Universität Bremen*

INSTITUT TECHNIK UND BILDUNG

Design options for integrated learning opportunities and bridging programs

(Synthesis Report - Part II)

P4LLL-tec

Country Reports on expert interviews in all partner countries

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The Case of Germany

Summary

The Interviews conducted in Germany refer to the two major subjects of study, namely integrated learning opportunities and bridging programmes. Interviews involved program managers or coordinators and deans of studies at universities of applied sciences or program coordinators at a vocational college and in a training providing company. They also included an interview with a union representative, who was able to refer to three major initiatives on lifelong learning supported by the union of metal workers.

Dual study programmes, combining vocational education and training on the one hand and a tertiary education on the other are becoming more and more popular in Germany. Such programs leading to a bachelor degree differ and include or build on a prior vocational education. In the cases described by the interview partners, the programs were initiated by the industry or by one major employer. All cases examined were small-scale solutions that responded to a local situation and not reaching more than 25 learners per year. Compared to traditional study opportunities, the program offers had been judged as very successful, notably because the rate of failure was very low or practically zero despite the fact that the challenge to be enrolled in two educational programs at the same time can be considered as high compared to a regular program (bachelor or VET). In all programs described, the employers were the ones responsible for selecting the candidates enrolled in the respective double qualifying programs. The close linkage to practical training providers, who also counted for a possible future employer, was seen as an advantage for students and employers. In all cases however, it was possible to conclude, that the programs itself were not to lead to a greater attractiveness of dual VET, since this part of the educational program was looked at as the inferior one.

The same observation could be made for the bridging programs looked at in the course of the interviews in question. The benefit of these programs was seen in a very smooth transfer from one educational step to the next, or: from CVET program to a bachelor degree. Here, the biggest advantage was seen in the extensive recognition of vocational learning outcomes on a bachelor program. Both learning opportunities were strongly regionalised, i.e. they did only function as a cooperation scheme between partners who were acting according to specific agreements and a curriculum in the part of the CVET training that was almost identical to what was subject of the first four semesters at a University of Applied Sciences.

The efforts to manage the programs in questions were often seen as a challenge, especially where many different partners were involved. This refers for example to study opportunities with integrated vocational education offered in different vocations trained, because in such cases more than one vocational school needed to be involved and training schedules to be adapted to the different places of learning.

LLL programs described in the interview with the German union of metal workers cannot directly be compared to the learning opportunities in dual study courses or bridging programs. They address LLL opportunities of either (low) skilled workers, students in a third chance education or aim at general

improve in legislation on vocational training in one specific occupation improving permeability. In the two first cases the numbers of beneficiaries were still low, but such approaches also demonstrate that apart from the main stream activities alternative approaches on LLL are supported, which might be applicable to a broader context in future.

1: Dual Study Program: Construction management (B.Eng.)

Dual study program B.Eng. in construction management (B.Eng. Baubetriebswirtschaft Dual)

Admission requirements

a) General university entrance qualification (Abitur) or University of applied sciences entrance qualifications/advanced technical certificate or admission assessment
plus
b) training contract with an employer

Application

15 July of the year the study (and apprenticeship starts) at the University of applied science (Hochschule Osnabrück)

Beginning of the studies

Winter semester, around Sept. 20. (Beginning of In-company training: 1st August each year)

Duration of Studies

8 Semesters including practical training/VET (Praxissemester) and writing of Bachelor-Thesis

Certificate/Degree

1. Bachelor of Engineering (B.Eng.)
2. Craft certificate in one of the following professions:

- Construction draftsman (Bauzeichner/in)
- Concrete worker/steel worker (Beton- und Stahlbauer/in)
- bricklayer (Maurer/in)
- pipeline builder (Rohrleitungsbauer/in)
- Roadbuilder (Straßenbauer/in)
- Carpenter (Zimmerer/Zimmerin)

Box 1: In brief: Dual study program mechanical- and production engineering (B.Eng.), Hochschule Osnabrück

General information

The dual study program (B.Eng.) offered at the University of Applied Sciences in Osnabrück is a double qualifying program that has been set up in 2009 and upon initiative of the local industry and one Professor from Hochschule in order to better address the needs of companies in the construction sector. The region of Osnabrück locates a number of medium sized enterprises with employment opportunities for engineers, preferably with practical knowledge and experiences in the construction sector.

The educational sectors involved are higher education and vocational education and training.

The dual study program leads to a bachelor degree (B.Eng.) and includes a regular vocational education leading to a craft certificate (EQF level 4) after 30 months. These craft certificates can be in professions such as construction draftsman, concrete worker/steel worker, bricklayer, pipeline builder, roadbuilder, and carpenter. At the end of the eighth semester the students complete their bachelor thesis at the university of applied sciences and are awarded the degree of Bachelor of Engineering at EQF level 6.

The programme is organised and implemented by the Hochschule Osnabrück in collaboration with local training enterprises, VET schools, training centres and chambers. It aims to fill a gap between the technical and managerial aspects of construction projects, and to provide a qualification that covers theoretical as well as practical knowledge about issues like building processes, construction, costing and financial management. To this end, the overall learning objective of the programme is described as the competence to fulfil managerial and engineering tasks in construction management and the supervision of construction projects in construction enterprises, planning offices and public authorities. The emphasis is on the technical, economic and contractual aspects of implementing construction projects, and on the impartation of practice-oriented work methods and practical experience by means of project work and an extensive practical phase.

No more than 25 – 30 Students take up their studies each year. If the number of eligible candidates is higher than the number of study places available, places are allocated according to the results of an in-house admission test at the university of applied sciences.

1st sem.	Mathematics I 5 CP	Vocational period I (apprenticeship)				
2nd sem.	Mathematics II 5 CP	Vocational period II (apprenticeship)				
3rd sem.	Physics and chemistry for civil engineering 5 CP	Technical mechanics – entry level 5 CP	Soil mechanics and earthworks 5 CP	Geoinformation 5 CP	Management of equipment and human resources 5 CP	Procurement and contracting 5 CP
	Vocational period III (apprenticeship)					
4th sem.	Building materials 5 CP	Technical mechanics – advanced level 5 CP	Construction of buildings 5 CP	Geodesy 5 CP	Accounting in construction enterprises 5 CP	Construction business 5 CP
5th sem.	Statics 5 CP	Canal and river engineering, water supply industry 5 CP	Technology for construction processes 5 CP	Resource planning and Logistics 5 CP	Vocational period IV (apprenticeship) **craft certificate**	
6th sem.	Wood and steel construction 5 CP	Concrete construction and masonry 5 CP	Traffic systems 5 CP	Project 'Accounting in construction' 5 CP	Project management 5 CP	Elective module 5 CP
7th sem.	Project conduction documentation 10 CP		Geotechnology 5 CP	Project 'Traffic systems' 5 CP	Project 'Order processing' 5 CP Project 'Design plan'	Elective module 5 CP
8th sem.	Engineering work placement (15 CP)			Bachelor thesis (15 CP) **Bachelor Degree (B.Eng.)**		

Engineering (EQF 6) Construction management (EQF 6) Dual VET (EQF 4) Others (EQF 6)

Table: Curriculum of the dual study program mechanical- and production engineering (B.Eng.), Hochschule Osnabrück.
Source: Hochschule Osnabrück, https://www.hs-osnabrueck.de/fileadmin/HSAS/Studium/Studenangebot/Studiengaenge/Bachelorstudiengaenge/AuL/Baubetriebswirtschaft_Dual/pdf/Flyer_BBaubetriebswirtschaft_Oktober_2015.pdf (translated and adapted)

Actors involved:

1. University of Applied Sciences
   - responsible for the academic part of the bachelor program
2. Companies, 17 partner companies are listed on the webpage of the Hochschule, and BAU ABC Rostrup
   - responsible for the practical part of dual VET

3. Vocational Schools, mainly BS am Westerberg
   - responsible for the theoretical part of dual VET (classes are offered as special classed during the holidays/time between the semesters at the university of applied sciences)

The interview partners stressed the stronger involvement of one participating company, that also financially supported the study program.

Target group and number of beneficiaries:

Students: national, but in fact often rather regional or local (because of the location of the training companies)
cooperating companies: local
number of beneficiaries: max 25-30 learners/students per year, plus companies as future employers

As regards the level of implementation, it can be said that the dual study programme has a regional scope in terms of its target group as well as in terms of the organisations involved. Most of the students come from the region where the university of applied sciences is based. There are only a few students from other parts of Germany. Likewise, the network of institutions in this programme has a predominantly regional focus, extending predominantly to the Osnabrück and Emsland region. Parts of the adjacent state of North Rhine-Westphalia are also covered as the Hochschule Osnabrück is located in a border region where the catchment areas of various higher education institutions in Lower Saxony and North Rhine-Westphalia are overlapping. Contacts with geographically distant VET schools and chambers exist where necessary

Management of partnership

On the whole the interorganisational network for the programme is relatively flexible as there is only a need to coordinate timetables between the different learning venues attended by the students. The university of applied sciences, whose main mission is to provide the educational contents at the tertiary level and to award the bachelor's degree, also feels responsible for maintaining the functionality of the network and the programme as a whole. The programme coordinator at the university of applied sciences serves as a contact point for the institutions involved and safeguards the necessary flow of information. In addition, there is an advisory board where representatives of the participating institutions meet regularly to discuss general issues that are of interest for the programme.

The cooperation with the VET schools takes place on an informal case-by-case basis depending on the affiliation of the students, and no permanent involvement or commitment is necessary on the part of the schools. However, the Hochschule Osnabrück made a special arrangement with one local VET school so as to coordinate the timetables of the school lessons and the university courses for the participants of the dual study programme

C) Systemic Background:
Dual studies as an "alternative":
According to the interviewee, this type of study progam can only be seen as an alternative to regular study programs because due the VET part of the program graduates better fit to the requirements of future employers.

Interests/political aims

a) Hochschule Bremen:
offering an attractive learning opportunity, attracting students
b) Employer
- recruitment of future personnel in management functions at the early stage of apprenticeship

Recognition of prior learning

Recognition of prior learning is relevant: It is possible to enter the program at sem. 3 (i.e. after successful completion of a vocational education).

Permeability: After graduation, the learners can proceed to master's degree programmes at the Hochschule Osnabrück or other institutions of higher education. But as a master's degree is not really needed in the construction sector only very few graduates chose to continue studies.

Evaluation

There are only little problems with drop-outs and most of the graduates find an adequate job directly after completion of the studies (almost a job guarantee).
What might be difficult from an organisational or managerial point of view, namely the heterogeneity of learners has been estimated as very fruitful for the personal development of the students (for example they are benefiting from each other's knowledge and experience when working in groups on realistic job orders or even real projects in cooperation with the employers).

Difficulties
Major difficulties relate to co-ordinating the timetables between the academic and the vocational part of the program. The group of learners is very heterogenic, above all, due to the fact that a range of professions are accepted in the vocational part, which sometimes also leads to different time tables at different learning venues. But heterogeneity also refers to the different age groups of learners, i.e. who enter the program at different stages of their career. Educational background and work experience differ considerably.
There is some evidence in the feedback from learners that the workload for the 'genuine dual students' is very high and that the professional area targeted by the programme may also presuppose a somewhat higher level of maturity than can be expected from young people who just finished upper secondary.

Suggestions for further ameliorations
The program is regarded successful (learners find jobs easily, companies are content with the supply of potential employees), and in the meantime measures for a continuous quality assessment and development are in place (the Hochschule has initiated regular interrogations and supports the constructive dialogue between learners and the teaching staff).

But study program like this need to remain small because otherwise the coordination and individual support might be impossible.

2: Dual Study Program: Mechanical- and Production Engineering (B.Eng.)

Mechanical- and Production Engineering (B.Eng.)

Admission requirements

c) General university entrance qualification (Abitur) or University of applied sciences entrance qualifications/advanced technical certificate or admission assessment
plus
d) training contract with an employer

Application

One year bevor the beginning of the study course at an employer
afterwards at the University of applied science (Hochschule Bremen) within give time frame from 01.06. bis 15.07 each year via www.bewerbung.hs-bremen.de

Beginning of the studies

Winter semester

Duration of Studies

8 Semesters including practical training (Praxissemester) and writing of Bachelor-Thesis

Certificate/Degree

3. Bachelor of Engineering (B.Eng.)
4. Craft certificate in one of the following professions:
- Industrial mechanic (Industriemechaniker/in)
- Aircraft mechanic (Fluggerätemechaniker/in)
- Mechatronic (Mechatroniker/in)

Technical product designer (Technischer Produktdesigner/in)

Box 1: In brief: Dual study program mechanical- and production engineering (B.Eng.), Hochschule Bremen

General information

The dual study program Mechanical- and Production Engineering (B.Eng.) offered at the University of Applied Sciences in Bremen is a double qualifying program that has been set up 10 years ago and upon initiative of Airbus Industries, Bremen. The sectors involved are higher education and vocational education and training.

Airbus had offered a similar program in cooperation with the Hochschule Wilhelmshaven before, but due to some problems regarding the distance between Wilhemshaven and Bremen where Airbus is operating and also offers in-company training, the company had decided to approach the local University of Applied Sciences to set up this cooperation.

The dual study program leads to a bachelor degree (B.Eng.) and includes a regular vocational education leading to a craft certificate. These craft certificate can be in professions such as industrial mechanic, aircraft mechanic, mechatronic or technical product design.

Even though the program has started upon initiative of Airbus Industries, there are a number of further companies that meanwhile cooperate with Bremen Hochschule in the frame of this study course, nevertheless, Airbus is still the biggest partner and also supports the program financially. There is a cooperation agreement between Airbus and the Hochschule Bremen in which the Hochschule Bremen guarantees to offer 12-15 study places for Airbus apprentices each year. The selection of these apprentices (and students) takes place without any further selection process at the Hochschule (apprentices from other companies applying for a study in this dual study program have to go through

an application procedure at the university).

	Cts	Module 1	Module 2	Module 3	Module 4	Module 5
Semester 1	30	maths 1	mechanical science 1	physics	business administration	material engineering
Semester 2	30	maths 2	mechanical science 2	thermodynamics	machine elements and construction	fluid mechanics
Semester 3	30	information science	electro-technology	principles of assembly	Construction and computer added design (CAD)	quality management and metrology
Semester 4	30	preparation of practical sem.	Practical semester / In-company training / preparation of craft certificate			
Semester 5	30	Practical semester / In-company training continued / at the end: **craft certificate**				Follow-up of practical semester
Semester 6	30	mechatronics 1	compulsory module (individual choice)	compulsory module (individual choice)	compulsory module (individual choice)	compulsory module (individual choice)
Semester 7	30	mechatronics 2	compulsory module (individual choice)	compulsory module (individual choice)	compulsory module (individual choice)	compulsory module (individual choice)
Semester 8	30	Industrial project (Bachelor-Thesis)			Writing of Bachelor Thesis/ at the end: **Bachelor Degree (B.Eng.)**	

Table: Curriculum of the dual study program mechanical- and production engineering (B.Eng.), Hochschule Bremen

Actors involved:

1. University of Applied Sciences
   - responsible for the academic part of the bachelor program
2. Companies, essentially Airbus Industries, and a few smaller, local companies in Bremen)
   - responsible for the practical part of dual VET (offered during the 4th and 5th semester of the study program)
3. Vocational Schools
   - responsible for the theoretical part of dual VET (classes are offered as special classed during the holidays/time between the semesters at the university of applied sciences)

The interview partner did not know which vocational school in Bremen was responsible for the theoretical training part of vocational education. In his opinion, this fact could be regarded as symptom of the very low integration of the vocational school as a cooperating partner into the program. On the other hand, the cooperation with the training companies (but especially with Airbus) can be considered as very close due to their interaction in a variety of modules. This does not only refer to the parts of practical training at the company/ies but also the final modules (industrial project and Bachelor thesis) involving a close cooperation between the responsible training officer at airbus (or a training officer in other companies) and the two professors in charge at the Hochschule Bremen.

Target group and number of beneficiaries:

students: national not local
cooperating companies: local
number of beneficiaries: very small (15 learners/students per year), plus companies as future employers

As for the application procedure at Airbus, this is considered as very severe and the number of

applicants coming from all over Germany is considerably higher than the number of students accepted to participate in the program (numbers not available). For this reason the program can be considered as elitist, where only the very best are accepted and where – due to this circumstance – the rate of failure is (up to today) at 0%.

Another reason for this group of students to be regarded as "privileged" compared to regular students at the Bremen Hochschule is the fact that learners in this study course receive a remuneration of about 1000 Euro per month during the first year of training and even higher in the course of the 2nd and 3rd year because they are simultaneously employed at the training companies during the entire duration of the studies. A privilege is also that these learners do have some sort of employment guarantee after successful completion of their studies. As these students are participating in regular lectures offered at Bremen Hochschule (i.e. with regular students in engineering subjects) there is some "injustice" between them and the others.

Management of partnership

According to the interviewee the management structures of this program can be regarded as very simple: Mainly four persons are coordinating the program, two professors at the Hochschule Bremen and two persons at Airbus industries, one responsible for administration and one training officer. No other company representatives from the other companies involved in the program were named. Moreover there is no management contribution mentioned from the vocational school – despite the fact that there is some input: the vocational school is offering special classes for dual study program participants.

As long as the program was not financially supported by Airbus, there were as well no official structures such as the advisory board which is now (but still only formally) in place.
Because the partnership can build on a 10-year-experience the coordination activities provided by the four persons in charge has proven successful so it is regarded as a good running system by the interviewee which does not really need any further formal structure – even though from a managerial point of view there should be at least some more formal regulation.

All in all the coordination effort is still regarded as low ("Planung und Organisation und das machen wir eigentlich fast nebenbei mit", "warum da jetzt ein Riesensystem aufbauen, ich weiß im Sinne eines Qualitätsmanagements ist das Käse, ich weiß, aber da bin auch ganz Ingenieur. Ich freu mich über Systeme die funktionieren und die genau so laufen, wie sie laufen sollen, und das interessiert nicht, die irgendwie zu ändern, das kann nur Unruhe und wieder Fehler reinbringen. Also da sind wir sehr rudimentär unterwegs, da müssen Sie nicht enttäuscht gucken").

On the other hand the interviewee also points to the clear distribution of tasks in this partnership. The university does not interfere when it comes to the TVET part of the program and the companies do not have a say in the academic part of the training program. Even though there might be – from time to time – special requests, these could only be realised to as long as they were in line with the examination regulation ("ich bin ja auch relativ eindeutig mit Sonderwünschen als Studiendekan. Ich bin zum einen ungeheuer wohlwollend, wenn ich was genehmigen kann aber ich achte auch auf meine Prüfungsordnung. Das sind Amtsblätter der Freien Hansestadt Bremen, die haben Gesetzescharakter").

Systemic Background:

Dual studies as an "alternative": According to the interviewee, this type of study progam can only be seen as an alternative to regular study programs (but not so much as an alternative to traditional dual VET) but one would need to ask the students to answer this question.

Interests/political aims

a) Hochschule Bremen:
- Interesting target group of students, good for statistics (practically no drop-outs), leave the program without problems, don't need extra time and exams;
- no need to set up a extra curriculum (wir setzen diese Leute mit in die laufenden Programme, also quasi in den fahrenden Bus stecken wir einfach noch ein paar Leute mehr mit rein) and in the meantime
- earning some extra money
- subordinate political aims are connected to the advantages of a cooperation with a big employer (and tax payer) like Airbus.

b) Employer
- formalised recruitment of future personnel at the early stage of apprenticeship

Recognition of prior learning and permeability both not relevant

Evaluation

The question as to how well this partnership meets (or responds to) the needs and expectations with regard to skills formation would need to be addressed at Airbus and/ or the other employers involved in the dual study program. In general, the interviewee sees big advantages in a dual program that leads to such double qualification ("also da kommen Leute raus, die sind aus dem Hochschulsystem mit vorzeigbarsten Noten kommen und die nebenbei eine berufliche Ausbildung produziert haben, was gerade in den Ingenieuren immer schön ist, wenn man weiß, wie rum man eine Schraube drehen muss")

On the other hand and when it comes to the attractiveness of vocational education and training, one cannot say that the – though such programs – there will be a rise in the attractiveness of dual VET as such. Well on the contrary: the attractiveness of a study course is higher, if combined with the advantages of dual VET. "(die Attraktivität der) Berufsbildung (steigt) auf keinen Fall! Weil die wird tatsächlich ja als Basiselement, sone kleine handwerkliche gewerbliche Basisausbildung für die Ingenieursausbildung genommen. Also eigentlich wird nur der der berufliche Part als Verstärkung des Ingenieurspart genommen aber in keinster Weise wird dadurch irgendwie der gewerbliche Part gestärkt/geschwächt oder irgendwas, sondern der hat eigentlich gar nichts davon"

Difficulties
Only marginal, maybe some administrative ones (administrative structures of a big employer meet administrative structures of a public education provider) but in this case not really very relevant. If ever there are problems to solve, the interviewee suggests personal and non-formalised "trouble shooting" – which can only be relevant in partnerships with a limited number of persons in charge.

General remark: If a university of applied sciences wants to offer more double qualifying programs, there might be limits due to the different requirements of regular study programs on the one hand

and dual study programs on the other. The interviewee points to the example of the Hochschule Minden who has separated the dual programs from the regular study programs and opened up a new campus where only dual studies are offered.

Suggestions for further ameliorations Better cooperation between the learning venues, especially with regard of the involved vocational school (s)

3: Bridging Program: Bachelor Program for master craftsmen or state certified technician

Details on interview partner

The interview partner has experiences in LLL with a special focus on permeability from vocational to higher education and he was involved in developing concepts and tools for scientifically grounded accreditation of prior learning.

During the past five years he carried out research on the demand for the transition from VET to higher education in technology-oriented domains and in the following worked on the implementation of a Bachelor programme that builds upon (and accredits) prior learning outcomes achieved as master craftsmen or state-certified technicians.

General information

The partnership was one of four pilot projects funded by the German ministry of education and research.

The partnership for LLL reported here is strongly regionalised; in its centre it is a Bachelor programme which educates (after a subsequent Master programme) vocational teachers in technological fields. The study programme addresses particularly so-called non-traditional students and allows for this group studying while in employment. The basic idea is to enable a transition from VET (for master craftsmen and state-certified technicians) into a Bachelor programme by realising a high but appropriate level of accreditation of prior learning.

Actors involved

As major actors the partnership includes
a) one University:
b) the regional branch of a nation-wide provider for educational courses
c) the local training centre of the crafts.

The involved partners had different tasks to fulfill in the partnership: The university developed and implemented a Bachelor programme, focussed on the accreditation of prior learning outcomes and coordinated the partnership, while the training center of the crafts ensured by various advertising activities among the participants of their master craftsmen's courses a good publicity for the Bachelor programme among their clients. Furthermore, the training centre of the crafts carried out courses which counted for the master craftsman programme as well as for the Bachelor programme. The third partner is a provider of educational courses especially for trainers in companies, the partner provides courses to achieve the qualification as vocational pedagogues which are certified by the chambers of

industry and commerce. With this partner there was established the option for students to achieve the qualification as vocational pedagogues by combining credits achieved at university courses with courses enrolled for and finished at the partner's training programmes.

Besides, there were involved various regional „schools" providing courses to achieve the qualification of state-certified technicians. These partners' tasks were advertising the Bachelor programme to their students and to support the development and implementation of a scientific concept for the accreditation of the technicians' prior learning achievements.
In addition major stakeholders such as the association of the state-certified technicians were included into a project advisory board.
Regarding the mode of cooperation it can be stated that the cooperation works in two modes: There are contractual relationships between the university and the training provider and the training centre of the crafts. On the other hand there is collaboration with partners such as the schools for technicians which are informal or formalised as MoU, but without any financial obligations. The contract-based cooperation is not necessarily better or more successful than the informal ones. The success factor is the mutual expectations of the partners, e.g. expecting an improved image when cooperating with a university or a revaluation of the qualification delivered by the school, when the qualification is subject of an accreditation to a Bachelor programme etc..
The experiences with the management of the partnership can be summarized as follows: The partnership was centrally coordinated by the university. The partners met regularly during partnership meetings every 6 to 8 weeks. It was secured that all involved institutes were represented in these meetings. Besides the provision of information by the coordinator these meetings were used to make decisions affecting the whole consortium e.g. on future joint activities. The original idea of implementing a steering group comprising one high level manager of each participating organisation/institute did not work – mainly because the distance of the managers to the project work was too big and the attendance was unstable. And since the steering group was assumed to establish a double structure it was cancelled.
During the course of the project it turned out that the scientific advisory board of the project could cover some of the tasks being originally assigned to the steering group.

Systemic und institutional frame conditions

The partnership for LLL basically is no challenge to the VET and HE systems, because the example is strongly regionalised – mainly because it is conceptualised as a study programme with compulsory attendance. In detail there is a minor challenge to the university system, because the non-traditional students require curriculum revisions of some study programmes. This is mainly because the type of knowledge and experiences held by non-traditional students is not matched by the curriculum. In the specific case it was the study course on Mathematics that required curriculum revision. It is also evident that an adaptation of the master craftsmen and technician courses to the Bachelor curriculum is not sensible, because only few of the graduates from the VET programmes decide to continue with Higher Education studies. Therefore, bridging courses need to be implemented at universities and there it is a peripheral offer for a minority of non-traditional students, thus it is not challenging the HE system as such.
Institutional framing conditions for participating in partnerships for LLL were mainly allocated at the motivational level: For the training provider and the training centre of the crafts there were financial motives for attending the partnership taking effect and maybe more important

the issue of permeability is a matter of image, because it increases the reputation of their provided qualifications. But on the other hand these partners had to learn that their degrees are not at the same level as the HE degrees. For the chamber of commerce and industry and the association of state-certified technicians the motivation was to hedge the revaluation of vocational qualifications. Even though they had to accept the assignment of technicians to a non-academic level they expected that the partnership will prove that technicians are capable to finish a bachelor programme successfully. On the side of the chambers there was a general interset in revaluation of vocational education and training.
The university, at least in the administrative sphere feels „disturbed“ by the new clientele of non-traditional students, because this requires new processes, new concepts for accreditation and the provision of bridging courses. This creates additional effort, but as a benefit the university can claim to foster social justice (through permeability).

