. This may lead to a real cooperation with companies bringing the needs of the world of work closer to IVET.

In addition, individual study plan is more and more important tool in study guidance. Each and every student has possibility to create his/her own individual study pathway. Individual learning styles has to be taken into account, as well. From this point of view ProjectX enhances individual way of learning. Only competence matters; student can proceed in his/her individual rhythm. Furthermore, One2one project gives a qualified way for student to gain international work experience.

### 4.2 Threads

Metal industry is market-sensitive branch in Northern Savo region. Enterprises have shown minor interest to cooperation with Savo Vocational College according to educational experiments so far. Therefore, the goal set by Ministry of Education and Culture, to accomplish half of the education in cooperation with the world of work might be overoptimistic.

As an education provider, Savo Vocational College is afraid of that enterprises are not willing to give their contribution to education. It has been difficult to find qualified work placement for on-the-job learning periods with educated instructor for own students not to mention international students. There are several enterprises offering simple/narrow tasks not providing enough practice for all fields of metal work. In companies, internationalisation is seen a duty of marketing department. In addition, the new funding legislation may cause problems in the beginning. The implementation of funding of accomplished and assessed modules is not entirely clear.

### 4.3 Analysis and questions

In Finland, VET providers are forced to evaluate their provision and effectiveness regularly. VET providers need to reflect their operations regarding to employment of graduates, cooperation with world of work, qualifications of teaching staff among other things. Unemployment among young people is a matter of concerning several European countries. Education and training programs are seen as one solution to provide young people better opportunities to employ themselves. In some countries, such in Romania and Estonia, highly educated young people seek job opportunities abroad.

Vocational qualifications in participating countries comprise, more or less, work-based learning methods. In Finland, since 1996 VET providers have trained work place instructors to guide, support and assess students at the workplaces. Skills demonstrations assure quality of education between regions. We recommend participating countries to examine accomplishment of Finnish skills demonstrations. Apprenticeship programs are available, and increasing number of apprentices may require economical support from governments. At its best an apprenticeship program could be a win-win situation between the company and the student.

As conclusion: The One2One Project can be carried out even if there are differences in education and training systems.

How to avoid "brain leak"?

How projectX will improve quality of education in technological study fields?

Does cooperation between education providers and enterprises work under poor economic situation?

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## ANNEX Glossary

**Assessment of Learning outcomes:** Process of appraising knowledge, know-how, learning outcomes skills and/or competences of an individual against predefined criteria (learning expectations, measurement of learning outcomes). Assessment is typically followed by **validation** and **certification**.

Comment: In the literature, assessment generally refers to appraisal of individuals whereas evaluation is more frequently used to describe appraisal of education and training methods or providers. Source: Cedefop, 2008c.

**Validation of Learning Outcomes:** Confirmation by a competent body that learning outcomes (knowledge, skills and/or competences) acquired by an individual in a formal, non-formal or informal setting have been assessed against predefined criteria and are compliant with the requirements of a validation standard. Validation typically leads to certification. Source: Cedefop, 2008c.

**Recognition of learning outcomes:** (a) **Formal recognition:** the process of granting official status to skills and competences either through the: **award of qualifications** (certificates, diploma or titles); or grant of equivalence, credit units or waivers, validation of gained skills and/or competences; and/or (b) **social recognition:** the acknowledgement of the value of skills and/or competences by economic and social stakeholders.

**Certification of learning outcomes:** Process of **issuing a certificate**, diploma or title formally attesting that a set of learning outcomes (knowledge, know-how, skills and /or competences) acquired by an individual have been assessed and validated by a competent body against a predefined standard.

Comment: certification may validate the outcome of learning acquired in formal, non-formal or informal settings. Source: Cedefop, 2008c

**Awarding Body:** A body issuing qualifications (certificates, diplomas or titles) formally recognising the learning outcomes (knowledge, skills and/or competences) of an individual, following a assessment and validation procedure

**Formal Learning:** Learning that occurs in an organised and structured environment (in an education or training institution or on the job) and is explicitly designated as learning (in terms of objectives, time or resources). Formal learning is intentional from the learner's point of view. It typically leads to validation and certification. Source: Cedefop, 2008c.

**Informal Learning:** Learning resulting from daily activities related to work, family or leisure. It is not organised or structured in terms of objectives, time or learning support. Informal learning



is in most cases unintentional from the learner's perspective. Comments:

- informal learning outcomes do not usually lead to certification but may be validated and certified in the framework of recognition of prior learning schemes;
- Informal learning is also referred to as experiential or incidental/random learning. Source: Cedefop, 2008c.

**Non Formal Learning:** Learning which is embedded in planned activities not explicitly designated as learning (in terms of learning objectives, learning time or learning support). Non-formal learning is intentional from the learner's point of view. Comments:

- non-formal learning outcomes may be validated and lead to certification;
- on-formal learning is sometimes described as semi-structured learning. Source: Cedefop, 2008c