Compatibility between VET and HE

Under the premise of a comparatively low compatibility of learning styles, knowledge contents and learning sites between VET and Higher Education organising learning and establishing linkages between different learning sites is a very demanding task. In detail this means to switch the prevailing learning styles in VET from a consumptive learning of (assumedly) fixed knowledge assets towards an explorative self-controlled learning of uncertain knowledge. In addition the curriculum for master craftsmen courses is not scientifically guided but rather practice-oriented which evidently is an enormous hurdle for crossing the border between VET and HE.
Particularly through the implementation of joint courses at university and at the training provider there arises a danger of falling back into previous learning styles when courses at the training provider or at the training centre of the crafts are carried through in the non-academic modes.

Evaluation

The contribution of the partnership to support the wish of persons with a VET background to switch to the HE pathway was honestly little. Of course the non-universitarian partners did a lot of advertising and thus opened the minds of many master craftsmen and technicians for this new career pathway and they did a good job in pre-selecting suitable persons – but overall it was very limited (in numbers).
The interviewee sees only limited, if at all, value in collecting some certificates within the Bachelor programme without finishing the study with a Bachelor degree. This is mainly because it is a technical programme which requires the complete contents. For non technical studies like vocational pedagogue it might be different, as there is the option to collect certificates which constitute some kind of profile. In addition such a certificate collection might turn out to be a smooth approach to a full bachelor study.
With respect to increase or decrease the attractiveness of VET the implemented partnership for LLL is risky, because the route to Higher education is only feasible for a few, not for all. This and the fact that the accreditation of prior (vocational) learning is limited still indicates that VET is inferior compared to Higher Education.
The biggest challenge in establishing a good working partnership was that all partners must have the feeling that their interests are satisfied (image/reputation, financial interests, etc.). Major hindrance for implementing a partnership as the given one is a matter of persons: It is essential to find and bring together the right persons. These persons must commit themselves

to the contents (and the long-term policy implications) of the partnership. There must be an affinity to the other organisations, at least a rudimentary mutual understanding of how the other organisations really works and how their members think. Above all there must be a shared strong interest in the core subject „permeability“. As a consequence the best functioning of the partnership is ensured by bringing the right people in operative activities, assembling the right people in the advisory board and institutionalise and routinize the cooperation.

Eventually, the transferability of the discussed partnership to other domains is seen critically. Only when the level differences between vocational and higher education are small and if a certain level of permeability and interlocking is already existing there is a good chance for transition partnerships from VET to HE. One such domain might be the care and nursing sector.

4: Bridging Program (CVET and Bachelor degree)

CVET Qualification as entrance qualification for a Bachelor program (B.A.) at an advanced level

Admission requirements
A CEVET qualification with an average of 2,4 (Grade B or higher) is a precondition for acceptance as regular student in the Bachelor program
General university entrance qualification (Abitur) is not necessary.

Beginning of the studies
Winter semester

Duration of Studies
CVET qualification: 2 to 4 years (depending on a selection of full-time or part-time programs),
BA qualification: with a CVET Certificate as a state certified business specialist, only three semesters

Certificate/Degree
5. CVET Qualification „State-certified Business Specialist“
6. Bachelor of Art in Business Administration (B.A)

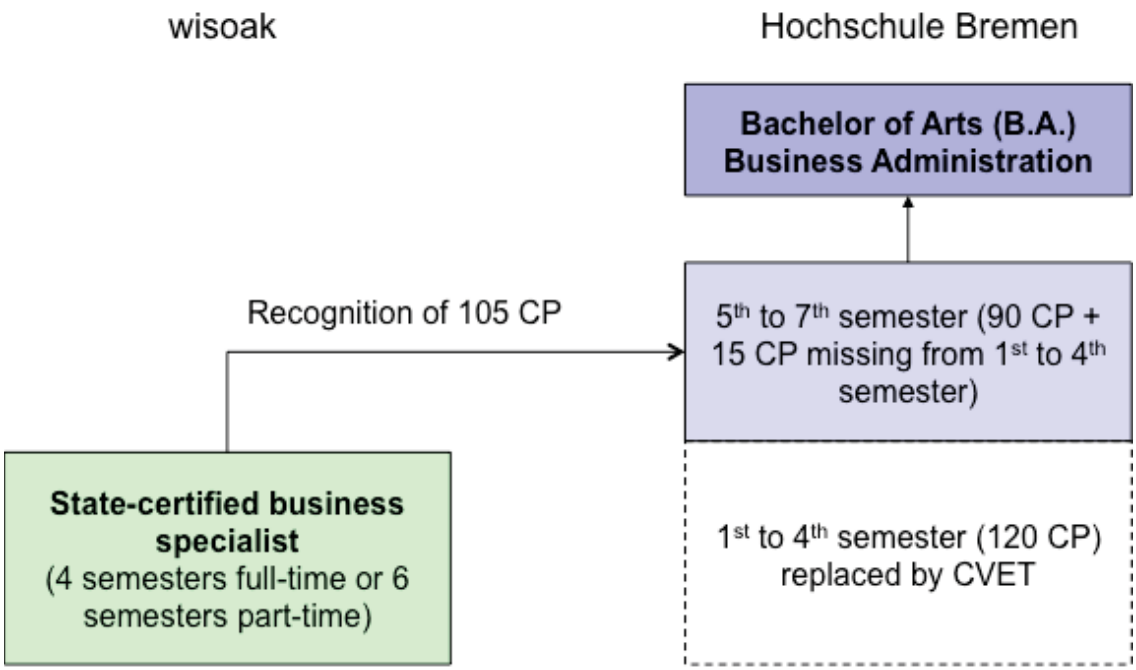
Box 1: In brief: Dual study program mechanical- and production engineering (B.Eng.), Hochschule Bremen

General information

The programme concerns the recognition of credits earned in a school-based CVET programme in business administration that leads to the qualification of ‘Staatlich geprüfte/r Betriebswirt/in’ (state-certified business specialist) in a corresponding degree programme (Bachelor of Arts in Business Administration) at the Hochschule Bremen University of Applied Sciences.

The CVET qualification is offered by Wisoak, a vocational college for business training in Bremen operated by a private non-profit training provider. (Wisoak is the abbreviation for Wirtschafts- und Sozialakademie der Arbeitnehmerkammer Bremen gGmbH). In May 2009 the Wisoak concluded a cooperation agreement with the Hochschule Bremen, according to which the state-certified business specialists who graduated from the college in question were given the opportunity to enter into the fifth semester of the seven-semester B.A. programme in Business Administration. In the agreement, sanctioned by the ministry of education of the federal state of Bremen, the wisoak and the Hochschule Bremen provided for some small modifications of the CVET programme so as to meet the requirements of higher education. The additional condition for being eligible for this specific inter-institutional arrangement was a ‘good’ final mark (2.4 or better) in the CVET examination.

The bridging programme or transfer arrangement between Wisoak and Hochschule Bremen is an example of a cooperation that aims at the smooth transition of graduates from a CVET programme in business studies to a bachelor programme in the same area of study at a university of applied sciences. The two learning opportunities remain independent of each other in terms of organisation, curricula and qualifications awarded.



Source: ITB (own work)

Actors involved:

4. Wisoak
   - responsible for the CVET qualification (4 Semesters or 8 in part-time)
5. University of Applied Sciences
   - responsible for the academic part of the bachelor program (3 additional semesters)

(3) Bremen Ministry of Education and Science (support in preparation, approval)

The arrangement, which was preceded by a long-standing cooperation between the two institutions with regard to single courses or guest lectures delivered at the wisoak by teaching staff from the university of applied sciences, was initiated from 2007 onwards by the then dean of the faculty of economics at Hochschule Bremen, who had also taught CVET courses at the wisoak. Realising the structural similarities between school-based CVET and tertiary education in business administration, the intention was to use the synergies between the two programmes with a view to organising a learning pathway that would lead non-traditional students with a vocational background to a bachelor's degree without taking more time than the learning trajectory of traditional students

Target group and number of beneficiaries:

Learners: national (theoretically) but rather local in practise, students: regional/local (as the CVET qualifications needs to be obtained at the local institution Wisoak)
Number of beneficiaries: very small (6-10 learners/students enter the bachelor program per year after completion of their CVET qualification

The scope of the partnership is regional in terms of the organisations and with regard to the target group. Virtually all learners participating in this bridging programme came from the Bremen region. Due to the federal system in Germany and the corresponding variety of regulations concerning the recognition of VET qualifications in higher education, the involvement of CVET providers or higher education institutions from other regions would be complicated as additional organisational arrangements would become necessary.

Benefits for learners / learners commitment

Information about the benefit of the bridging programme for the participants is scarce but it is possible to make some general observations. The transfer opportunity has been welcomed by the learners, an there seems to be no difference between the beneficiaries of the cooperation scheme and the traditional students in the bachelor programme in terms of performance and final grades. (drop out numbers are very low, approx. 5 %).

According to the interviewee, the graduates of the CVET programme who enter the B.A. Business Administration often show a high level of motivation and commitment. In comparison to the 'traditional' students, the career orientation of these vocationally qualified learners seems to be particularly strong.

The learners' motivation to use this transfer opportunity and to proceed to higher education can be explained to some extent by the fact that employers strongly encourage their employees to strive for this qualification level. It is an open question as to whether this tendency will in the long run undermine the status and value of higher-level VET qualifications such as the state-certified business specialist or the various upgrading training qualifications at the level of master craftsmen.

Management of partnership

The regulatory framework of the partnership is relatively complex in terms of the legal instruments concerned, but on the other hand its structure is quite simple as the diverse regulations are implemented by one and the same set of institutions. The curriculum for the bachelor programme in business administration and the corresponding ordinance was drawn up and promulgated by the Hochschule Bremen, which is a self-governing institution according to the Bremen Higher Education Act. This means that the university of applied sciences, like any higher education institution in Germany, typically has a greater autonomy in the definition of educational objectives and curricula than a vocational school, however its degree programmes are ultimately subject to accreditation according to the principles of the Bologna process.

The basis for the cooperation between the wisoak and the Hochschule Bremen is an inter-institutional agreement that also specifies the modifications to be made in the curriculum for state-qualified business specialists. Following a formal request submitted to the ministry by the university of applied sciences in collaboration with the wisoak, an evaluation of the proposed transfer arrangement and the modified curriculum took place at the ministry, which also involved a hearing with representatives of the faculty of economics of the university of applied sciences.

There are no specific decision-making bodies or procedures within the partnership and both partners fulfil their roles autonomously, the Hochschule Bremen assumes a de facto lead role. As mentioned above, the contents of the CVET programme were modified according to the model of the first four semesters of the bachelor programme, which means that the vocational programme has been subordinated to the requirements of the university of applied sciences. More specifically, the university of applied sciences has taken the responsibility for the quality assurance within the cooperation scheme by drafting the revised syllabus or module catalogue for the CVET programme, which was annexed to the cooperation agreement.

The Bremen Ministry of Education and Science is not involved in the implementation of the transfer

arrangement but played an important part in the preparation. The revised CVET curriculum was checked by the ministry for equivalence with the corresponding parts of the bachelor programme in accordance with the KMK principles).

Systemic Background:

Permeability and LLL

The cooperation scheme targets a specific group of learners, namely graduates who have completed the school-based CVET qualification of state-certified business specialist at the wisoak. In order to be admitted to this CVET programme, candidates usually need a leaving certificate from lower secondary education, an IVET qualification in a relevant training occupation and at least one year of relevant work experience. This means that the learners are not expected to have a traditional school-based entrance qualification for higher education such as the Abitur, although some of them may have acquired a qualification of this type before their initial training.

What is crucial here is that upon completion of a Fachschule qualification like the state-certified business specialist, the entrance qualification for universities of applied sciences is automatically conferred on the learner as well. The cooperation between wisoak and Hochschule Bremen was set up with the aim to give this particular group, i.e. learners with a university entrance qualification acquired through vocational education, an opportunity to transfer easier and integrate better into higher education.

Statement permeability:
„(...)und ich glaube, dass Durchlässigkeit nicht damit verknüpft werden kann, dass man Vorleistungen erbringt und diese Vorleistungen eigentlich nur als Eintrittskarte dienen und sie dann aber wieder vergisst. Das ist nicht der Sinn der Sache. Lebenslanges Lernen heißt nicht, dass ich irgendwas doppelt mache. Insofern finde ich auch, dass von der Argumentation her nicht ganz richtig, wenn man sagt, das ist eigentlich eine doppelte Anerkennung, wenn man einerseits sagt „Hochschulzugangsberechtigung“ und dann auch noch die Anerkennung. Ich finde diese Hochschulzugangsberechtigung passt da nicht mehr so richtig rein. Wenn ich einen Prozess habe, der heißt „Lebenslanges Lernen“, dann darf es solche Friktionen nicht geben, wo ich einen Teil gemacht habe, der dann nur dazu dient, dass ich da wieder reinkomme und das Gleiche nochmal mache. Das wäre ja in der Wisoak gewesen, die hätten im Grunde genommen die meisten Kurse doppelt belegt. Das ist natürlich völliger Unsinn meiner Meinung nach.“

Evaluation

The most obvious advantage of this partnership or cooperation scheme is the extensive recognition of vocational learning outcomes on the part of the ‘recipient institution’, i.e. the university of applied sciences. Permeability in the context of this partnership is not confined to the mere access or admission of vocationally qualified learners to higher education, but consists instead in a relatively generous exemption that saves learners from repeating courses already taken in CVET, and enables them to complete a bachelor’s degree in about the same time as traditional students.

The partnership is an example of an effective utilisation of the opportunities provided by the legal framework as the cooperating institutions successfully implemented the recognition of vocational learning in higher education to the fullest extent possible under the current legislation.

Difficulties

The same thing that constitutes one of the advantages of the partnership, namely its local, bottom-up approach, is also a weakness in some respect, though. The solution developed by the partners for the blanket recognition of vocational learning outcomes in higher education is confined to these two institutions, which means that learners who have completed their CVET qualification of state-certified business specialist at another trade and technical school could not bypass the first four semesters of the bachelor programme, and neither could graduates from the wisoak earn credits for their CVET qualification at another university of applied sciences than the Hochschule Bremen.

Another challenge is the status of vocational learning within the cooperation scheme. The fact that employers are not satisfied with traditional CVET qualifications but encourage their employees to complete a bachelor's degree seems to indicate that the permeability mechanism can indeed compromise the status of VET as a learning trajectory in its own right. This also raises some doubts as to whether a transition arrangement really enhances the attractiveness of vocational learning since the easy transition to higher education could also have the effect of reducing VET to something like a 'stepping stone' into higher education.

5: Integrative Vocational Training + Advanced Technical College Certificate

General information

Vattenfall is 100 percent owned by the Swedish state and is one of Europe's largest generators of electricity. Vattenfall's main products are electricity, heat and gas. In electricity and heat, Vattenfall works in all parts of the value chain: generation, distribution and sales. In gas, Vattenfall is active in sales. We also conduct energy trading.

The program concerned in this interview is set at ‚Schwarze Pumpe'. Schwarze Pumpe Power Plant, in the German Federal State of Brandenburg, is a lignite-fired double-block unit.

Vocational Training + Advanced Technical College Certificate as dual qualification

This program has been deduced from a pilot project called ‚Integrativ Vocational Training + Advanced Technical College Certificate', which started in 1992. The pilot project was designed to give the possibility to achieve the Advanced Technical College Certificate in addition to a regular Vocational Training to young people. With a duration of five years, the project was finished in 1997. In 1998, the ministers of Education and Arts decided to recognise this educational background and to do a nationwide implementation.

As a result, a large number of industry mechanics and (since 1999) electricians have been trained in this educational background. 99 percent of the trainees pass the Vocational Education.

The interview refers to the use of this program at one of Vattenfall's Power Plant called Schwarze Pumpe. The trainees being educated at this plant go to school at Oberstufenzentrum 1 Spree-Neiße (High School + Vocational School) and often do their Bachelor of Engineering at the technical university BTU Cottbus-Senftenberg afterwards.

Within the program, two different partnerships can be determined:

a) Partnership between the company and the school
b) Partnership between the company and the university

Industry: mining
Job profiles: mechanics, electricians
Actors involved

A) **Vattenfall Europe Mining & Generation and Schwarze Pumpe Power Plant**
The company is responsible for the theoretical and pratical professional training and the chamber test for completing the voational training (fulfillment of training contract).

B) **Oberstufenzentrum 1 Spree-Neiße (High School + Vocational School)**
The school is responsible for preparing the trainees to achieve the advanced technical college certificate.

C) **BTU Cottbus-Senftenberg (Technical University)**
The university offers the Bachelor of Engineering program to trainees of Vattenfall.

Description of partnerships

The partnership was founded upon request of the involved company caused by the removal of the vocational training with high school graduation, a former education within East Germany. The specific form of the program had to meet the conditions caused by the reunification of Germany.

a) The company and the secondary school work together to coordinate the content structure of the school and the vocational educating and align them with each other. The responsible persons of both institutions meet periodically to stay in touch and exchange information on the program and its progress. The school has to accept the students that are elected by the company to do the dual qualification.
b) The university offers the Bachelor of Engineering program to trainees of Vattenfall as well as to students who gained their Advanced Technical College Certificate in a regular way.

Contents / Methods

A) The contents and methods used within the vocational training are determined by the vocational training act, which specifies the curriculum for every training profession.
B) The contents and methods used within the educational training are determined by the german school law.
C) The contents and methods used within the higher education training are determined by the university law.

Besides that, the partners try to work together and coordinate their content structures to make sure the contents mash.

Target group and number of beneficiaries

The company tries to aquire young school leavers from secondary school with grades as good as possible to make sure that they will be able to achieve the Advanced Technical College Certificate as

part of the training. Vattenfall wants these trainees to study and become Engineers afterwards to come back to the company as well trained workers with hands-on experience.

The selection process consists of three stages: the selection upon grades, a special testing procedure and a personal dialogue with the potential trainee. Some candidates applying for a regular vocational training show high potencial during this process and are therefore informed about the dual qualification and will be asked to join the program.

The number of applicants in general is constantly dropping from year to year caused by the decreasing attractiveness of the mining itself. On top of that, the interviewer points out that only 10% of all apllicants for vocational training at Vattenfall would be suitable candidates for the dual qualification. Until now, none of the trainees has been failing the Advanced Technical College Certificate while passing the vocational training.

Different learning venues

A) Practical learning, workplace-related learning

B) classroom teaching

C) classroom teaching

Systemic Background

Recognition of prior learning

Not relevant besides the former school performance, which is already attested when applying for the program.

Permeability

The program provides the permeability between vocational training and higher education training. The trainees being educated in this program have a large number of possibilites for further education after completing their vocation compared with trainees in regular vocational training.

6: LLL programs in cooperation with the Industrial Union of Metal Workers

General information

IG Metall is an industrial union with more than 2 million members in several industries, which makes her the biggest German single union. The union also maintains different educational institutions throughout Germany. Being a political organisation, IG Metall is involved in many projects regarding vocational and higher educational training.

Examples for lifelong learning partnership programs in cooperation with IG Metall

A) Hans Böckler Foundation
The Hans Böckler Foundation deals with co-determination, research linked to the world of work and the support of students on behalf of the DGB, the Confederation of German Trade Unions. The foundation contains a program to support third-chance education (higher education without university-entrance exams) through material and educational efforts since 2014. The program has been set up upon initiative of the unions, which aim to support dual studies, extra-occupational studies and third-chance education equally, whereas the funding policy of the federal government focusses on full-time studies.

B) Professio
Professio is a program started in 2015 which aims to keep low-skilled workers in their employments through customized higher educational training. The relevance of the project results from the proceeding technologisation associated with relocation of workplaces. The concept of Professio contains working process-related learning and learning guidance including identification of learning needs.

C) BIBB Project
The BIBB is the Federal Institute of Vocational Education in Germany. The relevant project was designed in the course of developing the vocational training act and concerns the questions whether the profession of product designers needs an advanced vocational training or could achieve further education through university studies. The outcome could be a law change in legislation on vocational training concerning the skilled occupation of the product designer. It started in 2015 and has a duration of two years.

Actors involved

- **A)** Hans Böckler Foundation / advisory board (including IG Metall) / two national universities
- **B)** Institute Technology & Education Bremen (ITB) / partner associations (including IG Metall) / two partner companies + additional executive companies
- **C)** Federal Institute of Vocational Education (BIBB) / official experts (including member of IG Metall)

Aims

A) Developing a practice which applies nationwide and will be transferred on other foundations by the Federal Ministry of Education and Research

B) Developing a practice which can be transferred on further industries, companies and universities
C) Making a law change in legislation on vocational training concerning the skilled occupation of the product designer to improve permeability

Contents / Methods

A) gap courses (classroom training only so far, considerations in blended learning), basic seminar, target-group-specific curriculum
B) agile learning, working process-related learning, learning guidance including identification of learning needs
C) not relevant

Target group and number of beneficiaries

A) students in third-chance education: engineers, educationalists
current number: 30 – 40 (only two universities involved so far), could be increased to a few hundred through nationwide rollout
B) skilled industrial workers
current number: very small groups (local so far), will be increased through involvement of executive companies (nationwide transfer possible)
C) product designers (skilled occupation)
current number: project results will have an impact on all product designers trained in Germany (nationwide)

Different learning venues

A) classroom teaching only so far, blended learning envisaged
B) learning at workplace, classroom teaching
C) not relevant

Management of partnership

A) The programs of the Hans Böckler Foundation are managed by a project consulting. The political body is the so-called discussion group of study support, whereas the executive board of the foundation represents the decision-making authority. The foundation needs to enter into agreements with the BMBF, the Federal Ministry of Education and Research.
B) The management of Professio is taken over by the project sponsors.
C) The management of the BIBB project is taken over by the central committee of the Federal Institute of Vocational Education.

Systemic Background

Recognition of prior learning

A) not relevant
B) not relevant
C) not relevant

Permeability

A) Enabling the third-chance education (higher education without university-entrance exams) through material and educational efforts
B) Improves chances to stay in work for skilled industrial workers through higher education (improvement of employability)
C) Aims to improve permeability between educational systems

Germany's general approach to skill formation

According to the interviewee, it is important for Germany to stick to the mission statement of modern professionalism, which means to save, to strengthen and to develop professionalism. The interviewee emphasizes the present challenges in terms of economisation, Europeanisation, partialisation, modularisation and academisation.

The described programs therefore follow political as well as strategical intends and try to form alternative approaches besides the trending tendencies of the further training system.

The case of Greece

The case of ASPETE

1. Summary

This case study refers to the student traineeship of the **School of Pedagogical & Technological Education (ASPETE, '**ΑΣΠΑΙΤΕ' in Greek**)**. For the purpose of the current study it was conducted four interviews with two training practitioners, namely:

- Prof. Panetsos, Manager of Traineeship Solving Problems Committee (Professor at the Department of Mechanical Engineering), and
- Prof. Adam, Manager of Traineeship in the Department of Electrical and Electronic Engineering

and two learners:

- One female and one male, both graduates of Mechanical Engineering.

The interviews were conducted from 23 to 30 September 2016, three of them were conducted face to face in the campus of ASPETE in Athens and one was conducted by telephone.

The results of this case study validate and complement the findings of the previous desk research and expert interviews in the case of Greece, by providing further details.

In particular, this case study of ASPETE's apprenticeship programme is a typical example of **integrated programme**, which is the most popular type of traineeship in Greece, although these programmes in general are held in many different ways in Greece in both private and public organizations.

Student traineeship is mandatory as it constitutes an integral part of the course programme - as it happens in the case of the dual bachelor's degree in ASPETE, which provides academic training and work experience in companies.

According to Tsakiri (2014, p. 2):

> "*It is of general consensus that traineeship programmes are an effective job training tool that gives the opportunity to develop skills and acquire substantial experience in a professional work environment*",

a result which agrees with the opinion of all of the interviewees in this case study who felt that ASPETE's traineeship programme contribute in developing students' skills and acquiring substantial

experience and endorsed their level of confidence in order to meet the market demands. On the contrary, considering the effectiveness of these programmes as a tool for the insertion of young professionals in the labour market, opinions are not optimistic:

> *"as long as high rates of youth unemployment in Greece imply that traineeships are only a temporary solution to the problem"* (ibid.).

2. Fundamental characteristics

The establishment of the **School of Pedagogical & Technological Education (ASPETE)** in 2002 was paved by the vision and mission of **SELETE,** a Technical & Vocational Teacher Training Institute**,** founded in 1959 (www.aspete.gr)

When SELETE was first founded, the prevailing trend for the education and training of Technical and Vocational Teachers was that of the "add on" approach. That is, the focus was primarily on pedagogical training and only a small component of the curriculum pertained to technical or vocational subjects. Later, in the seventies, a parallel approach was adopted, that urged integrating pedagogical training with technical and vocational training.

This new approach led to the establishment of two separate Schools under SELETE:

- The Pedagogical Technical School (PATES), which maintained the tradition of the "add on" pedagogical approach.
- The Higher School of Pedagogical & Technical Education (ASETEM), which adopted the parallel approach at the level of Tertiary Education.

SELETE continued to function with this structure until the end of the academic year 2001-2002, when it was nullified in favour of the establishment of an upgraded new School, officially named **School of Pedagogical & Technological Education** (**ASPETE)**.

ASPETE provides concurrent technological and pedagogical education and training at tertiary level. Its mission includes the promotion of applied research in educational technology and pedagogy, as well as the provision of training, further training or specialization for in-service or prospective secondary teachers.

Nurtured with great expectations in relation to the teaching profession, ASPETE aims at ensuring and promoting excellence in all of the programmes offered by its academic departments. These include:

- 1st cycle undergraduate study-programmes in four major disciplines,
- postgraduate 2nd cycle degrees (MA/MSc) promoting research in the relevant subject areas, and
- programmes of pedagogical training, further training or specialization.

To this end, ASPETE is committed to policies and standards that define best practices and encourage transnational cooperation.

ASPETE is situated in Athens in a campus encompassing approximately 200 acres, but it also operates Branches in a number of cities across the country (Thessaloniki, Patras, Ioannina, Volos, Heraklion Crete, Sapes, Kozani/Western Macedonia, Mytilene/Northern Aegean, Rhodes/Southern Aegean and Argos/Peloponnese).

3. Beneficiaries

The traineeship in ASPETE is **mandatory** as part of the academic course programme, for approximately 80 students per year.

ASPETE integrates the realization of a traineeship by the students in organizations of the **public or private sector**. It is considered to be an important part of the educational system, as it relates the students with the labour market.

According to Prof. Panetsos:

> *"Traineeship necessarily refers to **all** the students. There is a chance that someone doesn't complete it successfully. But that has never happened before. Although, what has happened is that someone doesn't finish with one employer and continue with another.*
>
> *All of them finish it, in order to graduate".*

4. Learning opportunities

The scope of the students' traineeship programme is to contribute to the **better use of the knowledge and skills acquired during the studies in a professional environment** and to the further integration in the workplace.

The traineeship also creates a two-way channel of transferring information between the educational institution and industrial partners. But there is **no Curriculum**.

According to Prof. Panetsos, in agreement with Prof. Adam:

> *"We don't have a specific Curriculum for what they have to follow. What we are concerned about is whether it's a company that justifies a students employment.*
>
> *We are very careful to see if an employer has a degree from an equal or upper than ASPETE institution and if they have the same specialization".*

Regarding the assessment methods students going through in order to coplete the traineeship successfuly, Prof. Adam states that students are evaluated as they return with a **Traineeship Book**, in which they write daily what they did and which is signed by the supervisor.

> *"As well as the Traineeship Book, they provide an **essay** from the supervisor teacher for the student's work. There can also be a possibility to make some remarks. Other than that there is no thing, I mean as a grade.*
>
> *However, the mirror of Traineeship is its Book, which is signed by the student first, the assistant of the company and the supervisor teacher".* (Prof. Panetsos).

As far as the **feedback** that students receive, Graduate 2 underlines:

> *"No one gave me feedback, nothing. The Traineeship Book isn't rated by the employer. I write what I do daily and in more detail weekly. The employer just reads what I've written and signs every week. I wasn't even checked by ASPETE".*

Graduate 1 added:

> *"My colleagues showed me a thing or two, and if I had a question it was depending on the day: It would be solved immediately, or they might have told me 'didn't I show you that already? What can't you understand?' At this point I even had a notebook to keep notes on, I wrote down everything they told me, because I thought 'That's it, you won't learning anything, write it down, whatever you catch!'.*

Concerning the **support** students received during the traineeship programme, Graduate 2 stated:

> *'When I had problem with the employer, the supervisor from ASPETE supported me and gave me advise and a lot of courage.*
>
> *But the employer couldn't understand that I was a young student who wanted to learn, and he tried to show me with an unfriendly way.*
>
> *But after all, I was learning! I was learning because he wanted me to get things done".*

On the contrary, Graduate 1 had a very good experience during the apprenticeship programme, since at first the two colleagues supported him a lot.

> *"The employer didn't control what I was doing, but he just asked the other two employers who supported me. At first they corrected me. The first month they told me 'You'll do that' and a young man came –not the assistant himself- and checked whatever I did. He corrected me then. After a month he didn't have to. I went there and knew what I had to do. I did specific things".*

5. Organizational structures

Although the **legislative border** is the same for every **T**echnological **E**ducational **I**nstitute (TEI), ASPETE sets its own terms and conditions.

According to Prof. Panetsos:

> *"One difference of ours is that we have duly constituted the **spring semester** of the 5th year, but the TEIs have a spring as well as a winter one.*
>
> *The other difference is that **we don't have requirements**.*
>
> *In the 10th semester, we do Traineeship. Even if a student hasn't completed all the courses. Meanwhile, at TEIs, they do have conditions for the courses."*

The Graduate 2 described the whole procedure as if follows:

*"First you write an **application** that you've found the employer and he signs it. Then we sign the **contracts** with this turn:*

1. *The student*
2. *The employer*
3. *The Department of ASPETE*

You deposit it and you take the approval that you can do the Traineeship. After that, you go to the accountant of the company or the person's you are going to work with and you start immediately.

The contract says when you're starting, the limitations that I need to have e.g. for the attitude of the student.

*The **contract** is the **same for all the students**".*

Concerning how is the cooperation between the partners organized, Prof. Panetsos underlined:

"Most of the students –on their own- refer to public or private organizations such as:

- ***OTE** –Hellenic Telecommunications Organization (which absorbs the 50-60% of the students)*
- ***DEI** –Public Power Corporation,*
- *Banks, or even at*
- *ASPETE's laboratories as assistant stuff."*

It is interesting that from ASPETE 10 working positions for students are approved every year, but not all of them are filled. That means that students prefer working outside. Mainly for economical reasons.

Some companies also set specific requirements.

«*For example, DEI doesn't want the students who haven't pass successfully many courses and DEI also asks for a thorough grade up to rate them. Plus, things are really hard for the students. That means they have a strict schedule of a regular worker. But these organizations pay regularly or even higher amounts"* (Prof. Panetsos).

Regarding the **funding** of the programme, the total salary for each student is 400€. OAED (Manpower Employment Organization) pays 280€ and the rest (120€) should be given by the employer. But according to Graduate 1:

"*Everyone has come to the realization that there is no money and that you won't get paid every month. You will be given the money in the end. 'When OAED gives me the money, I will give them to you'. But I am working for the employer 8 hours per day. Who is supposed to step in then? Isn't ASPETE supposed to do that?".*

For this case, both Graduates advised that it is better to choose a cooperation with a public sector company where:

> *' students know they will get paid and it will be whole and monthly"*.

6. Permeability and lifelong learning

Both Graduates and Professors underlines benefits of this integrated programme in lifelong learning terms.

In particular, according to Graduate 1 students for first time in their lives learn how to **deal with specific rules in a professional environment**, otherwise they will get fired.:

> *"The student goes into the process of the **routine**. He has to learn some things and form them in order to earn his salary. This is what the students have to learn. Because the presences aren't necessary in schools and you don't even learn anything. With apprenticeship programme students become experts. They go into a professional environment, where they have to follow certain rules. In school there isn't something like that".*

Students also gain **skills**. The engineering's skills, something more professional from the theoretical knowledge they already had gained during their academic studies.

7. Transparency, responsiveness and relevance of VET systems

Learners and stakeholders have to struggle on their own in order to be informed about (further) learning opportunities. As it has already been mentioned, students search for a company to do their traineeship on their own, although there are very few companies who comes to ASPETE and leave an information leaflet by asking for students. Furthermore, they are mainly self-educated during the apprenticeship programme. Students are basically self-motivated by the love for their professions from the very beginning.

As Graduate 1 declared:

> "*The first stimulus is that I like the subject. So when I see something new I look into it".*

The truth is that because of the specific context of this apprenticeship programme, interviewees had almost nothing more to state responding to the specific group of questions regarding the transparency, responsiveness and relevance of the VET system, a reality which complements the findings of the previous desk research and expert interviews. After all, VET stands between education and labor market, which in Greece right now doesn't operate very effectively, because of the financial crisis, especially in a country with small and medium-sized enterprises. Furthermore, the previous expert interviews had identified a cautiousness among labour market and the educational world.

8. Strengths weaknesses and perspectives

Regarding the strengths of this programme, interviewees agreed that although they are different for every student, the programme gives to everyone the opportunity to go into the **professional environment** of their subject, for first time.

> *"It [the internship] will help the student. Because half of the students currently work as waiters. So, if students want to loosen from there, they have to find another employment. And this is the **first chance**"* (Graduate 1).

Prof. Panetsos named one more strength:

> *"There is a partnership that we know where the student is going (like OTE, DEI, Banks) **they inform us** by temporary **calls** about what goes wrong, so that we make the right moves to change a probably bad situation".*

Furthermore, Graduate 1 named one main weakness, in agreement with the other interviewees:

> "*The traineeship programme gives you the experience. I didn't even know how a mechanical works.*
>
> *Some friends of mine missed that chance to learn, because they haven't done the real traineeship, they did a **counterfeit traineeship**, which is illegal -the teachers don't know that they do that.*
>
> *They just arrange a meeting with a mechanical and go for a little while at his office, even though they don't do anything".*

It is also interested to notice what Prof. Panetsos declared for the same issue:

> *"The whole programme is controlled partly. The ASPETE supervisor couldn't travel at the countryside and check if the traineeship is done. That's it. Because of this, a lot of students who don't want to be involved, find a **counterfeit traineeship.** In Greece, that's what is happening! In many Universities"*

while Prof. Adam explained further:

> *"The supervising is possible through the phone or with local supervising. There was a fund - from the National Strategic Reference Framework (ESPA), which supported by the European Union- for the supervisors to transport and check the traineeship in the countryside. But now ESPA has ended, so the money for traveling are missing".*

Another weakness is what Prof. Adam stated:

> *"Nowadays the process of the traineeship in ASPETE isn't well rounded. That **the students** usually **find the company on their own.***
>
> ***But the jobs are extremely limited.***

> *We ask from the company, which is going to employ the student a reassurance that it will employ him. In fact in their object and their proficiency. It means that we make it clear for the student that the supervisor of the company must be a graduate to supervise him".*

In the meanwhile:

> *"We **don't have an organized base for the companies' data** so that we could have a permanent partnership with companies and to be clear which one is an authorized company, in order to send our students and to know that it is a company that you can work with"* (Prof. Adam).

In other words:

> *"There is no stable relationship. That means that there are companies with which we collaborate, but this relationship isn't stable"* (Prof. Panetsos).

For the same issue, according to Graduate 1:

> *"At TEI they can find you a company in general. But I didn't even ask the Department to find me a company, because I live in the province. Even if they did find me a company, it would be in Athens".*

And all these, in a process which changes every 6 months:

> *"What I do as a supervisor is to remain a process, especially when **the process changes every 6 months**".* (Prof. Adam)

Another weakness of the programme refers to the payment of the students during their apprenticeship:

> "*In the previous years, when there was demand, companies hired students and they paid them.*
>
> *Nowadays, that there isn't demand, the company tells you that they don't need you.*
>
> *Meanwhile, if the student doesn't bring in the paper which says that he did [the traineeship], doesn't get a degree. So he goes begging for employment. The answer given is that he can leave or **work for free.***
>
> *But, students ask for the traineeship and now with the economical crisis demand to get paid too.*
>
> *Earlier, when money existed and their dads supported them by sending money, they did it for free. Now they say 'I'm not going to work for free'.*
>
> *Usually, the person who doesn't pay is the employer who has a little store in the countryside, not the big companies".*" (Prof. Panetsos).

Prof. Adam added:

> *'The total salary is 400€. OAED (Manpower Employment Organization) pays 280€ and the rest (120€) should be given by the employer.*
>
> *But the employer won't be obligated. If he wants, he can give you. If he doesn't want, he doesn't give you the money. Although you'll definitely get the 280€".*

Regarding the perspectives, Prof. Panetsos explained that any change is a matter of **legislative regulation**.

Graduate 2, because of the exceptional bad experience with the employer during the programme, suggested:

> "*More **limitations** as far as it concerns the **employer's** attitude. Even though there are limitations for the student, like someone stopping if there are problems (e.g. bad behaviour, unjustifiable absence) there are none for the employers".*

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Summary of interviews

Although the aim of this P4LLL project is to study the organisational models of integrated learning opportunities and bridging programmes, desk research which has been carried out in the previous phase of the project comes to the conclusion that in the case of Greece those two specific core types of partnership are missing.

The planned expert interviews have included two researchers in VET and labour market research and four practitioners (educators) from educational institutions, namely post-secondary VET private schools (IEK). The results of this empirical survey validate and complement the findings of the previous desk research in the case of Greece, by providing further details.

The planned expert interviews have included two researchers in VET and labour market and four practitioners (educators) from educational institutions, namely post-secondary VET private schools (IEK).

All of them agreed that there is a lack of the required decentralization in the field of VET, at least in the level that should be, neither occurs any partnerships between Vet providers and enterprises – except of the traineeship programmes, as a way of the insertion of young professionals in the Greek labour market. Because of this statement, which is common to all of the participants, you can find below very briefly the most interesting and specific issues that each one raised (besides the above already mentioned).

INTERVIEWEE 1: Researcher in VET and labour market

According to Interviewee 1 the main problem in the context of VET in Greece is that there are no clear, well-defined responsibilities among the directly concerned parties.

INTERVIEWEE 2: Researcher in VET and labour market

Interviewee 2 gave a good paradigm of how the field of VET in Greece is missing knowledge, mainly because of the frequent change of politicians.

INTERVIEWEE 3: Practitioner (educator) from educational institutions, namely post-secondary VET private schools (IEK)

Interviewee 3 interpreted traineeships as a form of experiential learning where trainees have the opportunity to apply theories from education to real workplace.

INTERVIEWEE 4: Practitioner (educator) from educational institutions, namely post-secondary VET private schools (IEK)

Interviewee 4 highlighted the necessity of a good communication among VET, higher education and labour market in Greece, which unfortunately now is missing.

INTERVIEWEE 5: Practitioner (educator) from educational institutions, namely post-secondary VET private schools (IEK)

Interviewee 5 has recognized a lack of the required decentralization, at least in the level that should be, referring to issues of Learning Programmes and certification process. He explains further especially the case of accreditation processes, where the Greek system is bureaucratic.

INTERVIEWEE 6: Practitioner (educator) from educational institutions, namely post-secondary VET private schools (IEK)

As the rest of the participants, Interviewee 6 underlined the need of a national policy in the field of VET in order to promote cooperation and partnerships among the initial VET players (namely, government departments, organizations, institutes, labour market, trainers, parents).

The key issue in the case of Greece

According to all the participants there is a lack of the required decentralization, at least in the level that should be, referring to issues of Learning Programmes and certification process. In other words, while administratively we could say that there is a structure decentralizations, with Regional Directorates, Regional Units, in fact, when it comes to the content of VET educational sector it seems to be extremely inflexible and too guided.

For instance, the government department centralized prepares a learning programme, plus the assessment and accreditation procedures. But in fact this strategy of the government department doesn't give any chance to all the directly concerned parties, or in other words, to the 'players', equally to have an essential role during the preparation of this specific learning programme.

The 'players' and their role in the field of VET

There are many 'players' in the context of VET policy, because VET stands between education and labour market, which in Greece doesn't operate very effectively. More specifically:

- By default, there are players who start from the government context, such as government departments, which establish the VET policy.
- Vectors who implement those policies, such as the National Organisation of the Certification of Qualifications and Vocational Guidance (EOPPEP), or the Manpower Employment Organization (OAED).
- Units, such as school units or institutes.
- The compulsory participation of labour market, employers and employees, who are the great particularity of VET – at least according to European Unit.
- Trainers and educators.
- Parents.

According to interviewee 5:

> *"All those years, the fact is that we do have a three-member representation (government, employers and employees) e.g. in the case of accreditation processes. But this representation is typical and not substantial. Even though in some cases we do have positive steps towards an essential role of the employers and employees representatives, mainly this role remains in a bureaucratic participation".*

Interviewee 2 provides an explanatory example:

> *"Professional outlines have been promoted from the beginning as a creation of all directly concerned members, but many problems occurred since there was a lack of a common direction among those members. As a result, those professional outlines became extremely differentiated".*

Interviewee 1 concludes:

> *"There are no clear, well-defined responsibilities among the directly concerned parties in the context of VET in Greece. This is the main problem."*

The 'missing' knowledge

Greece is always present in many pilot programmes regarding the configuration of European policies in the field of VET. The main issue is that all the previous knowledge is missing because of:

- the frequent changes of responsible persons,
- the absence of a stable policy in the field of VET in Greece.

This is how our country is missing the chance to built on the previous programmes, on the gained experiences and on good practices.

Interviewee 2 gives a paradigm:

> *"Let me give you the example of the accreditation of non-formal and informal learning, which is a very important issue. Such efforts have been happened since the early 2000's; namely, there have been occurred pilot programmes and actions in the field of tourism, with very good results. That was a knowledge which now has been missing. Because the logic of the politicians is to try something whether it is feasible and effective and after that it depends on the jointly responsible vectors to implement the new practice more widely. Unfortunately, in Greece a huge problem is the change of politicians, from government to government, from minister to minister, so many times, that all those efforts are finally missing."*

Labour Market vs. Educational World

In Greece there is a cautiousness among labour market and the educational world. There is a negative tendency, which hasn't been overcoming, although according to interviewee 4:

> *"now, in a period, of crisis we should search for some practical solutions."*

And he explains:

> *"We should re-examine communication issues among VET, higher education institutions and labour market, a communication which now is a taboo. For instance, nowadays we have establish a single framework of qualifications and competences in order to stand aside obstacles. But right now if a student attends for two years a public or private Institute of Vocational Training (IEK or SEK: Greek), and wants to continue his studies in Higher Education, basically those two years are useless, because he has to attend from the beginning a General Highschool and to pass pan-Hellenic exams".*

This example shows that in VET there shouldn't be deadlocks. Any kind of knowledge should be recognized with strict standards of accreditation.

Insentives to partnerships

What we need in Greece in order to promote cooperation and partnerships in the field of VET is to configure and follow a **national policy**. We know that we are following the agenda of Europe 2020. This agenda should be applied in a cohesive manner.

> *"We can't wait constantly for the next minister or the new government to reform from the start all the issues. We need to give incentives to the representatives of labour market, in order to cooperate with vectors specially in the field of VET."*
>
> (Interviewee 5)

Therefore, we need a flexible national policy in VET in Greece, which can promote partnerships with added value to graduates. But all this, "*should be under a control procedure by a public vector*" as all interviewees agree.

Transferability of global good practices

According to interviewee 2, applied learning in Canada has been conducted with great success. As he explains:

> *"After all, Canada has one of the two biggest VET systems in the world. The other important 'hybrid' VET system operates in Germany".*

But as all interviewees mention, there should be an attentive forethought of the educational and economical context before any attempt of VET cooperation system transportation from one country to another.

Interviewee 3 has mentioned:

> *"For instance, German VET model has almost 400 years tradition. Germany has also a large-scale industry".*

So, it is questionable whether we can implement massive apprenticeship in a country with small and medium-sized enterprises like Greece.

The Case of Ireland

1. Introduction

This report describes a specific 'Case' of partnerships for Lifelong learning in the context of the P4LLL-Tec Erasmus Plus Research Project led by ITB, Bremen. This Case is highlighted here by Dublin City University's Further Education and Training Research Centre (FETRC) based within the School of Policy & Practice in DCU's Institute of Education.
The aim of this report, by the Irish partners within the project, is to give an overview of this 'Case' with a specific focus on the sectoral aspect cross-cutting the main project (engineering etc.). The report also aims to offer a helicopter view of (F)VET[1] and integrated learning opportunities in the context of Skillnets in Ireland and the responsibilities of the various stakeholders involved in transitions between FVET and HE whilst highlighting permeability within the system.

Contextualising LLL in Ireland

A particular characteristic of the Irish context in relation to lifelong learning is the promotion of the interdependence of the objectives of economic development and social inclusion. Thus social forces have always been viewed as key drivers, alongside the economic forces at play, in the promotion of the lifelong learning agenda in Ireland. In the Green Paper on Adult Education (1998) *Education in an Era of Lifelong Learning*, the rationale for investment in adult and community education, as explicated in the Green Paper, was not based "…entirely on economic considerations and issues of disadvantage, but also on the role of learning in creating a more democratic and civilized society by promoting culture, identity and well-being and by strengthening individuals, families and communities" (Government of Ireland, 1998, p16).
In 2000, the Irish Government's paper on Lifelong Learning was published (White Paper on Adult Learning, Learning for Life, 2000) and this decoupled lifelong learning from purely economic motives. Rather than being merely a tag-on to the economic rationale for lifelong learning, the White Paper prioritized the issue of social cohesion through its emphasis on active citizenship through personal, community and cultural development. This was the first legislative attempt to try to define lifelong learning from a policy context. The paper focused primarily on adult learning although its overarching theoretical framework was based on the principles of lifelong learning.

A commitment to a lifelong learning agenda as a relatively seamless progression

[1] In Ireland Vocational Educational and Training is also referred to as further and continuing education FE/CE, and is broadly divided into Continuing Vocational Education & Training (CVET), and Initial Vocational Education & Training (IVET). To incorporate the holistic nature of the sector and for the purposes of inclusion it will be referred to in this paper as FVET.

> through an educational continuum from the cradle to the grave, with open boundaries between the worlds of home/work/education and provision for flexibility in learning sources, raises challenges not only for tertiary education but also for early life education.
>
> (Government of Ireland, 2000, Sec: 1.5.2, pp. 62-63)

The latest data available regarding Lifelong Learning among Adults in Ireland was published in April 2015 by the Expert Group on Future Skills Needs (EGFSN), Skills & Labour Market Research Unit within SOLAS (The Further Education and Training Authority) and this relates to 4th Quarter 2014. The statistics suggest that:

- Of the 2.48 million adults aged between 25 and 64 years in the population, almost 181,000 persons had engaged in lifelong learning activities in the preceding four weeks
- The lifelong learning participation rate was 7.3%
- Most lifelong learning participants had engaged in formal learning activities (almost 119,000); 64,800 had engaged in non-formal learning
- Lifelong learning participation tends to decline with age
- The higher the education attainment level, the more likely adults are to participate in lifelong learning.

(EGFSN[2]-SOLAS, 2015 p.1)

2. Summary

Established in 1999, Skillnets supports and works with businesses in Ireland, and their employees, to address their current and future skills needs. Skillnets provides high-quality training through 63 learning networks in a range of regions and sectors. The organisation is actively supported and guided by national employer and employee bodies such as IBEC[3], Small Firms Association (SFA), Construction Industry Federation (CIF), Chambers Ireland and the Irish Congress of Trade Unions (ICTU). Skillnets receives funding from the National Training Fund (NTF) through the Department of Education and Skills (DES). Skillnets has five main areas of work some of which are not mutually exclusive. These include the Training Networks Programme (TNP) which is an Enterprise-led learning networks in over 60 sectors and regions; the FINUAS Networks Programme: Dedicated programme for the international and national services (IFS) sector; the Future Skills Needs Programme (FSNP): Design of innovative training to address future skills needs; the Job-seekers Support Programme (JSSP): Workplace activation initiative to assist job-seekers to gain employment, and Management Development:

[2] EGFSN - Expert Group on Future Skills Needs
[3] IBEC - Irish Business and Employers Confederation

A management development offering to support SME owner-managers (Skillnets, 2016, p.7.) This Case Study focuses on the **Training Networks Programme.**

A key objective of the *National Skills Strategy 2025* is to increase the supply of skills to the labour market, to strengthen the role played by employers and to increase the focus placed by education providers on skills that are relevant to the economy[4]. Strong partnerships between education and enterprise will be essential to the realisation of this objective. At the heart of the Skillnets Training Networks is the concept of *real* partnership.

> A key advantage of this partnership approach is that the involvement of employers reduces the risk for HEIs of developing programme that are neither relevant nor commercially viable……The evidence suggests that initiatives and programmes such as FSNP will play an important role in the coming years, because they are underpinned by strong education-enterprise partnerships and support a national skills policy objectives (Skillnets: 2017, p.28)

Every **learning network** funded by Skillnets is a cluster of companies from the same sector, geographical location, or a combination of both. Participating companies provide up to 50% in matching funding to the grants approved by Skillnets. Networks have a number of stakeholders:

- An industry steering group oversees and directs the learning network and is made up of representatives of member companies.
- A network manager oversees the learning network on a day-to-day basis.
- Network member companies that span the full range of industry sectors. 85% of our member companies are SMEs and 52% of our member company base have less than 10 employees. (ibid, p.8)

Most networks also interact regularly with a wide range of other national, occupational and Government bodies on behalf of their members, including training providers, higher education institutions and awarding bodies.

[4] National Skills Strategy 2025, 2016, p.11

Figure 1: Skillnets Stakeholder Environment (Source: Skillnets 2016)

Fundamental Characteristics - First Polymer Skillnets (Case Study)

In the context of Ireland there is currently a shortage of polymer technicians in the industry and this shortage has been highlighted in both the FORFAS[5]/Expert Group on Future Skills Needs report on the Future Skills Requirements of the Manufacturing Sector to 2020 and the Action Plan for Jobs 2013. The Skillnets Training Networks programme is the largest programme under Skillnets as highlighted in an evaluation report by Indecon (2015). There are four pillars that encapsulate the aims and objectives of the Programme:

Pillar 1: Driving Skills Strategies through Sectors and Partnerships

The primary focus of pillar 1 is on enhancing skillsets and achieving best practice competence across Irish industries and sectors. This pillar will support employee to enterprise, and enterprise to enterprise engagement with the goal of fostering sectoral skills development.

[5] **Forfás** - was the national policy advisory board for enterprise, trade, science, technology and innovation in Ireland. The agency was established in January 1994 under the Industrial Development Act, 1993 and was run by a board appointed by the Minister for Jobs, Enterprise and Innovation, to whom the agency is responsible. It was dissolved on 1 August 2014 when Forfas' policy functions were integrated with the Department of Jobs, Enterprise and Innovation.

Pillar 2: Growing the Skills Base

The aim of this pillar is to enhance the skills competencies of the entire workforce through the encouragement of lifelong, enterprise-led learning. This will ensure Ireland's human capital maintains a competitive edge going forward and will provide employees and jobseekers with improved employability options.

Pillar 3: Development Local Learning Responses

The focus of Pillar 3 is on supporting local and regional training initiatives to reduce the relative disadvantages present in the provisions of resources. Pillar 3 will be achieved through the creation of regional networks and local partnerships with education, government, and enterprise stakeholders.

Pillar 4: Building Best Practice in Learning and Development

The primary focus of this theme is the up-skilling of individuals in certain key competencies which have been identified by European policy as necessary skills for all European workers (Indecon, 2015, p.16).

Beneficiaries

The beneficiaries of First Polymer Skillnets (FPS) are wide and varied. The collective partnership approaches ensure that FPS have a range of learners from low-skilled to master.

> So far, the Skillnets type of network has tended to focus in VET on people in the work-place achieving modular qualifications i.e. minor awards. The volume of learners who accumulate enough to achieve a major award is small. This is a challenge for networks. However, one should not underplay the importance of learners achieving 'some' qualification i.e. what is appropriate to maintain or improve skills. The need for upskilling to ensure job retention has been recognised as an issue in the National Skills Strategy and through the Regional Skills Fora (Interview, QQI, 2016).

There are three main beneficiaries, Employers, learners/trainees, Jobseekers (and the Unemployed)

> Employers:
> Their needs are addressed through both the preservation and growth of jobs, focusing on skills for management and employees to maintain businesses and protect jobs as well as the enhancement of new skills to create employment
>
> Employee Learners:
> Gaining skills for their professional development. We train a cross-section across all sectors, occupational categories, age profiles and qualification levels, depending on the specific needs of individual enterprise-led networks, which are typical sectoral or regional in their profile.

> Jobseekers/Unemployed:
> Since 2010 Skillnets has trained over 37,000 unemployed learners to equip them with skills to increase their employability and to meet identified skills gaps, many of whom have since progressed into employment
>
> > (Interview: Executive Director – Programme Effectiveness - First Polymer Skillnets, 2017)

The participant demographic varies. On the whole the Plastics Industry itself encourages the trainees to participate in the programmes. Most of the trainees are already in the workplace.

> We have a small number of job-seekers, so Skillnet would have had, back in 2010, we first trained job seekers in a small way because of the crisis and the high unemployment levels and networks have had some really good success stories with job seekers. We have done a few different programs every year, about three, and then our mainstream programs, if we have capacity if we have a suitable job seeker we review their CV, we talk to them on the phone, get the trainer to see their CV. If we think they would fit in with the group. (Interview: First Polymer Skillnets, 2016)

Learning opportunities

The national Skillnets programme has a combination of learning opportunities both formal and informal.

> Depending on the identified needs of each network. 78% of Skillnets training days in 2016 were either NFQ (60%) or industry (18%) certified. Some courses are more informal by nature, and durations vary widely from half-day short interventions to long-term degree courses with a formal qualification.
>
> > (Interview: Executive Director – Programme Effectiveness - First Polymer Skillnets, 2017)

Specifically, First Polymer Skillnets have a range of skills-training/learning opportunities. Some relate to the low-skills end of the mark in terms of upskilling, some relate to in-service CPD, some relate to supporting apprenticeships in the Plastics Industry etc. This case study and the supporting learner and employer data relate to the in-company training aspect of their work. FPS (First Polymer Skillnets) also have specific job seeker courses - in 2016 over 610 people participated on an Injection Moulding course. The 10-day program was spread out over three weeks and included a paid work-based placement into a company for a month, and that was 100% funded by Skillnets. Some of these participants had previous experience and some did not. FPS's promoter is the plastics industry itself i.e.: Plastics supported by IBEC which also promote about six different Skillnets across Ireland in financial services, medical technologies, farmer chemical and across a range of different sectors and retail as well. FPS is the national provider of training for the Plastic industry. However, they are based in the Midlands of Ireland

and have strong partnership links with their nearest Higher Education institutions, Athlone Institute of Technology and Sligo Institute of Technology. FPS also have technical training with specific industry supplied machinery in a purpose built workshop.

> We have four injection moulding machines, an extruder, a thermal former, we also do some maintenance training as well. But we are the only centre at the moment where a company could send their employees on injection moulding training (Interview: First Polymer Skillnets, 2016)

Many of the training opportunities that the learners engage in are very specific for a hands-on experience mostly about getting the technicians or engineers up to a certain level of Polymer processing matching an industry standard.
Together with the national accreditation body, QQI, FPS developed a Level 6 (EQF 5) Certificate of Polymer Technology, which is a part-time online program delivered over one year.

> We also initiated, back in 2009, a level 7 engineering degree, for the simple reason, actually there was no full time Polymer degree at that time, so there was a big skills deficit in this sector, and Athlone IT have stopped delivering full time Polymer degree (Interview: First Polymer Skillnets, 2016).

FPS provision is driven by the industry. Around 2007-2008, FPS along with the Plastics Polymer industry, engaged with a detailed research process using surveys and focus groups to find out what provision was required. It first started with a degree designed in conjunction with two of their nearest Higher Education Institutions. The degree has failed to capitalise of the industry requirements and is no longer fully in existence. However, a new Apprenticeship for the Polymer Industry has just been launched in Ireland which will provide the higher level qualification learners and employers have been asking for. In this programme the participants learn the characteristics of various polymers, the common polymer processes (including injection moulding, blow moulding, and extrusion), and factors in the design of tooling for these processes. The course also presents modules that are relevant to automated production (such as CIM and Automation Technology and Energy & Utilities Management) and management modules relating to Six Sigma methodology. They also provide modular training for a yearlong part-time programme level 6 Certificate (EQF 5) in Polymer Technology (Special Purpose Award) and is jointly delivered (primarily online) by Plastics Ireland and IT Sligo.

Organisational structures

Skillnets is a training network which is set up for a particular skills need in a region or in a sector. There is a mix of regional networks and a mix of sector networks. They are promoted generally by a trade association chamber of commerce, or even the company, and they can be long-term or short-term and reviewed on an annual basis so each year they apply for funding to central government. If there is still an ongoing need in a particular sector or region,

and there is proven enterprise engagement, 'that's very, very, very, important so it's all very much enterprise led then a network could be continue to be funded through Skillnets'

> Skillnets is one of the beneficiaries of the National Training Fund from Central Government. I think it's something up the region up to now but 16.5 M. I think it's got a slight increase of a couple of million for 2017 (ibid).

Training networks are comprised of a number of key stakeholders as per Figure 2 below. A steering group oversees and directs the training network and is made up of representatives of member companies. The group meets on a regular basis and makes management decisions. A contracting organisation manages the activities of the training network and receives the funds from Skillnets on behalf of the training network group and collects the matching funding from participating member companies.

Figure 2: Skillnets Training Network (Source: Skillnets 2016)

At a national level the:

> Board of Skillnets was set up as a partnership of key stakeholders, representative of both the main employer representative bodies and also employee organisations e.g. trade unions. Skillnets believe that the engagement in quality learning interventions creates a Win-Win, where the needs of the employer are met in addressing identified skills gaps, and those of the individual learner provide career progression opportunities. This lends itself to the partnership concept in the form of cohesive and

> collaborative networking, and at its very core a network is a group of different stakeholders who share a common goal and come together to create synergies. Therefore, the collaborative engagement of a wide range of stakeholders is encouraged e.g. at steering group level.
>
> (Interview: Executive Director – Programme Effectiveness - First Polymer Skillnets, 2017)

Within each network a network manager manages the training network on a day-to-day basis. Member companies span the full range of industry sectors and can be enterprises of any size. Networks also interact regularly with a wide range of other bodies on behalf of their members, including training providers, higher education institutions and awarding bodies. Director of First Polymer Training network Catherine Collins said that the FPS is:

> Very much enterprise led, exactly. A lot of networks have been around for a while some little shorter lived because maybe the need is not up there. It's a short-term need. But very much enterprise led driven by industry, driven by employers and each network will have its own voluntary steering group which would have strong representation from employers and the promotion organization, but that's an IBEC sector organization or it could be a chamber of commerce, or even a company (Interview: First Polymer Skillnets, 2016).

Permeability and lifelong learning

Catherine Collins values the partnership and lifelong learning approach to the running and future development of the First Polymer Skillnets. She believes that it is the industry that dictates the needs of the sector and contributes ideas and initiatives through the voluntary steering group.

> Well, through the voluntary steering group we have a number of eight companies represented with a couple of new ones joining.....We have companies who have been involved since the very beginning since back in 1999, and then we have a few new ones that have joined over the years. They're very much driving the network. Not from their own specific company needs but for the wider needs of the sector, so they're not different technologies are coming down the track or we need to be doing more on this side of processing or we need to introduce maybe more robotics automation. They see all the trends coming, they see the skills deficits amongst their own employees (Interview: First Polymer Skillnets, 2016).

As the FPS training network is industry lead then the permeability and lifelong aspects of the learning are very high. Though FPS is relatively niche and small in scale the industry cannot survive without high-level qualified technicians and engineers. Therefore, all the training that takes place in FPS either for the HEIs or the Company's benefits the trainee/learner for the rest of their lifelong learning pathways. The concept of pathways and qualifications is another incentive for the learner. Learners with low or little skills can now enter the Plastics industry,

and more specifically the Polymer sector either at Apprenticeship level (launched June 2017), or for a level 6 certificate (EQF 5), or a Level 7 (EQF 6) degree and once inside a company can avail of constant (free to the learner) upskilling on the latest industry developments and technologies and machinery.

> By promoting the increased engagement in learning and development, Skillnets are helping to address the lifelong learning (LLL) agenda. Our statement of strategy is very aligned to national policy in terms of not just LLL but also career progression opportunities, and the strong positive independent evaluation of Skillnets learning received annually helps to promote the concept of learning. Also we have numerous examples of permeability, ranging from transversal skills which provide increased mobility and employability, and also dedicated conversion programmes for jobseekers.
>
> (Interview: Executive Director – Programme Effectiveness - First Polymer Skillnets, 2017)

Lifelong learning statistics

The latest data available regarding Lifelong Learning among Adults in Ireland was published in April 2015 by the Expert Group on Future Skills Needs (EGFSN), Skills & Labour Market Research Unit within SOLAS (The Further education and Training Authority) and this relates to 4th Quarter 2014. The statistics suggest that:

- Of the 2.48 million adults aged between 25 and 64 years in the population, almost 181,000 persons had engaged in lifelong learning activities in the preceding four weeks
- The lifelong learning participation rate was 7.3%
- Most lifelong learning participants had engaged in formal learning activities (almost 119,000); 64,800 had engaged in non-formal learning
- Lifelong learning participation tends to decline with age
- The higher the education attainment level, the more likely adults are to participate in lifelong learning.

(EGFSN-SOLAS, 2015 p.1)

In Ireland in 2014 57% of all lifelong learning participants are female, amounting to 103,300 persons. This pattern holds for formal and non-formal learning, where females make up 66,200 (56%) and 38,700 (60%) of all participants respectively. Most lifelong learning participants had undertaken formal learning activities (almost 119,000 persons). 26% are aged between 25 and 29 years; however, the age profile is younger for formal learning participants: 35% of formal learners are aged under 30 years and a further 23% are aged between 30 and

39 years. In contrast, over one half of all non-formal learners are 40 years or older. 60% (108,400) are third level graduates; of these, the vast majority (84,300) are degree holders (Ord/Hons degree or postgraduate qualifications); over 24,100 hold higher education qualifications at sub-degree level. 12% (21,400) hold qualifications at post Leaving Cert level (e.g. further education and training qualifications at levels NFQ 5-6) (ibid, p2-3).

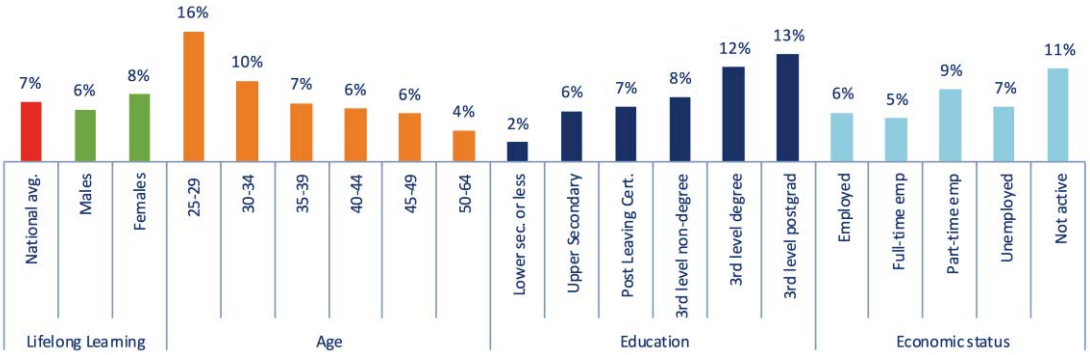

Figure 3: Lifelong learning participation on rates by gender, age, education level and work status, q4, 2014:
Source: SLMRU analysis of CSO QNHS data

The previous data available on Lifelong Learning participation rates was in 2009. So what has changed since then? *Participation rates in lifelong learning activities are unchanged,* however, they increased slightly (by 1.6 percentage points) for 25-34-year-olds and the economically inactive (by 2.4 percentage points). For most groups, rates either remained the same or declined only very marginally (by half a percentage point or less). The most notable declines were for third level graduates (-1.3 percentage points) and those employed full-time (-1.1 percentage points); the decline for graduates is related to an increased share of older graduates in the population and the fact that participation rates decline with older age cohorts; the decline for full-time employed relates to decreased participation in non-formal learning for this group (ibid p-3-5).

Transparency, responsiveness and relevance of VET systems

The Skillnets Training Networks operate outside of the 'normal' F/VET structure in Ireland. The F/VET system could be described, at best, as a mix of further, vocational and continuing education and training initiatives delivered through a diverse, multi-faceted and disparate system. The purpose of the P4LLL-Tec project is to examine the concept of partnerships particularly in relation to access, transfer and progression. There are a wide and varied range of partnerships that exist between F/VET and HE most of these have yet to be documented and formally acknowledged. There are various economic and political reasons for this. There is a strong relationship between higher education and further/vocational education. However, this relationship is not based fully on equality. Rather, it is based on a diverse range of reasons including:

- the experience of further/vocational education and training teachers who received their professional education in higher education institutions
- the increasing demand from students and teachers in further/vocational education and training to find progression pathways for further/vocational education and training graduates
- the historically segregated responsibilities and various limited roles of State bodies in relation to further/vocational education and training provision, including the Department of Enterprise, the Department of Social Protection and the Department of Education and Skills (Rami, et al, 2015).

To meet these needs, a wealth of individualised relationships evolved over time between F/VET organisations, stakeholders, institutions and Higher Education Institutions (HEIs) to improve access, transfer and progression for learners seeking pathways to higher education. There are many instances where individual arrangements between teachers and management of further/vocational education and training and higher education institutions have constructed facilitative pathways for further/vocational education and training graduates of particular standards to progress into higher education. In response to these arrangements some HEIs have ring-fenced a dedicated number of places within particular higher education courses for F/VET graduates with whom they have developed a relationship. These ring-fenced places are agreed for both push and pull reasons. Push in that there is a demand from F/VET providers in the local area for progression to HE, pull in that transfers of suitable F/VET graduates can fill HEI dropout student places in courses and can demonstrate that the HEI is responding to non-traditional student wider access demands. However, many HEIs do not have a formalised F/VET to HE progression strategy. There are political, legacy and historical reasons why further/vocational education and training provision is very unequal across the country and not based on need but rather demand. Many FEI (Further/Vocational education and training Institution) to HEI arrangements are not declare. Furthermore, the focus in FE is primarily on PLC (Post Leaving Certificate) provision and progression from PLC FE to HE. With reference to the Skillnets Training opportunities, this focus does not address trainees, apprentices, and adult learners' progression possibilities to the same extent. Skillnets is a partnership for lifelong learning as it serves the Region, the Sector (industry) the Companies, the HEIs and the Learner/Trainees through a process of engagement, sharing and decision making. This makes the model agile and flexible. For example, it can take up to 24 months for a Module/Subject to be designed, developed and quality assured in a university context. In a modern industrial economy, this is simply too long to wait.

Strengths weaknesses and perspectives

The most obvious primary strength about Skillnets is its organisational structure. This structure (see Fig.2, p.9) ensures that all voices are heard - especially the sectoral voice. Furthermore, having many, smaller networks within the National Skillnets programme the size of the individual network never gets too big.

> The Plastics industry is quite small. Some of them operate in the medical area…… because the plastics industry is quite small, many of us, including myself, and many of our trainers would have went through it on Institute of Technology Plastics Certificate and Degree so we know each other, the industry (is) quite small, so we know each other quite well… (Interview: First Polymer Skillnets, 2016).

By having a multilevel input from various stakeholders, Skillnets works as it has all the important and relevant stakeholders involved. Since the Network is industry led, it means that people are not politically appointed to the Organizational structure and the volunteering steering committees. However, representation is present from the important 'players' such as the Employer, the Higher Education Institution, the Plastics Industry and the National Accrediting and quality assurance body (QQI year?).

First Polymer Skillnets also invest significantly by encouraging people with an interest in engineering to think about careers in the Polymer Industries. These are part-funded by the Network, by Plastics Ireland and by IBEC (Irish Business and Employers Confederation).

Though much of the FP Skillnets work focusses on upskilling and dealing with the specific training needs of the Polymer Plastics Industry – because it is partly funded by the National Training Fund and the Department of Education and Skills they also provide training to the low-skilled and unemployed.

> We have a small number of job-seekers, so Skillnet would have had, back in 2010, we first trained job seekers in a small way because of the crisis and the high unemployment levels and networks have had some really good success stories with job seekers (Interview: First Polymer Skillnets, 2016).

Skillnets have provided a small number of courses annually, in which they can review a CV of a job-seeker and help and guide them as to their skill-gaps and provide them with tailored programmes or one-to-one advice and training. As well as assisting the unemployed they can help people who have been made redundant within the Plastic Industries and help them build the relevant skills needed to regain employment in the sector.

In the context of permeability and lifelong learning one of the strengths of FPS is that it can also support individuals who wish to achieve a certain work-life balance through changing their career. Catherin Collins from FPS describes an applicant they had recently:

> He had a friend who has been through our courses who is now a polymer engineer, again who hadn't any previous experience into the research information backlight. But this guy who works as a manager in Lidl is working very long hours, wants to get into engineering, left his job to come on a 10-day job-seeker course, so no pressure. We first thought, "What we're going to do?, we can't replace them. Can we get him a job? He has so little experience." He is now working as a process technician. He's doing that level 6 certificate polymer technology. He's on less money but he's delighted because he has family time, he has time to study and he sees a progression for himself self and he will progress in that company outright. I just think it's a fantastic story (ibid).

On a national level the Executive Director of Programme Effectiveness Carl Blake states that following are the key strengths of Skillnets:

- Relevant and flexible solutions provided which are based on the enterprise-led needs of private industry to facilitate the economic development of Ireland Inc.
- Strong reputation of the brand since our advent in 1999, based on our model and robust procurement and evaluation processes
- Flexible and agile model to allow for a rapid implementation of change when required, due to our close ties to industry
- Synergies created by the coming together of different stakeholders under the network model
- Financial incentives which are attractive to industry to help gain additional participation in L&D
- Pivotal link between industry, academia and policy-makers

(Interview: Executive Director – Programme Effectiveness - First Polymer Skillnets, 2017)

The Skillnets story is not altogether perfect, like other training initiatives there are some acknowledged weaknesses in the system. As the networks are quite small the issues can be managed through transparent processes within the voluntary steering committees. Upskilling and or specific skill-gap training is usually at the behest of the Carl Blake (2017), Executive Director of Programme Effectoiveness at Skiullnets suggests that the weaknesses in the model are:

- Relatively small scale which constrains our (Skillnets) brand awareness
- Creating traction with SME's, in particular small businesses who need to be convinced of the need to engage more in L&D linked-companies (Interview, 2017)

The business case for this is quite transparent, but from a lifelong learning point of view it would be also good to add certification to small units of training either in a modular form through CPD credits so the learners can build this into a portfolio of accredited learning beyond the life of their current employment.

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Interviews:

Catherine Collins, CEO - First Polymer Plastics Skillnets, Ireland

Roisin Sweeney – Head of Awards Standards - QQI (Qualifications and Quality Ireland), Ireland

Carl Blake - Executive Director – Programme Effectiveness - First Polymer Skillnets, 2017)

The aim of the following chapter, by the Irish partners within the project (Dublin City University), is to give an overview of the stakeholder perspectives of integrated learning opportunities including bridging programmes currently operating within the Irish national context, thus contributing to the overall Partnerships of Lifelong Learning Project in the European macro context. the report examines the roles and responsibilities of the various stakeholders involved in transitions between FVET and HE whilst highlighting permeability within the system. Additionally, the summary outlines positive and negative aspects in relation to partnerships with the FVET-HE pathway trajectory. When discussing integrated learning opportunities, the Irish partners of the with the P4LLL-Tec consortium have interpreted this as all pathways and partnerships, whether formal or informal, either devised and implemented at local and regional level as well as State sanctioned interventions on a National basis.

3. Background to FVET reform in Ireland

The organisation of VET has undergone wide ranging systems reform since 2011. The amalgamation of four organisations (FETAC, HETAC, NQAI, IUQB) related to VET and HET led to the establishment of QQI in 2011. In 2013, 16 Education and Training Boards (ETBs) were established. These replaced 33 vocational education committees (VECs). SOLAS, the Further Education and Training Authority, was established later in 2013. SOLAS is the funder of VET provision and the ETBs are providers of VET programmes. Such programmes range across levels 1 to 6 of the NFQ and are lead to major, special purpose, supplemental awards or minor awards. SOLAS published an FET Strategy 2014-2019 and FET Services plans for 2015 and 2016 respectively. 2016 has seen the establishment of 9 Regional Skills Fora (www.regionalskills.ie) created as part of the National Skills Strategy and associated initiatives (http://www.regionalskills.ie/Documents-Publications/). SOLAS also has responsibility for apprenticeships and a new approach to apprenticeships is being developed. In VET, the QQI common award system (at levels 1-6) allow flexibility in terms of how a learner can achieve qualifications. This may be in a full time programme leading to a major award, shorter programmes (leading to special purpose/supplemental awards) or by building credit through the achievement of minor awards. The use of specific occupational standards is not developed other than in particular apprenticeship qualifications which are currently only in the crafts (electrical, plumbing, carpentry etc.) areas. The SOLAS FET strategy has a skills focus. SOLAS has also developed a strategy for Technology Enhanced Learning. In 2014 QQI published a Strategic Approach to Employer Engagement outlining a number of approaches to developing a range of strategic partnerships. In 2016 QQI published Quality Assurance Guidelines and a new policy on the validation of programmes.

Interviewees

There were a number or interviewees selected for Intellectual Output 1, Activity 2 (IO1-A2). There were 6 in total and 4 agreed to recording and transcription. These were all done as face-to-face interviews, electronically recorded and transcribed for analysis purposes. I order to gain an overview of the situation a variety of respondents were interviewed.

- A respondent from Quality and Qualifications Ireland body (QQI)
- A Principal of a FVET College
- A Guidance Officer in a FVET College
- An Access Officer in Higher Education Institution
- A Programme Manager of a FVET-HE programme in a FVET College
- A Programme Chair of a FVET-HE programme in a University

4. Summary of partnerships and transitions from FVET to HE in Ireland

Within FVET provision, programmes leading to awards at Levels NFQ 5 and NFQ 6 are delivered across a range of full-time and part-time programmes including, for example, the Post Leaving Certificate (PLC) provision, specific skills training, traineeships and apprenticeships. Other programmes are delivered through the Back to Education Initiative (BTEI) and the Vocational Training Opportunity Scheme (VTOS).

PLC provision is the largest single programme type, leading in most instances to major awards at Level 5, some with progression opportunities to a second year leading to Level 6 awards or to awards of UK based awarding bodies. PLC programmes specifically include preparation for progression to HE among the programme aims. An evaluation of the PLC programme is currently being conducted by the ESRI on behalf of SOLAS.

Participants in FVET include the full range of socio-economic and age groups including those who are disadvantaged. Many individuals undertake FVET as a second chance education opportunity. This diversity also means that applicants from FVET to HE may qualify under several pathways: mature access, access/outreach pathways for disadvantaged cohorts, on the basis of previously attained Leaving Certificate, including with the Disability Access Route to Education (DARE) or the Higher Education Access Route (HEAR) schemes, through local FVET college to HE programme local links, scholarships for voluntary/ community/ arts or sporting achievements or through the Higher Education Links Scheme (HELS). Some pathways are more distinctive than others and candidates and indeed FVET providers may never be aware of the basis for entry once granted.

5. The Higher Education Links Scheme (HELS) and systematic progression to HE

The Higher Education Links Scheme (HELS) developed in the 1990s through the work of the National Council for Vocational Awards (NCVA) with HEIs, primarily the Institutes of Technology (ITs). It was recognised that for awards of the Council to have status and be valued appropriately nationally, access to HE would have to be negotiated on the basis of the quality of learning involved in the attainment of the award. The scheme did not apply to awards made by other awarding bodies e.g. FÁS, Teagasc, Fáilte Ireland etc.

A link was established for individual awards (Level 5 certificates or 'full awards') granting eligibility to apply for access to first year in programmes in HEIs, sometimes with additional special requirements, e.g. named minor awards or specific grades in specific minor awards. Providers developed programmes based on the standards of the awards, typically taking account of progression requirements. The HELS is owned and managed by the HEIs through the Central Applications Office (CAO). A key advantage of the scheme is the efficiency gained for HEIs in processing diverse applications. Gradually the Universities adopted the scheme. Quotas remained small and were not transparent to the public at large.

Following the establishment of the Framework (NFQ), the IoT sector agreed a broad view that achievement of a Level 5 award was in principle adequate to confer eligibility to progress to programmes at Level 6, 7 or 8 depending on core knowledge, skill and competence requirements. Pathways widened, including an arrangement where any Level 5 major award (i.e. 120 credits) gave eligibility to apply for a place in many programmes within the IoT sector. The IoTs began to rank FVET applicants among those from Leaving Certificate in a common pool, based on a score obtained through a combination of grades, credits, level and associated points. The University sector remained with the reserved quota system. Some Universities now publish the number of places available for FVET candidates.

Following the introduction of CAS, the HELS was reviewed by HEI representatives. A new scoring system was devised to evaluate candidate's achievement. A 'cap' of 400 points (390 from 2017) was established largely to address inappropriate use of the flexibility of the CAS system wherein some FVET providers offered largely irrelevant double credit minor awards, including at Level 6, to facilitate achievement of a higher score, typically to enhance the chances of success of candidates applying to high demand programmes. Scoring of Level 6 achievement was adjusted to become identical to that of Level 5. Candidates could apply to the first year of programmes in HE on the basis of a Level 5 or 6 award. (Some Level 6 awards or programmes confer eligibility to apply for advanced entry or for

exemptions within HE programmes but these are on a case by case basis and are not part of the HELS. FVET providers contest the decisions surrounding valuing of achievement of awards at Level 6.) Individual HEI requirements must be satisfied by successful applicants e.g. specific minor awards required, specific number of specific grades obtained, satisfied single sitting requirements. The latest adjustment to the HELS is the introduction of the revised scoring system, to be implemented from 2017.

Universities continue to offer places within a quota system and typically require five Distinctions as a minimum. One University requires four Distinctions for admissions and noted no subsequent drop in attainment of candidates progressing. IoTs continue to offer places ranked within a common pool including Leaving Certificate and other candidates. Places are offered by the CAO in line with the HEI requirements on the basis of merit and without regard to centre of origin. CAO rigorously audit the application of their process annually. Accurate information regarding links and requirements are published by CAO annually. CAO and the individual HEIs remain the key source of data.

The number of applicants to HE through HELS increases annually. However respondents suggested that there is a fairly constant drop-off between those applying in the first instance, eligible for and offered places and those accepting and taking up places. There appears to be no qualitative data regarding the factors affecting such decisions, although anecdotally it is thought that the time lapse between being offered a place and knowing that the funding is in place to enable accepting the place is an issue.

HELS does not enable qualification under the Disability Access Route to Education (DARE) or the Higher Education Access Route (HEAR). The view in devising CAS is that both the awards structure and associated validated programmes provide sufficient flexibility to enable appropriate decisions at local level regarding equity of opportunity to succeed in assessment. Little is known about the experiences of people with disabilities within FVET programmes at Level 5 and 6; this may be an area for further exploration within the region.

It is important to note that there is sometimes significant variance between the stated requirements for one HEI and programme from another, and indeed from one year to another. FVET providers note the challenge of keeping abreast of such requirements and have observed within Ireland that it can actually preclude progression as a programme can only absorb so many adjustments in delivery meeting the requirements perhaps of a particular HEI rather than a range.

The quota system within HELS is often discussed; it appears logical that the range of those progressing from one stream should be proportionate to those from others. FVET programme purposes and

individual motivations and realistic opportunities can vary. HELS accommodates achievement through the accumulation of credits which may match certain modes of participation; however, individual HEIs set the requirement regarding a single sitting. It should be noted, however, that where a single sitting is deemed a basic requirement, this effectively excludes flexibility at a critical point of entry. This needs to be borne in mind when considering HELS as a progression route and in devising public information around it. Interviewee 1 stated:

> *"… we have two groups of nursing in our school like we should have only one and like around the area close by there's at least another four nursing courses so all the FEs are running them even though we know that our students aren't going to get into college….. Because of the quota system it's so restricted at the moment that the student needs to get the full 8 distinctions, the maximum 400 points and then it goes to..."*

An evaluation of FVET learner performance within HE has not been carried out nationally for many reasons. Some HEIs provide routine feedback to FVET colleges regarding the progression experience and attainment of FVET graduates within programmes.

In some regions, outside of HELS, additional arrangements are developed granting advantage/extra points to applicants presenting from particular programmes offered in particular FVET centres. These tend to be difficult to identify in public material and therefore may be an impediment to good planning on an applicant's behalf. Where this exists in the region it may be useful to examine such arrangements in order to identify the basis and its extensibility in terms of confidence/trust.

> In every module and then it goes to a lotto so they're not guaranteed their place even though they have their perfect FETAC [QQI] Level 5, it's a huge, huge issue and it's something that I would say to students interviewing for nursing it's the only time I would ever recommend repeating your Leaving Cert to get the points. I don't believe in repeating your Leaving Cert, I don't think that you get a huge increase but if somebody was borderline for nursing I would say you are better off repeating your Leaving Cert because it goes to a lotto like you're lucky or you're not (Interviewee 1).

Even the HELS is principle is an instrument designed to enhance the partnerships between FVET and HE the lack of transparency often confuses the learner from the start. In some domains such as Nursing there is a finite number of places available:

> It's even less though like they're slightly separate then the normal link scheme. Like I had looked up for our own students recently and there's less than 40 places nationwide for nursing through FETAC, its tiny (Interviewee 1).

6. Partnerships from FVET to HE

Many of the links and relationships between different institutions are programme-to-programme links. Some of these links highlighted through the Network are working very well. Some have been developed over many years by individuals from both sectors working together to enhance the quality of experience and progression options of their learners. However, these special relationships can be viewed negatively by those outside the relationship.

> We would have a variety of agreements, some would be, the majority at this stage would be written memorandum of understandings for access, for the programmes we run especially at level 5 for post leaving certs, would be access type programmes. Pre university science preliminary engineering and pre nursing, a lot of them would access into your own institution in DCU. We have been with other understandings for advanced entry where they would do a 2 year programme and that would get them advanced entry into the IT, DCU wherever (Interviewee 2).

This relates to a lack of transparency in these arrangements. Though not stated publicly, some respondents to the scoping exercise suggested that the central reason for the lack of transparency of relationships is that many FVET institutions and ETBs guard the arrangements as they are in direct competition with others for student recruitment; the same was suggested by the HEI respondents in relation to their institutions.

> And then we also have other programmes where there would be access and transfer, but there would an understanding it's portfolio based and that would mainly be in areas like architectural, technology, design, graphics, students submit their further education qualification plus a portfolio (Interviewee 2).

7. Partnerships from Training to Higher Education

The findings from the interviews showed that for many in the HEIs and the ETBs, the focus is primarily on progression from PLC courses rather than the broader FVET sector, largely for historical reasons, some of which date to the White Paper, *Charting our Education Future* (1995), which clearly flagged PLC programmes as an alternative route to Higher Education for some. The purposes of programmes such as traineeships and apprenticeships did not give such primacy to progression to Higher Education and is now clearly, arising from the formation of ETBs as comprehensive regional services and broader contextual and social changes reflected above, an area for consideration for more effective, explicit inclusion of graduates of such programmes in progression arrangements. Progression to higher education frequently fails to address validation of non-formal and informal learning (VNFIL). In relation to learners who fall into the Mature Student category (23+) there are often other barriers to overcome.

8. Apprenticeships

With regard to Apprenticeships, the Advanced Craft Certificate[6]provides progression to a variety of Level 6, 7 and 8 courses in HEIs. In addition to the Advanced Certificate, individual institutions may have had some further entry requirements such as interview and/or preparatory programmes.

A full mapping exercise was completed and published by FETAC entitled *Progression from FETAC Advanced Certificate - Craft to HE Courses* (July 2010). In general, applications to full-time and part-time courses were by direct application to individual institutions. However, some required applicants to apply through the CAO. Applicants were advised to confirm mode of entry and any additional requirements with the Admissions Office of the individual institutions. However, clear information and consistent progression requirements do not appear to be in place for holders of Advanced Craft awards.

With the introduction of the Common Awards System (CAS), former FÁS awards (except the Advanced Certificate Craft awards), along with Teagasc, Failte Ireland and NCVA awards transitioned to the CAS. Programmes differed but the same learning outcomes were achieved leading to major awards. Therefore, it is logical to expect that learners achieving the standards of the awards, regardless of provider, should experience comparable progression routes, where awards are the basis for progression as in HELS.

> How it works is you get someone who is willing to take you on. So for example in a garage like we've been canvassing the local garages will they take him on, then they register with FAS and they take him on as a first year apprentice and FAS will pay the allowance… it shouldn't cost the employer anything to take them on but its do they have the vacancy and do they have the skills to operate…. I just think it's more of a formality they flip through the paperwork yeah well maybe they do accredit them but then I know that the college work like once the employer registers with SOLAS well then SOLAS will notify them of when the college part starts so step 2 back to the stage 2 part (Interviewee 1).

In certain cases, there may be specific entry requirements in addition to the award which may or may not be part of the programmes offered, notwithstanding that the same major award is obtained. Places within the HELS are offered via the CAO and are subject to the number of places available for non-standard entry, quotas, and reserved places etc. where such apply, i.e. in the university sector. As

[6] The volume of learning associated with the Advanced Craft Level 6 award is 240 FVET credits; programme duration is typically four years.

responsibility of the take-up of the new Apprenticeship Awards now falls to SOLAS (formally FAS), many respondents felts that this area was a mine field to negotiate.

> It's a huge issue because on the FAS website like I'm doing now 6 years, I went onto FAS it directs you to SOLAS, SOLAS then directs you onto your local training centre for us its Cookstown and then Cookstown redirect you back to FAS. When you're looking for an apprenticeship vacancy that's the loop that you follow (Interviewee 1).

Concern by some respondents was aired regarding a perceived lack of progression from training provision to HE, which merits careful examination. Higher Education institutions seeking talent need to be aware of the full range of programmes offering linked awards, and to examine such programmes and explore articulation in ways similar to that associated with some PLC programmes.

> So I can only imagine like a young man with his parents who haven't finished their second level education trying to sort this out for himself. Like it doesn't happen now so it's a huge issue. I can see why the parents want the child to go onto college but he would be more better (sic) suited to a trade but there just isn't a trade (Interviewee 5).

Inconsistencies in the partnerships to between FVET & HE

Many HEIs appear to have ring-fenced a dedicated number of places within particular HE courses for FVET graduates with whom they have developed a relationship. Many of the HEIs call these 'reserved places' and they are accessed in the main through the CAO. However, a reoccurring theme in the scoping exercise in relation to this - highlighted by many of the ETBs - was the 'lottery' aspect of these reserved places. Achievement of the entry requirements does not always guarantee entry.

Many HEIs do not have a formalised FVET to HE progression strategy or common stated policy. Within this vacuum, individual FVET Centres negotiate local pathways, in some instances based on carefully developed articulation arrangements with individual programmes within HEIs. However, competitiveness in a local context is a key feature of such arrangements. In addition, many FVET providers express a view that places in HE programmes are freely offered where there are issues with recruitment or retention, where programmes cannot otherwise be filled. High demand programmes do not typically attract such places or arrangements, although there are anecdotal exceptions.

There are political, legacy and historical reasons why FVET provision is very unequal across the country. The findings from the interviews demonstrated that it is difficult to obtain transparent information regarding progression pathways; local arrangements are another as most are underpinned by MOUs. However, such MOUs are not typically published, and can be vague as to detail yet are widely promoted as providing enhanced progression opportunities. Laois Offaly Education and Training Board

(LOETB) kindly contributed information in relation to their local pathways arrangements. It may be helpful for others to describe these mechanisms and relationships.

> We use to have an arrangement with XXX where I attend ring fenced those places, because I was doing deals with XXX around other things and it was a great arrangement, worked really well for us and make the class very competitive, but I think it was also as of a time when access was just a local issue because if you were XXX and you were in school in XXX you'd have special access, but then access became a national issue and guidance counsellors were complaining and all of that (Interviewee 6)

CAO Points

The scoping exercise uncovered varying viewpoints and interpretations regarding the issues of CAO points. Some respondents suggested that that there was clearly a differential of 235 between the maximum achievable using FVET results and the Leaving Certificate. It was suggested that a maximum of 400 points can be achieved via FVET through scoring of awards at level 5 or 6 as against 635 points for the Leaving Certificate. The Leaving Certificate is placed over Levels 4 and 5 of the NFQ.

Also, the different requirements from some HEIs in relation to the number of Distinctions that learners must achieve, appears to be inconsistent. However, in stating these issues, we cannot ignore the NFQ and the Levels and workload associated with these awards.

It should be stated here that IoTs use the HELS differently, and rank candidates competitively against the Leaving Certificate applicants. That means that the discrepancy in scoring could be perceived to be an issue except that most programmes in IoTs do not carry more than a 400-point *(390 from 2017)* requirement, and secondly, IoTs argue that if they didn't do this, they could not admit as many candidates as they do currently from FET.

Respondents suggested that the issue of the relative valuing and 'points' differential between QQI (FETAC) awards and the Leaving Certificate should be discussed and addressed.

Full-Time and Part-Time Provision

The research highlighted that real issues exist in both full-time and part-time provision. Full-time provision may have some blockages, and part-time (and flexible) provision offers few local pathways. Respondents described problems learners encountered when trying to gain access to HE from FVET in relation to grants, student fees and social welfare. Inconsistencies in the eligibility criteria for non-traditional students (mature students, lone-parents, and people with disabilities, socio-economically disadvantaged learners etc.) were cited as a significant barrier to progression. The Back to Education Allowance was named as an example of such inconsistency. In relation to part-time study and flexible

modes of delivery this again seems to be an issue. The scoping exercise highlighted issues related to this:

- The lack of flexible study opportunities at HE.
- The State's Free Fees Schemes for HE is only applicable for full-time courses.

The evidence would suggest that a large group of learners wishing to progress from FVET to HE are slightly older (or fit into the mature student range 23+) than the traditional Leaving Certificate students. They tend to have a greater tie to home, family, work and other community commitments, which do not allow them to attend full-time study and deems them ineligible for the State Free Fees scheme.

> For certain groups and quite vulnerable groups in the lone parent group because now their youngest child is 7, they lose lone parent status, so they go onto job seekers. So then they have to either do a course or get a job, they have no qualification the job they'll get will be minimum wage, and out of minimum wage jobs, very hard to get child care and rent and everything else (Interviewee 4).

Connected to this issue is the issue of 'forward and backward steps'. Respondents suggested that some learners wishing to progress from FVET to HE were encountering barriers in relation to progression into universities from NFQ Level 6 and subsequently discovered that there were no progression routes from their course. Some who subsequently wished to return to a more pathway-specific Level 5 course found that this 'backward step' disqualified them from certain future funding opportunities.

> is not the same financially, they don't get the same benefits, when I started 2008, they were getting back to educational allowance which was 204 euro a week and the 6000 top up grant So it worked out about 400 euros a week. Now it's down to 188 a week, they also got a book allowance which was 300 and then went to 500. So there was lots of money available, there was a millennium fund as well where they could get money, there is a students assistance fund. So there was about 4 or 5 different pots they could get money out of. Now it's just down to student assistance fund and the social welfare, or the grant whichever they applied…whatever they qualify for. And the other thing is, there is a lot of people where a partner might be working and if they are working and then the person is assessed, they might only get 25 euros a week. So when they get to college that's what they'll get, 25 euros a week. They use to bring them up to the job seekers allowance which would be 188, but they don't do that anymore. So that's cut out a load of people. But there is lone parents as well that use to automatically get the top up of 6000 which would pay for childcare, that's gone and they just get either the 3000 if they are over 45km or the one and a half, so that's…so loan parents are another group that are sort of cut off now almost from 3rd level education (Interviewee 4).

Again, it is difficult to get all the data from the HEIs regarding admissions as sometimes learners may apply and qualify through a range of pathways. It can be difficult to understand each route and what

is the most efficient application system for the learner concerned. The respondents suggested that learners identified confusion regarding progression routes, sometimes compounding a personal lack of confidence.

Placement

Graduates of FVET provision do not know whether they will get a place in the HEI when applying. Universities and some high demand programmes in IoTs use quotas to ensure places for non-standard entrants including those from FVET and mature students. Some Universities and IoTs routinely publish the number of places set aside for FVET entrants but there is no national picture available on the number of places that might be available for such candidates in any given year. (CAO publishes the small number of places available in nursing degree programmes.) Thus, there is generally a lack of clarity regarding the scope of opportunity available for learners. This is not consistently highlighted or communicated within guidance circles, and there is a general lack of profile in media etc., which in turn might diminish the standing of FET. Additionally, numbers are small and therefore it is hard to draw robust conclusions with regard to performance, attainment, capacity and future employment success. Further research should be focused in this area in conjunction with the SOLAS role of 'increasing the standing of FET' (2015).

The Higher Education Authority (HEA) gathers data on progression into HE, including from FET. It would be helpful to analyse such data particularly with reference to this region and to discuss it more publicly. Some institutions (e.g. Cork Institute of Technology) routinely give detailed feedback to FVET providers regarding the progression success or otherwise of candidates once accepted into HE programmes. Through collaboration, programmatic adjustments are facilitated to support transition and integration into programmes. This practice is viewed as helpful and supportive.

It is also noted by some of the respondents from the HE sector that FVET graduates present well prepared for HE, and typically experience success. Persistence, maturity and an informed decision underpinning participation are features of successful FVET progression within HE.

Curriculum and assessment collaboration

While some of the staff within the HEIs commented that the assessment methods used in FVET helped to prepare students well for HE, others indicated they would like to recruit more learners from FVET but there can often be concerns with standards obtained by FVET applicants. There appears to be very little evidence base for these concerns, and it would be very helpful for the Network to conduct further research with the HEIs to explore this. (QQI and others such as the National Forum for the Enhancement of Teaching and Learning are actively researching and addressing issues of consistency

across the sector including within FVET and HE, through increasingly rigorous programme validation and other policy led measures.) Some ETB respondents highlighted that certain 'domains' in HE were harder to create connections with, such as Science, Technology, Engineering and Maths (STEM). Some ETBs outlined how they are addressing this by co-designing programmes in FVET which are externally examined by the HEI. This is a positive step. QQI has taken a range of actions in relation to some of these concerns, such as the joint development of the Maths for STEM Special Purpose award at NFQ Level 5. This award, which may be embedded within major award programmes, carries a double credit and has been deemed by the validation panel to be comparable at Merit Grade to HC3 grade in higher Level Mathematics for Leaving Certificate. The programme also provides specific measures to provide for consistency in assessment through on-line question banks developed collaboratively by practitioners in both further and higher education and training.

> "…we run a pre university science which is an access course for science in DCU and DIT….. The exam papers are approved by DCU, in other words we submit them in advance, the learners apply through the CAO, DCU extend the programme and the learners who are averaging over 50%, in their exams would get around zero offer on the CAO. And that's a specific type of model. …..We run a preliminary engineering course, and for the last year and a half I have been involved in developing a new module called 'Maths for Stem' which is about putting a maths programme together to mirror probably would people would need ,maybe who haven't done honours maths in the leaving cert or hadn't got the opportunity to do leaving cert to go and cover stem courses in college, because maths tend to be the particular difficulty and generally if they want to do biology or chemistry or physics or one of those or engineering, it's not the practical or the hands or computer science that's the difficulty for them, maths (Interviewee 4)."

Information and guidance and navigation

The scoping exercise identified concerns in the information and guidance services for learners within FVET and within the Post-Primary schooling system. It was acknowledged that while there are excellent guidance services being provided in various FVET settings, the national guidance infrastructure appears to be inconsistent, leading to gaps in provision and access to effective services.

> "...for ourselves it is literally between the two bodies, its mostly myself as the guidance counsellor who initiates it and then I have found it has been very successful if I contacted a department head of the college directly or if I happen to know a lecturer in a college that is really how its facilitated. There wouldn't be any other body really involved (Interviewee 1)."

Some ETBs suggested that their learners had informed them they felt 'confused' when it came to making choices for future learning opportunities particularly at Post-Primary Level and sometimes in the FVET setting itself. Through austerity measures introduced into Ireland in 2009 the Guidance services within Schools and Adult Guidance services have been have been negatively effected by budget cuts.

> Part of the reason being that the numbers coming in have gone down, and also a lot of people [Guidance staff) have retired or moved on from the organisations we were linked in with. And it's hard…sometimes those jobs aren't being filled (Interviewee 4)
>
> Now you have an education officers through the ETBs, but to be quite honest it is more or less you'd meet any education officer (Interviewee 5)

9. Conclusion

Partnerships in lifelong learning in Ireland relate predominantly to the progression and pathways between F/VET and HE and/or the world of work. F/VET needs to find its own voice and not be determined by the traditional matriculation exam, the Leaving Certificate. While there is concern about the lack of transparency and permeability in accessing HE from the F/VET due to the multiplicity of individual partnerships, it is felt that any new system that is to be developed should not disadvantage learners further. The emerging evidence is suggesting that F/VET graduates progress very well into HE because they are usually more mature and able to perform as well as, or better than, traditional mainstream students. The P4LLL-Tec study is being to reveal that the issues of partnerships and integrated learning opportunities in Ireland is rather inconsistent and fragmented. The team in Ireland are now in the process of selecting an appropriate case study to study this issue further. Through the interviews general concerns were raised that if the specificity of requirements for HE entry intensifies, then progression narrows and goes against labour market imperatives.

The case of Latvia

Summary of interviews: Latvia

Example of integrated learning opportunities - Ltd. HansaMatrix

From 2013 Ltd. HansaMatrix, VET school "Ogre technical school" trains students of qualification "Technician of electro technique" in work based learning (WBL) providing more practical and also theoretical training at real company environment. Partnership was realized in phrases:

a) Discussion Ltd.HansaMatrix with Ogre technical school about improvement of qualification "technician of electro technique" and providing of more practical part into company, starting from 1st till 4th study year.

b) workshop of representatives of Ogre technical school and HansaMatrix was established where the plan how to implement theoretical and practical parts of qualification "technician of electro technique" at company was made

c) experience from experts of German-Baltic Chamber of Commerce in Estonia, Latvia, Lithuania (AHK) was gathered, also in-company trainers was send to special two day training for in-company trainers organized by German-Baltic Chamber of Commerce in Estonia, Latvia, Lithuania (AHK).

d) working/ learning places made specially for each student

e) Interview with by the Ltd.HansaMatrix before WBL.

f) 6-partite cooperation agreement about participating in work- based learning is signed by the pupil, Ltd.HansaMatrix, Ogre technical school, trainer from Ogre technical school, trainer from Ltd.HansaMatrix and parents if the pupil is under 18 years old.

g) Engineers of Ltd.HansaMatrix prepare lectures based on curriculum of qualification "technician of electro technique", which is agreed by Ogre technical school.

Example of integrated learning opportunities – German-Baltic Chamber of Commerce in Estonia, Latvia, Lithuania (AHK)

German-Baltic Chamber of Commerce in Estonia, Latvia, Lithuania (AHK) is organized studies in WBL for 8 young people: On September 2015 eight young people (3 females and 5 males) aged 18 -29 with the secondary education started training 1.5-year VET program "Logistics specialist." Educational program involves six Latvian companies: RIX Logistics Ltd.; Kuehne + Nagel Ltd; ACE Logistics Latvia Ltd., Schenker Ltd., Kreiss Ltd., ARC Transport Ltd which were coordinated by German-Baltic Chamber of Commerce in Estonia, Latvia, Lithuania (AHK). This partnership is made by steps:

1) recognizing the needs of the enterprises

2) recognized and agreed with the content of the program

3) advertisement of the program

4) involvement of the young people in the program and dividing them in the different enterprises

AHK is working with financial support of German Ministry of Education for VETnet- export of vocational education project.

Example of bridging programmes: Mechanics and Technology College of Olaine

Second type of partnerships (bridging programmes) can be found in higher education level because of legislation which allows bridging the higher education programs. In this partnership college students has chances to study in 3rd year in university (usually they can start on 2nd year because courses between universities and colleges differs in content and in amount (credit points). Mechanics and Technology College of Olaine has signed special agreements with universities allowing graduates to continue education in 3rd year (college education last 2 years). Also lectures already in College are provided by the same university lecturer as in university.

Example of integrated learning opportunities - program for unemployed "Training at the employer"

The aim of the program "*Training at the employer*" is to provide requalification of the employed and to ensure employment after the training. Training could be organized minimum for 12 unemployed. Special VET programs - qualifications „Chemical process technician", „Analytical Chemistry Technician", „Pharmaceutical product sales" were established in chemistry for biggest sector companies "Grindeks", "Olainfarm", "Biolars", "Tenax grupa", "Silvanols".

Mechanics and Technology College of Olaine prepared continuing vocational programs for these qualifications. State Employment Agency together with Ltd. NKC interviewed the unemployed and chooses those who better fits for trainings. Tripartite agreement with State employment agency, LTD. NKC and Mechanics and Technology College of Olaine was signed to organize training.

Example of integrated learning opportunities - project "Training of specialists in metalworking sector

The aim of the project "Training of specialists in metalworking sector" is to improve qualification and facilitate life-long learning of the human resources in various fields that are important for metalworking and mechanical engineering sector. Association of Mechanical Engineering and Metalworking Industries of Latvia (MASOC) has the coordinating role of the project, by organizing training for sector companies. Training could be organized if the employees from minimum 3 companies were trained. Over 150 companies have joined the project and implementing training programs in partnerships with another companies in such areas as welding, CNC machining and other special fields, as well as disciplines like project management, IT and languages.

Example of bridging programmes: project "Skills in Metal and Electro Industry" (skillME project)

The aim of project "Skills in Metal and Electro Industry" (skillME project) is to identify the main skill gaps in electro and metal industries and to create four curricula which will fill the skill gaps

and to permanently integrate the curriculums into VET education systems in project participating countries. Partners involved in the partnerships in each country are: vocational education and training (VET) providers, national regulatory partners and representatives of the metal and electro industries. Together with metal association, labour needs for VET program were realized. Riga Technical College together with National Centre for Education made part of the curriculum, Riga Technical College will train the sector workers and students accordingly by new curriculum.

Main conclusions:

- Demand for qualified workforce provides interest of different bodies to participate in partnerships
- To organize partnership crucial is the commitment of different bodies to participate in partnership
- Legislation which doesn't forbidden (allow) to organize partnerships
- Cost / benefit analysis of partners in partnerships are important
- Funding can be found from different recourses – projects, European programs, European Social fund and state budget, professional institutions, also private.

THE LATVIAN VETnet PROJECT[7]

Example of good practice

1) Since October 2013 German-Baltic Chamber of Commerce in Estonia, Latvia, Lithuania (AHK) with financial support of German Federal Ministry of Education implements VETnet-export of vocational education project in the Latvia. Main aim of VETnet project is to support the introduction of elements of the dual system in the vocational education in Latvia and other 8 AHK offices: China, Greece, India, Italy, Portugal, Russia, Slovakia and Thailand. Within five years VETnet team plans to carry out pilot projects which supports initiative by the Latvian Ministry of Education on the work-based learning implementation, actively working on improving image of vocational education throughout society, as well as supporting enterprises in the work-based learning implementation. The medium-term objective of the project is to provide support the introduction of elements of dual education in the countries involved in the long term, thus contributing to changes in the local vocational education system in order to ensure a higher level of employment.

Main activities of the VETnet project are:

1. Exchange of experiences: networking, conferences, study visits;
2. Train the trainers: training materials and conferences;
3. Advice to companies in how to get involved in work-based learning;

[7] The interviewe was conducted with the VETnet project manager in German-Baltic Chamber of Commerce in Estonia, Latvia, Lithuania (AHK)

4. Development of practice model for logistics specialists as an additional pilot project to work-based learning;
5. Ideas for marketing strategy for work-based learning to assume better image of VET.

On September 2015 eight young people (3 females and 5 males) aged 18 -29 with the secondary education started training 1.5-year program "Logistics specialist." This program runs vocational training project VETnet within the framework of implementing the German-Baltic Chamber of Commerce. Educational program involves six Latvian companies: RIX Logistics Ltd.; Kuehne + Nagel Ltd; ACE Logistics Latvia Ltd., Schenker Ltd., Kreiss Ltd., ARC Transport Ltd. The training program involved young people and business cooperation is coordinated by the German-Baltic Chamber of Commerce VETnet project team, by providing advice and by mediating function takes care of the educational quality assurance.

Members of German-Baltic Chamber of Commerce were complaining of lack of the employees in their enterprises and also having employees with exact skills that are necessary in their enterprises. Main aim of this partnership was to involve small and medium size enterprises in work-based learning and with coordination of German-Baltic Chamber of Commerce model how to organize and involve all partners in work-based learning was established.
German-Baltic Chamber of Commerce organized workshop with enterprises, Riga State technical school (Rīgas Valsts tehnikums), National Centre for Education and AC Konsultācijas Ltd. which developed modular program for Logistics specialist, also informing Ministry of Education and science of Latvia. Together with enterprises they passed though the content of the modular program and proposed ideas to supplement the existing programs with special needs of enterprises (not more than 10% according national standards). Also they were looking at German standard of logistic specialists, especially at the practical part of the programme which was hold at enterprises.

This partnership is made by steps: 1) recognising the needs of the enterprises 2) recognised and agreed with the content of the program 3) advertisement of the program 4) involvement of the young people in the program and dividing them in the different enterprises.

At the beginning of partnership here were 5 enterprises involved; at the moment are 6 and 3 more enterprises will be involved in the autumn. Eight students are involved in work-based learning implementation in these 6 enterprises: in 4 enterprises by one student and in 2 students per 2 enterprises. There was an agreement that the students will study 3 days in the school and 2 days in the enterprise.

2) Stakeholders are: **G**erman-Baltic Chamber of Commerce, enterprises, Riga State technical school**,** National Centre for Education, private research company - AC Konsultācijas Ltd.

2a) German-Baltic Chamber of Commerce had coordination function.

3) Main sectors are: initial VET (3rd Latvian professional qualification level; 4th EQF) and logistics.

4) Geographical scope of the partnership is region: Riga city and district.

5) Partnership was established summer 2015, initiative was set by German-Baltic Chamber of Commerce, with the aim to involve enterprises in work-based learning.

6) 8 young people aged 18 -29 with the secondary education.

7) After completing the program all students will receive diploma of qualification. Secondary education gives right to continue education in higher education institutions.

8) Partnership is coordinated by German-Baltic Chamber of Commerce. All conclusions are gathered and distributed among partners by German-Baltic Chamber of Commerce. Riga State technical school gives a frame of curricula. If the enterprise cannot cover concrete parts of curricula German-Baltic Chamber of Commerce is coordinating that this part is covered by another enterprise, they are making rotation scheme. All decisions are made by workshop.

Systemic and institutional frameworks for partnerships

11) Main change is that occupational standard is very comprehensive. Here are many universal skills which are impossible to provide by one small or medium size enterprise.

12) Partnership is an alternative approach. German-Baltic Chamber of Commerce has functions as coordinating body, for example in case of student's illness in time of practice; advertisement of the program – German-Baltic Chamber of Commerce is organizing career guidance in secondary schools.

13) Schools have interest to be modern, open which is hard; enterprises are interested in interns and also work-based learning concept is new and very interesting concept for them; students have interest to obtain skills; also society as hole.

14) This partnership is encouraged by institutions which are involved in education.

15) The partnership is organized according all national legislation in VET.

Compatibility of HE and vocational curricula

21) Within partnership young people aged 18-29 can obtain state recognized qualification diploma in 3rd Latvian professional qualification level; 4th EQF. Program is made according occupational standard and vocational education standards, using modular approach.

22) Yes, the partnership involves the cooperation of different learning venues (e.g. enterprises and schools). According German's concept learning at enterprise should be min 50% of the program.

22a) The time spent in enterprise is reconciled in the workshop. The program of practical part is very concrete and enterprises have to stick to it. In case the enterprise cannot provide all practical part then within workshop all partners decide how to compensate it. Also documentation which have to be filled is very concrete like practice diary, worked hours at enterprise.

Recognition of prior learning

31) No, partnership doesn't involve any recognition of prior learning.

Evaluation

41) If there are some challenges, for example, student doesn't come at enterprise – the enterprise is unsatisfied, or – if the student receive uninteresting task – the student is unsatisfied. All partners have to fill their duties and see the sense in it.

42) Yes, partnership positively influences the attractiveness of vocational education. Enterprises see the added value of work-based learning. Also young people find out more about profession and VET.

43) Within partnership young people aged 18-29 can obtain state recognized qualification diploma in 3rd Latvian professional qualification level; 4th EQF. Program is made according occupational standard and vocational education standards, using modular approach

44) Learners can show and prove their skills to the real enterprise/ employer. After completing learning they can receive job offer or recommendation letter from enterprise about their skills. Also learners receive state recognized qualification diploma.

45) At the moment enterprises invest a lot. They do not calculate the expenditure of new established work/learning places. Benefits of the enterprises differs according individual students because the attitude and workload differs by personality not only enterprises.

46) Main obstacle is that in Latvia are small numbers of enterprises, there is not enough time and motivation. Still is no legislation of work-based learning.

47) Main obstacle for the effective implementation of the learning processes within this partnership is how to bring together two different environments – education institution and working environment. Also use common terms.

48) To improve the functioning of such partnerships – all partners should be more flexible, especially education and state institutions. Also programs should be more flexible because in Latvia are no many big enterprises which could provide all program (curricula) by themselves alone.

49) This type of partnership shows principles of dual education which is used in Germany. Partnership can be transferred to other countries.

2: The project skillME[8]

Example of good practice

1) Main aims of the Erasmus + project "Skills in Metal and Electro Industry"(skillME project) (**01.11.**2014. -31.10.2017) are to identify the main skill gaps in electro and metal industry's

[8] The interview was conduced with a manager of a technical college in Riga

and to create four curricula which will fill the skill gaps and to permanently integrate the curriculums into VET education systems in project participating countries: Croatia, Latvia, Slovakia and Slovenia and throughout Europe.

The project also aims at:

1. Enhancing the responsiveness of initial and continuing VET and responding to the demand for skills in specific occupational profiles;
2. Fostering cooperation of worlds of education and work by cooperation in curriculums design by industry and VET providers;
3. Making learning outcomes of VET trainings comparable and transferable among EU members;
4. Fostering mobility of trainees and workers;
5. Fostering continuing training of workers

Partners involved in the partnerships in each country are: vocational education and training (VET) providers, national regulatory partners and representatives of the metal and electro industries. From Latvia: Vocational Education Competence Centre “Riga Technical College”, National Centre for Education, Association of Mechanical Engineering and Metalworking Industries of Latvia. From Slovakia: Secondary Technical School, Stará Turá, The State Vocational Education Institute, The Association of Electro-technical Industry of the Slovak Republic. From Slovenia: School Centre Celje, Institute of the Republic of Slovenia for vocational education and training, Chamber of Commerce and Industry of Slovenia. From Croatia: Strojarska tehnicka skola Fausta Vrancica, Croatia, Agency for VET and Adult Education, Croatian Employers’ Association.

Most companies of the electro and metal industries in the participating countries report similar skills gaps observed among their workers. The most common ones are identified in the field of: 1. Technical documentation 2. CAD/CAM systems 3. Automatisation 4. New materials

Based on the selection of the most endemic skill gaps identified in the project participating countries, which stems from a thorough research involving interviews with representatives of the sectors and an overview of existing data on skill gaps, project partners will form four curricula to fill those skill gaps that will be incorporated into national VET systems. Both pupils and workers will be able to take part in the implemented courses.

The skillME project will tackle skill gaps in advanced manufacturing in the metal and electro industry, improve employability of workers, and enhance the ability of iVET and cVET institutions to respond to sector-specific labour market needs and demands for new skills

2) Partners involved in the partnerships in each country are: vocational education and training (VET) providers, national regulatory partners and representatives of the metal and electro industries. From Latvia: Vocational Education Competence Centre “Riga Technical College”, National Centre for Education, Association of Mechanical Engineering and Metalworking Industries of Latvia. From Slovakia: Secondary Technical School, Stará Turá, The State Vocational Education Institute, The Association of Electro-

technical Industry of the Slovak Republic. From Slovenia: School Centre Celje, Institute of the Republic of Slovenia for vocational education and training, Metal Proccessing Industry Association of Slovenia. From Croatia: Strojarska tehnicka skola Fausta Vrancica, Croatia, Agency for VET and Adult Education, Croatian Employers' Association.

2a) The specific role or function of Vocational Education Competence Centre "Riga Technical College" together with National Centre for Education is to make part of the curriculum in field: new materials. Occupation standard differs within the countries. Main focus is on learning outcomes. When all partners will complete all fields: technical documentation, CAD/CAM systems, automatisation, new materials, to train field workers in new (one field per partner), then Vocational Education Competence Centre "Riga Technical College" will train the sector worker by new curriculum.

3) In the partnership are involved VET institutions, state public education agencies and electro and metal industry.

4) The geographical scope of the partnership is transnational and regional.

Workshops about skills needs were composed of employers around all Latvia, including all regions.

5) Partnership was established in 2014 and initiative was made by Metal Processing Industry Association of Slovenia which is leading partner.

6) Both pupils and workers will be able to take part in the implemented courses. At the moment curriculum is being developed.

7) This curriculum will be available for those who are working is the sector and also for those completing the initial VET for improving specific skills.

8) Decisions are made according project plan and together with all partners. All projects partner's meetings are held twice per year.

Systemic and institutional frameworks for partnerships

11) There are too many strict regulations on VET in Latvia, very few flexibility chances in setting curriculum, especially if the VET school wants to increase professional subjects. There are many problems of qualification increase of VET teachers. Employers' demands are very high. They want pupils with high professional skills and working experience.

12) The partnership reflect the general principles of the organization of education and training because in VET is very strict regulation how to make occupational standards and curriculum.

13) Main interest is to provide VET programs which are necessary in the labour market, which are made according employer's demands.

14) Partnership is supported by main educational policy institution - National Centre for Education. Employers are supporting partnership with setting demands.

15) The partnership is organized according all national legislation in VET.

Compatibility of HE and vocational curricula

21) The curriculum is based on occupational standard.

22) Curriculum will be implemented by the modular approach and will be provided training at VET school and in the company. Training at company will depend on the length of the module.

Recognition of prior learning

31) Modules can be used for training of pupils as a part of the curriculum or as further vocational education.

Evaluation

41) Each company has their own needs for skills. Big differences exist with the small companies and the big companies because in small companies employees need to have comprehensive skills but in big companies- more specific. And in this partnership are formulated comprehensive and also specific skills in modules which will be trained according company's needs and interests.

42) This partnership is very attractive for employers because they have their specific interests in skills formation. Also is attractive for pupils because they will have more demanded skills.

43) Within the modules comprehensive parts of occupational standard is formulated.

44) The learners will have extra skills because the modules are made according the latest demands of employers and technologies used in the companies.

45) Higher quality of education and qualification rising.

46) At this stage no obstacles found. Maybe some obstacles will be at pilot training because modules will be made in separate countries.

47) Each company has their own needs for skills and it's difficult to find common ground and to provide all these needs within one module.

49) Yes, within sectors and also countries because students after graduating are working abroad.

3: "Training at the employer" – A programme for unemployed persons[9]

Example of good practice

In 2011 State Employment agency provided program for unemployed "Training at the employer" for a time period of maximum six months, establishing employment legal relationship during training with the unemployed person involved in training and the duty of the employer to continue employing of the trained employee for at least six more months

[9] The interview was conducted with a representative of The Association of Latvian Chemical and Pharmaceutical Industry program for unemployed

after the training is completed. To participate in the program is necessary to involve at least 12 unemployed persons and ensure employment after the training. After the practical training is completed the employer shall continue employing the employee in the relevant profession for at least six months, disbursing in a month at least the minimum monthly wage determined in the State.

The employer receives financial support: a grant for the monthly wage of unemployed persons in practical training (45-80 euros per month) and the a grant to an employer for the monthly wage of a work supervisor of unemployed persons involved in measures in the amount of 50% from the minimum monthly wage determined in the State and mandatory health examinations, but no more than EUR 28.46 per one unemployed person and for individual work safety tools – not more than EUR 50. Special regulation provides extra support for persons with disabilities.

In 2009 LTD. NKC was established to organize collaboration of chemical and pharmaceuticals companies: „Grindeks", Ltd."Olainfarm", Ltd."Biolars", Ltd."Tenax grupa", Ltd."Silvanols" and to train unemployed in qualifications „Chemical process technician“, „Analytical Chemistry Technician“, „Pharmaceutical product sales“.

Mechanics and Technology College of Olaine prepared continuing vocational programs for these qualifications. State Employment Agency together with Ltd. NKC interviewed the unemployed and chooses those who better fits for trainings.

Tripartite agreement with State employment agency, LTD. NKC and Mechanics and Technology College of Olaine was signed to organize training.

In 2010 and 2011 Ltd. NKC organized process of trainings for 96 unemployed in total and employment in chemical and pharmaceuticals industries within the main industry companies -"Grindeks", Ltd."Olainfarm", Ltd."Biolars", Ltd."Tenax grupa", Ltd."Silvanols“.

1) In the partnership were involved: enterprises, Mechanics and Technology College of Olaine, State employment Agency

2a) The Association of Latvian Chemical and Pharmaceutical Industry informed their members about such a program of unemployed.

3) The partnership concerns continuous VET and chemical and pharmaceuticals industries.

4) Scope of the partnership is sectoral.

7) All persons had to have secondary education before joining the training. After training all received the state recognized qualification „Chemical process technician“, „Analytical Chemistry Technician“, „Pharmaceutical product sales“ .

8) In 2010 and 2011 Ltd. NKC organized process of trainings for unemployed by involving at least 12 unemployed persons in each training. Others partners (companies) should provide practical training in the company and ensure employment after the training of unemployed.

Systemic and institutional frameworks for partnerships

11) Qualifications „Chemical process technician“, „Analytical Chemistry Technician“, „Pharmaceutical product sales“ are made according occupational standards which are made with cooperation of The Association of Latvian Chemical and Pharmaceutical Industry and sectors employers. Also the Association is actively involved in promoting material basis in the schools where is possible to study chemical and pharmaceuticals industries.

12) The partnership is reflecting more an alternative approach because this program was meant as social program to – to involve unemployed persons into labour market.

13) The aim of the State employment Agency is to ensure employment for unemployed, but aim of employers is to recruit qualified employees which was not met in all cases because unemployed in many cases had some psychological or others problems.

14) This partnership was organized as continues vocational education. If one company couldn’t provide working places for 12 unemployed in concrete qualification than partnership of many sectoral companies was organized by Ltd. NKC.

15) The partnership is organized according all national legislation in VET.

Compatibility of HE and vocational curricula

21) Within partnership unemployed could obtain state recognized qualification diploma in 3rd Latvian professional qualification level; 4th EQF. Program is made according occupational standard and vocational education standards.

22) Yes, partnership involved the cooperation of different learning venues because all practical training (2 months of 6) where organized at companies. Also if in the partnership was more than one company- practical training was organized in that company which would employ the person after the training.

Recognition of prior learning

31) All persons had to have secondary education before joining the training. No prior learning was recognized.

Evaluation

41) There was very high motivation of unemployed, high qualification gaining level. Also employers took active part to provide practical training at the company.

42) Yes, attractiveness of vocational education was raised, also for adults. Also this partnership was shown in media as good example who to provide targeted training for unemployed.

43) Yes, see above.

44) The learners had chance to gain new profession and to work in profession.

45) Employers benefit because they didn’t have to pay for the training.

46) Main the obstacle of the partnerships is that company has to employ all participants and it's not connected with the person's abilities or motivation to work at concrete company.

4: Partnership between VET school and Employer[10]

Example of good practice

In 2013 Ltd. HansaMatrix and VET school "Ogre technical school" started partnership by involving students of qualification "Technician of electro technique" in work based learning (WBL). In 2013/2014 study year- 10 students from first study year (4 year program), in 2014/2015- 10 students from second study year (continue WBL), 11 students from first study year and 4 students from short cycle studies (1.5 years), in 2015/2016 WBL studies continued 8 students from third year, 10 from second year, total 18 WBL students at the end on 2015/2016 study year.

According initiative of Ministry of Education and Science in 2013, Ogre technical school initiated idea to start WBL in the Ltd. HansaMatrix. Partnership was realized in phrases:

a) representatives of Ltd. HansaMatrix participated in conversations with Ogre technical school about improvement of qualification "technician of electro technique" and providing of more practical part into company, starting from 1st till 4th study year.

b) workshop of representatives of Ogre technical school and HansaMatrix was established where the plan how to implement theoretical and practical parts of qualification "technician of electro technique" at company was made (work-based learning).

c) experience from experts of German-Baltic Chamber of Commerce in Estonia, Latvia, Lithuania (AHK) was gathered, also in-company trainers was send to special two day training for in-company trainers organized by German-Baltic Chamber of Commerce in Estonia, Latvia, Lithuania (AHK).

d) working places for each student were specially made.

e) before the participating in WBL students are being interviewed by the Ltd.HansaMatrix.

f) 6-partite cooperation agreement about participating in WBL is signed by the student, Ltd.HansaMatrix, Ogre technical school, trainer from Ogre technical school, trainer from Ltd.HansaMatrix and parents if the student is under 18 years old.

g) Engineers of Ltd.HansaMatrix prepare lectures based on curriculum of qualification "technician of electro technique", which is agreed by Ogre technical school. Work- based learning in the Ltd.HansaMatrix consists of 20% theoretical and 80% of practical training.

[10] The interview was conducted with a representative of the company Hansa Matrix

k) in 2013/2014 10 students from first year in four year program started to participated in work- based learning, in 2014/2015 - 11 new students, also 4 students from short cycle program (1.5 years) started to participate in WBL.

2) In the partnership are involved Ltd.HansaMatrix and Ogre technical school.

2a) Main function of Ltd.HansaMatrix is to provide theoretical and practical trainings for students according curriculum of qualification "technician of electro technique" at company.

3) In the partnership are involved initial VET school and the company in the field of electro technique.

4) Partnership is implemented in company's level.

5) Partnership was established in 2013/2014 by the initiative of Ogre technical school which supported initiative of Ministry of Education and science of Latvia to implement work-based learning in Latvia.

6) Main target groups are students studying in vocational education institution aged 17-29 years.

7) Completing the four year and 1.5 years programs of qualification "technician of electro technique" graduates can continue their studies in higher education level.

8) Ltd.HansaMatrix has to fulfil all requirements set by education legislation. Mostly decisions are made together with education institution which also controls and are responsible for fulfilling all requirements set by education legislation.

Systemic and institutional frameworks for partnerships

11) Regulation of VET has to be taken into account. Employers are involved in setting qualification requirements for occupational standards which is basis for curricula. Curricula is made by occupational standard and VET standard. Only 10% can be changed according employer's needs. Within this partnership curricula was made together with company and therefore adjusted to company's needs.

12) An alternative approach because higher share of curriculum is provided in real company.

13) Ltd.HansaMatrix is interested into training new employees in high qualified profession. Students are interested to see and work in real working environment starting from first year.

14) Completing the 4 years and 1.5 years programs of qualification "technician of electro technique" graduates can continue their studies in higher education level.

15) Which public bodies are responsible for the regulation and management of the educational sector(s) in which the partnership is operating? How do these bodies interact and how does the regulatory process work?

16) The partnership is organized according all national legislation in VET. For implementation the program is responsible VET school but legislation and curriculum is set by Ministry of education.

Compatibility of HE and vocational curricula

21) Within partnership learners can obtain state recognized qualification which allows to study in higher education level. Curriculum is made by adjusting company's and learners needs. Each year time practical training increases till at the last year – students can replace and work individually in the company.

22) Does the partnership involve the cooperation of different learning venues (e.g. enterprises and schools)?

Yes, company has set special training places for WBL students. 20% of time in the company makes theoretical training and 80% practical in special training places. Workers of company made special courses which are provided by company. In first year students at company most focusses on brazing but in second year - on electrical measurements.

22a) Time in company increases every year and are set by curriculum.

Recognition of prior learning

31) The partnership doesn't involve any recognition of prior learning.

Evaluation

41) This partnership responds to the needs and expectations with regard to skills formation, because main aim of the project is connect VET with labour market needs. Before making partnership, company set various targets like: 1) affect content of the VET, adjusting it to labour market needs 2) to provide skills which are needed in labour market and provides job possibilities; 3)to provide motivated and interesting environment for young people 4) to invest in future employees 5) decrease costs of preparing new employees.

42) Partnerships of this type influence the attractiveness of vocationally oriented pathways for learners because learners have chance to obtain kills which are needed in labour market and try them in real working environment.

43) Within this partnership learners obtain comprehensive curricula which is made according occupational standard and VET standard.

44) The actual benefit of the partnership for the learners is chance to see and to work in real working environment also with possibilities to work after training.

45) Company has made many publicity about participation in WBL and when the learners will graduate and will start to work in company – then company could calculate actual benefits.

46) Main obstacles: Financial input of the company establishing workplaces for training, additional work of companys' employees in preparing theoretical materials.

47b) Financial support from ESF in period 2014-2020 is planned for organizing WBL.

48) Improve legislation to allow adjust curriculum employer's needs.

49) Yes, this type of partnership is transferable to other national or sectoral contexts.

5: Bridging Program in Mechanics and Technology at College of Olaine[11]

Example of good practice

1) After completing college education students can continue training in higher education institution according legislation which allows bridging the higher education programs. On 10 January 2012, the CoM approved Regulations No.36 "Regulations of recognizing the learning outcomes acquired in the previous education and professional experience" that were issued in accordance with the Law on Higher Education Institutions (1995, amendments in force since 1.08.2011). These Regulations determine the procedures for the assessment and recognition of learning outcomes obtained during the previous education or professional experience, as well as criteria for recognition.

   Mechanics and Technology College of Olaine has signed special agreements with universities allowing graduates to continue education in 3rd year (college education last 2 years). Also lectures already in College are provided by the same university lecturer as in university.

   In 2015/2016 study year 7 students (half of College graduates) continued learning in University.

   Program (Credit points and it' s content) was made together with University.

2) What types of stakeholders are involved in the partnership?

   College and university.

2a) In case your own institution is involved in the partnership, what is the specific role or function of your institution?

College has program directors who were responsible for matching the content of programmes.

3) Which sectors are concerned by or involved in the partnership?

Higher VET- college and university.

4) What is the geographical scope of the partnership?

National.

5) When and why was this partnership established and who took the initiative to set it up?

In 2014 and in 2015, initiated by college.

[11] This interview was conducted with a representative oft he college of Olaine

6) What are the main target groups (types of learners) addressed by the partnership? Could you specify the number of potential beneficiaries?

Main target group are students who study in the college and want to continue studies in university in relevant field. They don't lose a time.

7) Having the conceptual background of permeability in mind, how would you describe the educational permeability offered by this particular partnership?

Permeability is ensured and matches the needs of the students, also needs university (to attract students).

8) How is the partnership managed? More specifically, how do the actors coordinate their activities and how are decisions made within the partnership or network?

College has program directors who were responsible for matching the content of programmes. The same with universities.

Systemic and institutional frameworks for partnerships

12) In the light of the above characterisation, does the partnership reflect the general principles of the organisation of education and training, or rather represent an alternative approach, and if so, in what aspect(s)?

Alterative approach which increases permeability of studies.

13) What are the interests, motives or policy objectives of the different stakeholder groups with regard to this partnership and its implementation?

For college- to provide study continuation; for students- to quicker obtain higher education in university; for university- to attract new students.

14 To what extent and how are permeability in general and partnerships of this type supported or encouraged by educational and labour market policies?

Good.

15) Which public bodies are responsible for the regulation and management of the educational sector(s) in which the partnership is operating? How do these bodies interact and how does the regulatory process work?

According national legislation.

Compatibility of HE and vocational curricula

21) What kind of qualification (or parts thereof) can be attained by the learners in the context of this partnership? Could you especially describe the structure of the curriculum or the educational contents covered by this partnership?

Students obtain concrete subjects, credit points and continue studies in university where these subjects are taken into account.

22) Does the partnership involve the cooperation of different learning venues (e.g. enterprises and schools)?

22a) If so, how is the learning process organised and how are the learning contents at the different learning venues aligned with each other (compatibility of curriculum)? How much time is spent (approximately) at the different learning venues?

No answer.

Recognition of prior learning

31) Does the partnership involve any recognition of prior learning, especially a validation of non-formal or informal learning outcomes?

Yes, subjects learnt in college matches with subjects at university.

Evaluation

41) How well does this partnership or do partnerships of this type meet (or respond to) the needs and expectations with regard to skills formation?

Main beneficiaries are students. No involvement of employers at this stage.

42) Does this partnership or do partnerships of this type influence the attractiveness of vocationally oriented pathways for learners and/or employers, and if so, in what way?

Yes, students are motivated to continue studies.

43) What role do partnerships of this type play for promoting vocational education and training according to the principle of comprehensive occupational profiles or curricula (as opposed to offering modularised qualifications)?

44) Please estimate the actual benefit of the partnership or cooperation for the learners.

Because they don't have to start education from first study year.

45) How would you estimate the actual benefit of the partnership for the partners or actors involved?

Improved cooperation between college and university.

46) What are the obstacles for putting into place partnerships of this type?

Obstacles could be at university because they have to evaluate previous education and made special – individual plans.

47) What are the obstacles for the effective implementation of the learning processes within this partnership?

No obstacles.

47b) How (if at all) are these problems being addressed?

48) What more could be done to improve the functioning of such partnerships?

College are open to conclude this type of partnerships with another universities. But it's additional work for universities.

49) Do you think that this type of partnership is transferable to other national or sectoral contexts?

Yes.

6: ESF Program to support training partnerships in Latvia[12]

General information

ESF Program **Support for training organized in partnership** is administered by the Investment and Development Agency of Latvia (LIAA). Financial grants are available within the EU Structural Funds program, "Support for employees' training in partnership" (2010-2015). The same type of training is continuing in period 2016-2018.Training is organized in partnership with the sector associations. Employers contact the corresponding industry associations to register for available trainings and to arrange customized training. There are 15 participating industry associations, also, Association of Mechanical Engineering and Metalworking Industries of Latvia, The association of Latvian chemical and pharmaceutical industry, Association of Textile and Clothing industry and others. Eligible costs: Trainers' salary incl. social tax, Salary of employees for the time they are involved in training program (the costs shall not exceed the total amount of all other eligible costs), Study material costs (printed, audio, video) for materials which remain property of employees after training, Rent of equipment and premises for training, Consultation costs related to the pre-training measurement of employees' skills, Certification and examination costs, Business trip expenses for the trainer and employees (per diem, hotel costs, transportation costs) according with limits specified in respective regulations of the Cabinet of Ministers, costs for visas and work permissions, Translators and interpreters services costs.

On 28 December 2010 and agreement Nr. L-APA-10-0027 was signed between Association of Mechanical Engineering and Metalworking Industries of Latvia and Latvian Investment and Development Agency on implementation of project **"Training of specialists in metalworking sector".** The project was implemented till 01.06.2015. The general aim of the project is to improve qualification and facilitate life-long learning of the human resources in various fields that are important for metalworking and mechanical engineering sector. The project is open for new participants, the companies that are interested should contact MASOC. Over 150 companies have joined the project and implementing training programs in such areas as welding, CNC machining and other special fields, as well as disciplines like project management, IT and languages. 1876 participants participated in the training and they could participate more than one time in the training provided within partnership.

2) What types of stakeholders are involved in the partnership?

In the partnership participated Companies and training providers, inter alia, self-employed trainers and foreign trainers. All activities were held in partnerships because requirement was that within one training should participate participants minimum from 3 companies.

[12] The interview partner was the poject coordinator of the Association of Mechanical Engineering and Metalworking Industries of Latvia (MASOC)

2a) In case your own institution is involved in the partnership, what is the specific role or function of your institution?

MASOC had coordinating and organizing function. MASOC organized the groups and public procurement for trainings.

3) Metalworking

4) The geographical scope of the partnership is national – in the training participated companies from all around country. Trainers were attracted from abroad (Lithuania, Estonia, Poland).

5) P partnership established and who took the initiative to set it up: Answer is above, according project timetable.

6) The number of potential beneficiaries: 1876 workers in metalworking, also self-employed, workers of association.

7) Having the conceptual background of permeability in mind, how would you describe the educational permeability offered by this particular partnership?

Training was informal. And getting qualification was not the main requirement.

8) How is the partnership managed? More specifically, how do the actors coordinate their activities and how are decisions made within the partnership or network?

Answer is above. All activities were held in partnerships because requirement was that within one training should participate participants minimum from 3 companies. Average group was 5-6 people.

Systemic and institutional frameworks for partnerships

11) How would you characterise your country's general approach to skills formation? What role does the standardisation of skills and qualifications play in education and training, and how are the labour markets organised?

Training was organized for training of concrete skills for concrete professions not the needs of concrete companies.

12) In the light of the above characterisation, does the partnership reflect the general principles of the organisation of education and training, or rather represent an alternative approach, and if so, in what aspect(s)?

No, alternative. Training was provided according EU regulation and was not provided for those with financial problems.

13) What are the interests, motives or policy objectives of the different stakeholder groups with regard to this partnership and its implementation?

Main interests from all parts are to rise qualification level of worker and increase productivity of companies.

14) To what extent and how are permeability in general and partnerships of this type supported or encouraged by educational and labour market policies?

No permeability as aim of the training which is mostly informal trainings.

15) Which public bodies are responsible for the regulation and management of the educational sector(s) in which the partnership is operating? How do these bodies interact and how does the regulatory process work?

Ministry of economics are responsible for setting legislation of this type of partnership (project).

Compatibility of HE and vocational curricula

21) What kind of qualification (or parts thereof) can be attained by the learners in the context of this partnership? Could you especially describe the structure of the curriculum or the educational contents covered by this partnership?

Only informal programs were chosen. Finances weren't awarded to higher education. Also employers are not willing to send their workers to long term training.

22) Does the partnership involve the cooperation of different learning venues (e.g. enterprises and schools)?

No.

22a) If so, how is the learning process organised and how are the learning contents at the different learning venues aligned with each other (compatibility of curriculum)? How much time is spent (approximately) at the different learning venues?

Not relevant.

Recognition of prior learning

31) Does the partnership involve any recognition of prior learning, especially a validation of non-formal or informal learning outcomes?
Before specific training, evaluation of skills was made to know level of skills.

Evaluation

41) How well does this partnership or do partnerships of this type meet (or respond to) the needs and expectations with regard to skills formation?

Very good.

42) Does this partnership or do partnerships of this type influence the attractiveness of vocationally oriented pathways for learners and/or employers, and if so, in what way?

Employers are interested to receive high qualified specialists from VET. This partnership was meant for increasing the concrete skills level.

43) What role do partnerships of this type play for promoting vocational education and training according to the principle of comprehensive occupational profiles or curricula (as opposed to offering modularised qualifications)?

44) Please estimate the actual benefit of the partnership or cooperation for the learners.

Skills increase of participant, higher mobility.

45) How would you estimate the actual benefit of the partnership for the partners or actors involved?

Employers saved money of the training (differenced support was provided for training), raised productivity of the workers.

46) What are the obstacles for putting into place partnerships of this type?

Public procurement and too high bureaucracy for organizing the training, for example, sometimes to organize training took 3 months which is too long for companies.

47) What are the obstacles for the effective implementation of the learning processes within this partnership?

Decrease bureaucracy.

47b) How (if at all) are these problems being addressed?

No relevant for MASOC. Depends of EU and national legislation

48) What more could be done to improve the functioning of such partnerships?

Minimize public procurement procedures and increase support for more participants.

49) Do you think that this type of partnership is transferable to other national or sectoral contexts?

Yes.

The case of Spain

1. Examples of good Practice

General introduction: Limited number of good practices

According to the information collected from the different interviews with experts and stakeholders (see Annex with list of interviewed experts), in Spain there is a limited number of Integrated learning programmes and bridging programmes in relation to University Education and transitions from Vocational Education and Training (VET) to High Education (HE). These identified examples are presented next.

Integrated Learning Opportunities: Identified good practices

Concerning "Integrated learning opportunities", the expert interviews have identified a number of relevant practices related to the "tertiary-type" education level in Spain. These practices are briefly described next:

Integrated Learning Opportunities in Non-University Tertiary Education: The Advanced VET Grade Cycles (ISCED 1997 5B level13)

Advanced Vocational Training Cycles ("Ciclos Formativos de Grado Superior" in Spanish) are the first identified practice. These Advanced Vocational Training Grade Cycles have the Spanish Baccalaureate ("Bachillerato" in Spanish) as the principal entry requirement or, exceptionally, by complying with one of the following conditions:

- By accrediting having a Technician Certificate and having passed a specific training course for access to Upper-level Specific Vocational Schooling.
- By having passed an entrance exam for Upper-level Specific Vocational Schooling. In this case candidates must be at least 19 years old except for those in possession of a Technician Certificate related to the studies they want to do, that must be 18.
- By having passed an entrance university exam for people over 25 years old.

Students who successfully complete their studies receive the Diploma of Higher Technician/Advanced Vocational Diploma of the corresponding profession (ISCED level- 5B), enabling them to enter either in his/her profession or directly entering in university studies in areas related to that Diploma in case they want to continue education. This category of Higher Technician is known in Spain as non-university higher education ("Educación superior no universitaria" in Spanish),

Currently, there are two main models of Advanced VET Cycles in Spain, this is, the "traditional" model and the new emerging dual model

[13] Tertiary-type B programmes (ISCED 5B) are typically shorter than those of tertiary-type A and focus on practical, technical or occupational skills for direct entry into the labour market, although some theoretical foundations may be covered in the respective programmes. They have a minimum duration of two years full-time equivalent at the tertiary level.

a) The "traditional" Advanced VET Cycles

In this traditional form of provision, tuition subjects are organised in professional modules, where these modules are conceived as instruments for developing the professional skills required at work. School-based VET provision represents the largest share of the total training time (approximately 2,000 hours, divided in two academic years).

This traditional supply of *Advanced VET Cycles* includes also a compulsory traineeship period at workplace (Formación en centros de trabajo -FCT), without employment status, that takes place in a company. The goal of this work placement is to facilitate labour insertion, to assess and put into practice the knowledge acquired by students during the training programme and to provide accreditation of actual work knowledge, which can only be verified in real working environments

This compulsory in-company period represents a 20% of total training time or a three months period), and it is always taken in the last quarter of the second year. In this model, enterprises are responsible of providing a practical "hand-on" experience to students, but they are not responsible of providing any part of the VET curricula.

b) The new "dual-based" Advanced VET Cycles

In addition to this traditional form of VET provision, and since 2012/2013, a new VET model called "Dual Vocational Training" has been introduced, and regulated by the Royal Decree 1529/2012 of 8th November and the Order ESS/2518/2013 of 26th December. This "Dual Vocational Training" is intended to complement the existing supply of VET studies, both under the Intermediate (ISCED- 3B) and the Advanced Vocational Training Cycles (ISCED- 5B qualification levels).

Precisely, the Royal Decree of 8 November 2012 defines two different models in relation to the effective implementation of the dual VET system, that is to say, the Dual VET regulated by the Education Authority and the Dual VET regulated by the Employment Administration. The main differences between these two types of Dual VET implementation are presented in the following table[14].

[14] This model of Dual Vocational Training has been extensively explained and detailed in a previous report elaborated within the framework of this P4LLL Erasmus + project

Table 0.1 Dual VET comparison in Education and Employment Frameworks

DUAL VET - EDUCATION SYSTEM	DUAL VET - TRAINING FOR EMPLOYMENT SYSTEM
▪ Agreement between Education centre and company, setting training project, duration, assessment criteria and grading, number of students, grants, working hours, requirements for teachers and tutors, insurance, etc. ▪ Authorisation from Education authorities ▪ Company will participate a minimum of 33% of training hours ▪ Up to a maximum of 3 years ▪ Training period before placement in company ▪ Joint coordination and monitoring ▪ Teachers responsible for the evaluation, taking into account tutors	▪ Training and learning contract, plus agreement between company, training provider and worker which sets responsibility for training, training needs of company and the worker and features and contents of training ▪ Authorisation from Employment authorities ▪ Workers of 16 to 25 years old, up to 30 until employment rate falls to 15%, with no qualification ▪ Company responsible for the monitoring of the agreement for the training activity, coordination of the training activity in the job ▪ Worker must meet access requirements for VET ▪ Training provider responsible for planning and monitoring training, coordination of evaluation and communication with company for training delivery ▪ Workers are exempt of practical training module included in VET programmes. ▪ Contracts may not be held part-time. The actual working time, compatible with time devoted to training activities, shall not exceed 75% during the first year, or 85%, during the second and third year.

Source: Fundación Tripartita para la Formación en el Empleo, June 2014.

Subsequently, regional governments are responsible of developing regional-based legislation that develops the general framework established by the national law. This situation results often in strong differences amongst regions in the way dual VET studies are implemented (this element is discussed in further extension in chapter 5 of this report).

c) *Examples of interesting VET training centres: Coexistence of both traditional and new "dual-based" Advanced VET Cycles*

Both traditional and new dual-based models currently coexist in the existing supply, even within VET training centres. For instance, the Institute of Machine Tool Elgoibar ("Instituto Máquina Herramienta", IMH) offers, in addition to traditional medium and high level VET de-grees in different technical-related modalities, also some high VET degrees in dual format (approximately 53% of total VET students) (the so-called Dual Vocational Training in Alternance or "Formación Profesional Dual en Alternancia" in Spanish). They are starting a medium-level VET degree in dual format this year. The tuition model of this dual VET is as follows. Students are at school during the first year, and in the second year they spend 50% of their time at school and the remaining 50% of time in an enterprise.

Interestingly also, the IMH is currently designing a high VET degree with a third year of specialisation, according to the training needs that the IMH identifies amongst the local

enterprises. In this sense, they have already very advanced a third year specialisation course in mechatronics.

Another good example of training centre particularly involved in dual VET training provision and identified as a good experience in the Spanish context corresponds to Florida Grup Educatiu Cooperatiu (Florida Cooperative Educational Group), located in Valencia.

Table 0.2 Brief description of Florida Grup Educatiu Cooperatiu

Florida Grup Educatiu Cooperatiu (see http://www.florida.es) was founded in the seventies initially as a VET centre and since then has evolved to a comprehensive educational centre, providing educational services from secondary education to VET education, University Education, language training centre orientation vocational centre and continuing training activities. Florida Group is a cooperative, so it is run by a managing team ("Equipo de Dirección"), as well as a Ruling Council ("Consejo rector" in Spanish). Approximately 30-40% of the workers are also cooperative partners, whereas the remaining personnel is employed as normal employees. Florida Group is currently very active in the provision of dual based VET degrees, and they are increasingly interested in transferring all this experience to the world of University Education, as they believe that both worlds (high level VET and University Education) share many things. Specifically in University Education, Florida Universitaria (the subgroup responsible of the provision of tertiary studies) has got four main Departments, this is, Tourism, Engineering, Enterprise studies and Education. These Departments provide both Advanced VET degrees and University Degrees, as well as some postgraduate studies (master level). Some of these VET degrees are imparted on a distance-based basis. Specifically in the engineering domain, Florida runs two University degrees (University Degree in Mechanical Engineering and University Degree in Electronic Engineering and Automatisation) and two high level VET degrees (High level VET studies in Automatisation and Industrial Robotics and High level VET studies in Industrial Mechatronics).

Interestingly enough, the largest share of VET degrees in Florida are imparted both in the traditional form as well as via dual-based, not only those linked to engineering-related studies but also in others. All in all, this academic year 2015-2016 they have a total number of 109 advanced VET level students in dual-based education (including students of first and second year), in ten different VET studies (including the two High level VET studies in Automatisation and Industrial Robotics and in Industrial Mechatronics (approximately 20% of the total number of advanced VET level students).Florida University degrees are not imparted following a dual base.

Finally, some of the interviewees suggest that there are also a number of Universities in Catalonia that are currently getting involved in the provision of high VET degree courses, as they see a further training and income opportunity. A good example of this is the University of Vic (http://www.uvic.es/), where currently three high VET degrees are imparted (two in multimedia and one in food management), and an additional one is expected to be introduced this year (in Administration and Finance). All these examples are based on a dual-based training model (two years of duration, 50% of the learning time in University and 50% in enterprises).

Integrated Learning Opportunities in University Education (ISCED 1997 5A level[15])

According to the interviewees, and referring to the University –Degree Education, several experiences can be identified. They are briefly described next.

a) The compulsory nature of in-company practice periods within University studies

In Spain, and since 2014, there is an obligation amongst University students to carry out internship periods in enterprises as a prerequisite for obtaining their university degree. In this model, and similarly to the VET example, enterprises are responsible of providing a practical "hand-on" experience to students, but they are not responsible of providing any part of the curricula.

Royal Decree 592/2014 regulates work placements for university students in collaborating entities (businesses, institutions and private or public entities)[16]. Given that these work placements are undertaken for training purposes, they do not give rise to any labour obligations. The RD 592/2014 entered into force on 31 July 2014

According to the Law, students can choose between two types of work placements, that is to say, curricular or extracurricular activities depending on whether they form part of the degree syllabus.

- External curricular work experience: those involving academic activities that are part of your syllabus.
- Extracurricular work experience: this is voluntary in nature, since although it pursues the same goals as curricular work experience, it is not part of the syllabus. In order to take up this option you must be enrolled in the subject linked to the syllabus corresponding to this work experience.

The duration is determined by the corresponding syllabus in the case of curricular work experience, but they cannot be longer than 60 credits, to be preferably offered in the second half of the syllabus (1 credit equals to 10 tuition hours) (approximately a 5% of the total training time). The schedules for the work experience are to be established according to the characteristics and availability of the collaborating body where it is due to take place, but always with the aim of finding a timetable that's compatible with the studies.

Students must be assigned a tutor in the collaborating entity and a university placement tutor. The legislation establishes the rights and obligations of the tutors and those of the students, along with the requirements for a work placement. The work placement will be graded by the university placement tutor, who will consider the reports prepared by the student and the tutor in the collaborating entity.

[15] Tertiary-type A programmes (ISCED 5A) are largely theory-based and are designed to provide sufficient qualifications for entry to advanced research programmes and professions with high skill requirements, such as medicine, dentistry or architecture. Tertiary-type A programmes have a minimum cumulative theoretical duration (at tertiary level) of three years' full-time equivalent, although they typically last four or more years. These programmes are not exclusively offered at universities

[16] See https://www.boe.es/diario_boe/txt.php?id=BOE-A-2014-8138

b) *(Limited) presence of dual University Education degrees in Spain*

Having said this, real dual University education degrees in the Spanish Tertiary Education domain are not particularly present. In this sense, and according to the information collected from interviewed experts, in Spain there is just one experience in Dual University Education in engineering and technology-related studies, precisely the experience of the Engineering School of the Institute of Machine Tool Elgoibar ("Instituto Máquina Herramienta", IMH), currently attached member of the University of the Basque Country (EHU-UPV).

In this sense, the IMH initiated in the academic year 2012-2013 the so-called University Degree in Innovation Engineering in Processes and Products ("Grado de Ingeniería en Innovación de Procesos y Productos" in Spanish), to be developed in dual system and with the authorisation of the Spanish and Basque Government (see http://www.imh.eus/es/alumnos/ingenieria-dual)[17]. This dual degree is offered by the Engineering University School of the Institute of Machine Tool Elgoibar (IMH). So far, this is the only University degree in dual modality currently recognised by the National Agency of Quality and Accreditation Evaluation ("Agencia Nacional de Evaluación de la Calidad y Acreditación", ANECA in Spanish)[18]. Approximately, 50 students take part in this degree per academic year.

[17] The activities of the Dual engineering studies in the IMH were initiated in 1996, initially enrolled under CESI France.

[18] ANECA is a national foundation intended to improve the quality of the Spanish University system

Table 0.3 Brief description of the University Degree in "Innovation Engineering in Processes and Products" offered by the Engineering University School of the Institute of Machine Tool Elgoibar (IMH)

Basically, this University Degree combines academic classroom-based education in the Engineering School with work experience in a company. In this sense, the IMH Dual Engineering course enables students to gain first-hand experience of the day-to-day working of a company, and to channel their studies to meet their company's specific needs. This methodology facilitates the development of professionals who are combine theoretical competences in technical and management areas with a thorough knowledge of the daily working of enterprises and their requirements. Some additional characteristics of the University Degree:

- The course lasts 4 years, and it is offered to 50 students yearly. The typical training path includes 2 days a week at the IMH and the other 3 days in the company, although the company's working calendar determines the student's timetable.
- The Engineering University School searches for participating companies in a personalised manner, in accordance with the student's profile and background. The Engineering University School has collaborated so far with more than 100 companies, including companies in different sectors (machine tool, machine tool ancillary, ancillary, automotive, aeronautic, renewable energies, etc).
- The curriculum of the students admitted is sent to different companies according to the profile that has been asked for. Subsequently, the candidates are interviewed by the companies. The process finishes when the student and the company sign a student-company agreement.
- Students receive a salary in compensation for their part-time work in the company. The terms of this student-company agreement can have two different modalities:
  - For students accessing from High-School: During the first two years of dual training, the contract will be "part-time contract linked to training", provided that the legal conditions for the realization of this type of contract. From the third year, the contract will have to be negotiated with the company.
  - For students accessing from Vocational Curriculum Training: During the first two years of dual training, the contract will be "part-time practice", provided that the legal conditions for the realization of this type of contract. From the third year, the contract will have to be negotiated with the company.
  - In both cases: During the first year collaboration agreement between the company and the university; afterwards labour contract will be specified.
- The teaching team is made up mainly by external teachers and specialists from the companies. Each student has his/her own tutor both in the company and at the IMH.
- Vehicular languages employed are Basque, Spanish and English. The third year of IMH Dual Engineering includes a work experience period lasting between 10 and 12 weeks in a foreign company abroad. Through this stage, they acquire labour and cultural experience in a different environment.

In addition to the experience of IMH, there are some isolated experiences of Dual University Education, but not specifically aimed at science and technology fields. For instance, the University of Lleida (Catalonia) has initiated an interesting experience of Dual Education provision for students of the Primary Education University Degree[19], where the students of the University degree combine school-based tuition with two days per week of practical experience/training in educational centres.

[19] See more info at http://www.educacioprimaria.udl.cat/es/pla-formatiu/alternanca.html

Table 0.4 Brief description of the dual University Degree in Primary Education, University of Lleida

Since 2011-2012, the University of Lleida initiated a pilot project of a dual University Degree in Primary Education, where the company training period is done in primary schools of the regional government of Catalonia (for this reason, students are not hired, are not contracted, but rather they are under a regime of practices but they do not receive neither any financial compensation nor have access to social security regime). This University Degree was prepared in collaboration between the University of Lleida and the Education services of the regional Government of Catalonia one year before its launching. This model is relatively similar to the one followed since many years ago in the Nursery School.

Also, the Mondragon University has got a University Degree in Business Administration and Management, under the so-called "Work Based methodology" or "Alternance model". In this sense, both enterprises and University Centre are responsible of the provision of the degree (see next table for more information). In any case, both degrees (the one of University of Lleida and the one of Mondragon University) are not involved in the field of engineering/Technology.

Table 0.5 Brief description of the University Degree in Business Administration and Management imparted by Mondragon University

Mondragon University is a young university, created in 1997 and officially recognised by Law 4/1997 of 30th May. The University was created by the association of three educational cooperatives, which nowadays constitute the University's two Faculties and School (Faculty of Business Studies, Faculty of Humanities and Education and, finally, Polytechnic School). In 2011 one more Faculty is added to Mondragon University, the Culinary Science Faculty. The University is part of the Mondragon Corporation (which contains 257 companies and institutions and more than 74,060 workers), and it has also agreements with numerous companies and organisations from various sectors. Specifically, The University of Mondragon runs a Bachelor's Degree in Business Administration and Management[20] that can be run under a traditional academic route or in the so-called "Alternance" model, where both models coexist. Specifically in the so-called "Alternance model", 75 students are assigned in the second half of their first year an enterprise that will be the same during the four academic years of the degree (the company takes the final decision on incorporating the suggested student). In this sense, students spend per week 20 tuition hours in the University and 16 hours in the Enterprise, where they get into practice all the different elements that they are learning in the University. In return, students receive a small financial compensation from the company (depending on the company and the student), plus students are compulsory enrolled in the Spanish Social Security Regime. Enterprises are particularly involved with the provision of in-company practice training periods that are evaluated, and the time within the enterprise can be flexible accordingly to the needs of both the enterprise and the student. However, enterprises are not responsible of the provision of parts of the Curricula, which is responsibility of the University. Interestingly also, there are one academic tutor and one company tutor, who are responsible of both following the student during the whole degree and of coordinating the different activities carried out in the University and in the company.

[20] See more information at http://www.mondragon.edu/en/studies/bachelor-degree/bachelor-degree-in-business-administration-and-management/

Integrated Learning Opportunities in post-University Education (ISCED 1997 6 level)

As far as post-University Education level studies are concerned (ISCED 1997 6 level[21]), and in addition to the existing experiences in some Medicine-related studies (where real hand-on experience training periods play a very important role in post-tertiary education (specialisation courses, MIR, etc), the extension of "in-company" training periods is getting an increasing role in some postgraduate level studies, particularly in relation to Master-degree levels. A good example of this is given by certain Master degrees in Business management developed in a number of Spanish Universities, where these "in-company" training periods is used as a powerful marketing tool to attract students.

Meanwhile, it is worth stressing the experience of University of Lleida (Catalonia), who is developing some interesting experiences of dual-based experiences in post-graduate Education. In this regard, the University of Lleida currently develops three Master Degrees on a dual basis (combining school-based and enterprise-based tuition), this is, a Master degree in Computer Engineer (official master), a Master in Operation and Distribution Management (own Master degree) and, finally, a Master in Human Resources management and Competence Development (own Master, initiated in 2015). Another two experiences are intended to be developed next academic year 2016-2017, this is, a Master degree in Industrial Engineering with 5-10 students, and a Master Degree in Administration Management. They have good expectations concerning these Master degrees.

Table 0.6 Brief description of the University of Lleida

The University of Lleida is public, and it is one of the seven Universities of the Catalan System of Public Universities. It is the oldest one, as it was founded in 1297, although for different reasons it was not given a fully independent status until the year 1991. The University has got seven centres, mainly located in the city capital. The University imparts University studies in different domains, including Education, Business Studies, several Engineering specialities, Medicine, Law, etc. The University of Lleida can be regarded as a very innovative example of University that has tried to increase its relationship with the enterprise world. They have acted as one of the pioneering institutions in this issue of dual studies in the University world, both in Catalonia and Spain, together with IMH.

Interestingly also, it is worth mentioning the existence of an interesting "Integrated Learning Opportunities" partnership in ISCED 6 level studies. Precisely, this experience is the so-called Industrial Doctorates plan ("plan de Doctorados Industriales" in Spanish), particularly developed by the Catalan regional government[22]. Basically, this programme aims to contribute to the competitiveness and internationalisation of the Spanish industrial fabric, retain talent and place

[21] ISCED 1997 & level studies refer to tertiary programmes leading to the award of an advanced research qualification, e.g. Ph.D. These programmes are therefore devoted to advanced study and original research and are not based on course-work only. It typically requires the submission of a thesis or dissertation of publishable quality which is the product of original research and represents a significant contribution to knowledge.

[22] There is a similar programme at national level, managed by the Spanish Ministry of Economy and Competitiveness. However, the Catalan government is particularly active in this specific programme, so its experience is brought here.

doctoral students in companies where they can develop R&D&I projects. The agents involved in this initiative are the company, the University, the doctoral Student and, finally, the public authorities. The essential element of the Industrial Doctorates programme is the so-called "industrial doctorate project", that is, a strategic research project carried out at a company that allows the doctorand to further develop his research training in collaboration with a university, and which is the object of a doctoral thesis. The Government of Catalonia provides two types of financial support to these projects, based on certain characteristics of project implementation, that is to say, the so-called Industrial doctorate projects co-funded by the Government of Catalonia and, secondly, the so-called Industrial doctorate projects with specific funding. In any case, any industrial doctorate project foresees the following elements:

- The doctoral thesis has to be carried out within the framework of a collaboration agreement between the university and the company. The length of the collaboration agreement between university and company must be for 3 years.
- The doctorand is given a thesis director from the university and a project manager appointed by the company. The time dedicated by the doctorand to the research projects will be divided between the company and the university
- Candidates are selected jointly by the university and the company. However, candidates must be accepted and admitted to the doctoral programme of the corresponding university.
- The thesis director must be part of an active recognised research group, and the doctorand will work exclusively on the development of the research project.
- The company will hire the doctorand, providing an average minimum annual gross salary of 22,000 euros and covering the corresponding employer Social Security contributions. Meanwhile, the regional Government of Catalonia is responsible of funding several elements such as the public prices and fees for the doctorand's enrolment in the doctoral programme; the company tutorship, some additional mobility funds for the doctorand; other costs.

According to the information collected from some of the interviewed experts (Mr Homs), this is a very interesting experience, but intended to post-graduate level. Not many students take part here (they are PhD students, anyway), but the results are very interesting.

Bridging Programmes: Identified good practices

The national System of Qualifications and Vocational Education and Training

As far as bridging programmes are concerned, the previous report elaborated within the framework of this P4LLL Erasmus + project dealt with the so-called National System of Qualifications and Vocational Education and Training ("Sistema Nacional de Cualificaciones y Formación Profesional", SNCFP in Spanish), intended to promote and develop the integration of vocational training offers and to promote the evaluation and accreditation of relevant professional skills acquired both formally or informally[23] by individuals.

In this regard, the main tool of this SNCFP is the so-called National Catalogue of Professional Qualifications and its corresponding Modular Catalogue of Vocational Education and Training. the Modular and competence structure of the Spanish VET system provides a common reference for the integration of the whole Spanish VET offer, facilitating not only the design of training but also the

[23] See more extensive explanations and details of this in the previous report elaborated within the framework of this P4LLL Erasmus + project.

evaluation and accreditation of work experience and non-formal or informal learning, the mutual recognition of learning outcomes amongst different agents and, ultimately, the promotion of lifelong learning.

Recognition of prior learning between Advanced Vocational Training Cycles and University studies

Another relevant example of bridging partnership refers to the existing possibility within the Spanish educational system to partially recognise learning outcomes obtained by graduates in Advanced Vocational Training Cycles (ISCED 1997 5B level studies) who want to pursue into University studies (ISCED 1997 5A level studies).

In this sense, the Royal Decree 412/2014 of 6th June[24] regulates the existing mechanisms for the recognition of studies among the different courses of study that constitute Higher Education, establishing the relations between the different Higher Education diplomas, including Bachelor degrees and Higher Technician from Advanced Vocational Training degrees.

Meanwhile, the Royal Decree 1618/2011 of 14th November[25] identifies the mechanisms for the recognition and validation of Advanced VET degrees in the Higher Education domain, including the partial validation of ECTS[26] credits for those students with an advanced VET degree who want to pursue a study programme leading to a university Bachelor's degree.

In this respect, the Spanish legislation regulates that each individual University is responsible for the recognition and validation of these ECTS credits, which results in sometimes strong differences amongst Universities for the same advanced VET degree or amongst advanced VET degrees within the same University. All in all, and generally speaking, a university student who comes from an advanced VET degree can validate between 10-15% of the total number of ECTS credits, depending on the VET degree, the bachelor degree or the University[27]. According to some of the interviewed experts, this possibility of official recognition increases the attractiveness of VET degrees amongst students.

Other interesting identified good practices of partnerships in lifelong learning

In addition to all the examples and good practices identified before, the interviewees have identified a number of relevant additional “partnerships” related to the VET/University domain that are worth being mentioned. In this regard, three main examples are mentioned, that is to say:

The Spanish Alliance for the Dual VET

In addition to the current impetus amongst central and regional governments to promote the dual VET model in Spain, the Spanish civil society is also developing a number of interesting activities in

[24] See https://www.boe.es/boe/dias/2014/06/07/pdfs/BOE-A-2014-6008.pdf
[25] See https://www.boe.es/diario_boe/txt.php?id=BOE-A-2011-19597
[26] ECTS stands for European Credit Transfer System. Bachelor’s degrees in Spain have a minimum duration of 240 ECTS credits
[27] See http://www.todofp.es/todofp/sobre-fp/informacion-general/Acceso-a-la-Universidad/reconocimiento-de-estudios.html

this regard. One of the most relevant initiatives is the so-called Alliance for the Dual VET ("Alianza para la Formación Profesional Dual" in Spanish) (see www.alianzafpdual.es).

This Alliance is a state-wide network of companies, research centres and institutions committed to the development of the dual VET system in Spain. The Alliance is promoted by the Spanish-German Bertelsmann Foundation, together with the Foundation Princess of Girona, the main Spanish Employer's Association (CEOE) and the Chamber of Commerce of Spain. There are currently approximately 150 enterprises participating in this Alliance, most large but also small companies and national/multinational companies. This Alliance is committed to promote the Dual VET System as a new learning system that may help more young Spanish people to have access to the labour market and, subsequently, to decrease the existing high rates of youth unemployment in Spain. This Alliance brings together the best initiatives and experiences being currently developed, so they may be shared by practitioners and subsequently spread to more companies, VET schools and other relevant institutions in Spain.

Also, the Bertelsmann Foundation is doing a very active role in providing Technical assistance for enterprises who want to implement in-house Dual VET programmes. This Technical assistance is aimed both at those companies that do not have any previous experience in Dual VET and want to explore the possibility of offering apprenticeship places, as well as those companies already involved in this system but who want to expand and/or improve their involvement in Dual VET-related activities.

According to the opinion of some of the interviewed experts, the experience of the Bertelsmann Foundation shows that the process of introducing "dual training" models within enterprises is very costly and takes much more time than expected. Thus, the expectations of the Foundation regarding the introduction of dual training activities within enterprises have not been fulfilled, as the process is very costly and lengthy.

The project FPEMPRESA

FPEMPRESA (www.fpempresa.es) is a project led by 89 public and private VET centres in Spain, as well as a large number of Spanish companies. This project is funded by the Spanish Ministry of Education, and it has a budget of more than 3 million euros. Currently, it is one of the most important projects that are underway in the Spanish vocational training innovation.

The project's objective is to seek new forms of relationship between VET centres, companies and students. In this sense, VET centres may show all services provided to businesses. On the other hand, companies can meet and contact any VET centre, as well identify and find students for practices, search for adequate VET graduates who are looking for a job, access to labour intermediation services or seek partnerships for technological innovation projects.

The alliance between Jesuitas Educación and the Univesitat Oberta de Catalunya (UOC)

Last March 2016 it was publicly announced that Jesuit Education (JE) and the Open University of Catalonia (UOC) have signed an agreement by which the network of JE (with solid experience in VET), and the UOC (leading university in on-line learning), will offer VET degree courses online from the 2016-2017 academic year onwards. Specifically, the initial supply of VET degrees will cover four ones,

this is, development of Web Applications, Sales and Commercial Management, Marketing and Advertising and, finally, Management and Finance.

JE will be responsible of the academic side of the offered VET degrees (currently offered on-site). Meanwhile, the UOC, through the company EducaciOnline, will provide the platform, technological tools and methodological support. With this alliance, both institutions intend to expand the currently existing supply of VET courses with a new possibility based on the on-line distance approach (very innovative in the Spanish context).

2. Systemic and Institutional Frameworks for Partnerships

Introduction

This section is interested in analysing the existing Institutional Framework for Partnerships available in Spain. In this regard, this section will try to provide an answer to the following elements, namely:

- Role played by the identified partnerships in the Spanish general approach to skills formation
- Identification of the main interests, motives or policy objectives of the different stakeholder groups with regard to partnerships and their implementation
- Main public bodies responsible for the regulation and management of the identified partnerships, extent of support/encouragement of these partnerships by public authorities

Role played by the identified partnerships in the Spanish general approach to skills formation

Generally speaking, there is a relatively long tradition of partnerships between enterprise and school-based training provision in the VET domain, whereas this is not so much the case in the University domain.

In this sense, the concept of “dual” training, understood in the “German” tradition, can be understood as perhaps a too narrow concept for the Spanish context. Thus, in this dual model there is a strong component of involvement and coordination between two different training providers, that is to say, the enterprise and the education centre, who provide a common and well-defined training experience and a curriculum for students that result in a formal training certification. Perhaps in Spain it is better to talk about the concept of “alternance”, understood as a combination of enterprise and school-based training periods, with an overwhelming presence of school-based periods in comparison to company-based ones.

This is for instance the traditional model used in Spain for the provision of the Advanced level VET degrees, where a traineeship period at workplace (Formación en centros de trabajo -FCT), without employment status, is compulsory for all students, and this FCT represents a 20% of total training time or a three months period). In this model, enterprises are responsible of providing a practical “hand-on” experience to students, but they are not responsible of providing any part of the VET curricula.

Meanwhile, and in the Spanish University domain, the changes introduced with the Bologna process have implied that all universities have to offer their students some type of “in-company” practice period as a prerequisite for obtaining their university degree. In this model, introduced in Spain since

2014, enterprises are responsible of providing a practical "hand-on" experience to students, but they are not responsible of providing any part of the curricula and students are often not covered by any financial support. These "in-company" training periods can be of very different value and interest for students, depending on the University and the enterprise.

In any case, the big difference between VET and University studies refer to the extent of the practice periods in enterprises. In VET it is completely integrated in the curriculum and represents a significant share of training time (either in the traditional model or especially in the new emerging dual model), where this is not the case in Universities.

There are also some examples of "dual" type models developed in Spain. In this regard, the most important example is given by the recent efforts since 2012-2013 to introduce a "dual" VET model in the Spanish educational system, intended to complement the existing supply of VET studies, both under the Intermediate (ISCED- 3B) and the Advanced Vocational Training Cycles (ISCED- 5B qualification levels). In this particular domain, some very interesting experiences are currently being developed in Spain.

By way of contrast, and in the University domain, all the interviewed experts suggest that there are very limited experiences of "Dual training models", particularly in the case of engineering and technology- related studies. In this sense, and in addition to some limited experiences in other areas (for instance the experience of University of Lleida (Catalonia) and the Dual Education provision for students of the Primary Education University Degree[28]), the best and likely "only" example of Dual Engineering Degree in Spain is the one developed by the Institute of Machine Tool (IMH) in Elgoibar, the so-called University Degree in Innovation Engineering in Processes and Products ("Grado de Ingeniería en Innovación de Procesos y Productos" in Spanish), already explained.

Identification of the main interests, motives or policy objectives of the different stakeholder groups with regard to partnerships and their implementation

According to the different interviewed experts, the interests and motives of the different stakeholders groups with regard to the different identified partnerships can be summarised as follows:

In the case of VET providers and Universities, the availability of relevant/well organised "in-company" training periods are currently an "obligation" for Universities, following the existing legislation. Nevertheless, the availability of well-organised "in-company" training periods within relevant companies is also viewed as a powerful tool to increase the attractiveness of the individual VET centre/University amongst potential students. Meanwhile, these training periods are not particularly viewed by Universities as powerful tools to foster the effective insertion of students in the labour market, whereas VET centres particularly value these "in-company" periods as one of the most relevant tools for enterprises to identify suitable future job candidates.

Meanwhile, and in the case of enterprises, these enterprises are usually very interested in getting involved in this type of partnership experiences, as they are able to identify interesting suitable job candidates (it is often the case that enterprises decide to offer a FCT position when they need a new young person in the company). Also, these partnership experiences facilitate not only a more rapid

[28] See more info at http://www.educacioprimaria.udl.cat/es/pla-formatiu/alternanca.html

and successful insertion of students into the daily life of enterprises but also the acquisition of a strong sector-related knowledge/self-consciousness, together with a successful socialisation process in the profession.

In the case of dual training programmes (both in VET and in University education), enterprises also suggest that they are able to train individuals accordingly to their own needs and requirements, an element particularly valued by enterprises. For instance, and in the case of the Dual University Engineering Degree developed by the IMH Elgoibar, the presence of a strong cluster of machine-tool manufacturing companies in the area is a strong element to foster enterprises to engage in this type of focused training. The expected VET/University graduate supply shortages in the coming years (due to the current demographic trends and especially significant in some engineering/technology-related specialities) imply that enterprises will have to be particularly attentive to the identification and attraction of new “talent” available in the market. Interestingly also, the interviewee from Florida suggested that students are able to provide enterprises with interesting resources and ideas/knowledge/skills that enterprises usually value as they represent an important innovation within the enterprise.

From the perspective of VET training centres, and taking as a reference the case of La Florida Grup, the rationale for their involvement in dual-based VET studies is clear. The national and regional legislation oblige VET centres to introduce dual VET studies by year 2019-2020. Also, Florida was very conscious of the key role that enterprises have to play within the VET system and the importance of bringing them to the educational world, so they started to analyse the possibility of introducing such dual models from the very beginning. Finally, Florida is conscious that dual-based VET studies are perceived as particularly attractive in the current moment for students. Having in mind all these elements, Florida decided to analyse successful experiences in other countries and introduced very

From the point of view of students, dual-based studies offer a number of advantages and strong points. To start with, the interviewed experts suggest that students particularly value not only the acquisition of real hands-off experience in companies and a relatively rapid labour insertion but also the acquisition of specific competences/skills in different domains (interaction with colleagues, social skills/competencies, teamwork, interaction with superiors, development of responsibility, etc). Also, and form the perspective of la Florida Grup, students participating in dual studies are able to provide very interesting practical experiences to their colleagues within the VET training centre, enriching therefore the academic experience.

All in all, and specifically focused on dual training models, these type of partnerships may have some important disadvantages, especially from the students’ perspectives. In this sense, the most important one refers to the problems related to the “too company-specific” training/education provision, which may imply important difficulties in the medium/long term for individuals if radical changes in technologies/processes take place and they have not been trained in general/transversal skills and competences.

Main public bodies responsible for the regulation and management of the identified partnerships, extent of support/encouragement of these partnerships by public authorities

In Spain, public authorities are currently involved in a strong support process to foster the introduction of the dual VET model in the Spanish educational system, especially in relation to the development of important legislative efforts by the public authorities in this respect, and in the specific case of dual high degree VET studies, important Laws include the Royal Decree 1529/2012 of 8th November and the Order ESS/2518/2013 of 26th December, who regulate the new VET model called "Dual Vocational Training". Subsequently, regional governments are responsible of developing regional-based legislation that develops the general framework established by the national law. This situation results often in strong differences amongst regions in the way dual VET studies are implemented (this element is discussed in further extension in chapter 5 of this report).

By way of contrast, this is not the situation within the University education system, although some important developments have been recently introduced (for instance via the introduction of compulsory "in-company" practice periods within University studies since 2014.

Having said this, it is important to stress that in Spain, and contrarily to other countries, there is still a limited available supply of public incentives (tax/monetary incentives) to foster the participation of enterprises in dual training models. This situation, probably explained by the relatively pilot nature of the dual VET system, is likely to be solved in the coming years.

3 Compatibility of HE and Vocational Curricula

Introduction

This section is interested in analysing two main elements, namely the cooperation of different learning venues (e.g. enterprises and schools) in the identified partnerships, as well as the organisation of this cooperation (learning contents, time spent, etc.)

Cooperation of different learning venues (e.g. enterprises and schools) in the identified partnerships. Organisation of this cooperation (learning contents, time spent, etc)

The conducted interviews allow identifying a wide array of different cooperation patterns between involved partners.

For instance, and in the case of the experience of La Florida, the first experiences of dual VET degrees were introduced in academic year 2013-2014, so they are still in a pilot phase, so to say. The process to introduce these dual VET degrees was as follows:

- Florida started an important work of identification of companies that were ready to impart part of the training curriculum. For this purpose, Florida initially used their network of companies that participated in the compulsory module of in-company practices (FCT in Spanish). Enterprises were contacted to participate and were identified as both interested and suitable for imparting this training, including the availability of a tutor within the enterprise who is in charge of the student, their attitude towards training provision, the implication of the enterprise with students, previous experiences of students in the company, availability of other training

resources, etc. This process was not easy, and sometimes required important efforts to convince enterprises to participate.

- Meanwhile, students were offered the possibility to follow a dual model, and some of them on a freely basis decide to opt for this via. In all VET degrees, traditional VET studies coexist with dual based systems, so only a limited number of students are able to access these dual-based studies whereas the remaining students continue in the traditional VET studies modality. Usually, the training centre also has a saying on the selection of students, depending on their academic performance, closeness to the enterprise, work attitudes, etc. It is very important that the student might be very autonomous and with great self-capacity and initiative, as it is often the case that the enterprise may have limited time to devote to each student (production is always the priority for enterprises).
- Subsequently, enterprise and students are got in contact, and in case the enterprise is interested in the student (and the student in the enterprise), the enterprise offers him/her a training position in the company
- Approximately, students spend between a 33% and a 50% of their training time in the enterprise, depending on each specific enterprise. In most cases, the in-company training period begins in the second/third quarter of the first year, and it is combined with training periods within the VET training centre during the week. Initially, students are encouraged to understand the concrete enterprise, the existing relational framework, the characteristics of the job the enterprise pursues, timings and working patterns, etc.
- The company is responsible of paying the student the compulsory social security contribution plus a small grant/salary that depends on each enterprise but may rank between 50-500 euros per month, depending on the degree/VET studies and the type of enterprise.
- There are a number of elements individually agreed before between the enterprise and the training centre concerning the minimum number of elements that each student has to learn within the enterprise. This minimum number of elements is checked by the training centre. In the case of engineering-related VET degrees, each enterprise is only capable of providing a different part of the curriculum (so far, no experiences of collaborative enterprises providing a more complete training supply have been developed), which requires that the training centre has to complement missing parts and therefore has to provide the student with an ad-hoc training supply. Having this is mind, the VET training centre still plays a very important role in the identification of the curricula that can be imparted by enterprises, as they are not used to pedagogical elements but rather they are used just to work. In this sense, the training centre is responsible of the whole training process, where the enterprises usually adopt a more subsidiary role concerning the definition of training contents and curricula, etc. Enterprises are more concerned about skills and attitudes rather than training contents
- Subsequently, each enterprise is responsible for evaluating each student, according to a predefined template that summarises all the competences/skills and activities that had to be imparted by the enterprise. This template is usually not very complicated, and enterprises tend to be particularly accurate with the marks they provide to students

Meanwhile, and in the case of two of the postgraduate Master degrees offered by The University of Lleida, the process of introduction of these two degrees and their associated characteristics in terms of organisation are presented next:

- The first experience developed refers to a Dual-based Master Degree in Management of Operations and Distribution, initiated last academic year 2014-2015 and lasting one year long. The University searched for enterprises who might be able to participate in the training provision, and working with them in order to

develop a coherent curriculum. They had 14 students, all of them contracted by enterprises under a "practice contract" ("contrato en practicas" in Spanish) and whose training organisation was from Monday to Thursday full-time work in the companies and Fridays all day and Saturdays morning they received some academic training in the University. The training contents of the enterprises were agreed beforehand, and each enterprise had a tutor to take care of the student and report on his/her progress to the academic tutor of the University (the company tutors have to be people with enough technical competences, and the University helps these people with the provision of all materials needed to effectively value the students and their work, including the continuous support of the academic tutor of the University). Obviously enough, and as each enterprise was able to provide part of the Curriculum, the University was responsible to provide on an individual basis those elements that were not covered by each enterprise. Interestingly, each student is presented the different training possibilities offered by enterprises, so each student decides which one is the most interesting for him/her. In case of several candidates, it is the company who finally decides the participating candidate. The main rationale behind participating companies is, primarily, access to talent and new human resources.

- Another experience is given by the Master in Computer Engineering, initiated during the academic year 2015-2016 and with a duration of one year and a half. Here the motivation of enterprises to participate in this Master has been very big, as enterprises really need to have access to talent and new employees. This Master is offered both on a traditional base and on a dual base, and approximately half of students take part in the traditional model whereas the remaining 15 students participate in the dual—based training model (30 students in total). The students in dual model are employed in the company from the very first day, and they carry out projects suggested by the enterprise from the very first day (these projects have to fulfil a number of minimum criteria in terms of contents and interest, and have to be related to the training curricula to be imparted by the Master). Equally to the other case, it is the role of University of Lleida to complement those curricula areas not sufficiently imparted by the companies. Students work during the morning in the company and go to University in the afternoons (first year), and the second year they spend most of their time in the companies. Participating enterprises are particularly happy with the experience and many other enterprises are getting interested in participating in future years.

4 Recognition of prior learning

Introduction

This section is interested in analysing the issue of recognition of prior learning acquired by the identified partnerships, especially in relation to validation of non-formal or informal learning outcomes.

Recognition of non-formal/informal prior learning

Generally speaking, the Spanish education system in general and the Spanish VET system in particular are characterised by a high degree of openness and flexibility so to make easier the permeability and mobility between the different subsystems.

Just to give one example, the so-called National Catalogue of Professional Qualifications and its corresponding Modular Catalogue of Vocational Education and Training as main tool of the National System of Qualifications and Vocational Education and Training ("Sistema Nacional de Cualificaciones y Formación Profesional", SNCFP in Spanish) allow, amongst other elements, the evaluation and accreditation of work experience and non-formal or informal learning as well as the mutual recognition of learning outcomes amongst different agents.

Recognition of formal learning

Interestingly also, the Spanish educational system allows to partially recognise learning outcomes obtained by graduates in Advanced Vocational Training Cycles (ISCED 1997 5B level studies) who want to pursue into University studies (ISCED 1997 5A level studies). This recognition is legally regulated by the Royal Decree 412/2014 of 6th June and the Royal Decree 1618/2011 of 14th November, which provide the mechanisms for the recognition and validation of Advanced VET degrees in the Higher Education domain, including the partial validation of ECTS credits for those students with an advanced VET degree who want to pursue a study programme leading to a university Bachelor's degree.

It is important to stress that this recognition element is one of the most important and attractive elements for students who decide to opt for VET degrees. On the one hand, there is a reserve of places for VET graduates with relevant VET degrees who want to have access to the University (approximately 20-30% of total places). On the other hand, VET graduates are validated part of their studies when doing a University degree (validation of credits), although this validation is dependent on the University and the selected degree. There is not a generic criteria, so each University may decide to what extent and how many credits are validated. Approximately 20% of VET students decide to continue to University studies (depending on the professional family) for different reasons (usually interest in progressing). These people are very interesting for the University, as they bring new insights and perspectives to the classes (these students are usually older, they have some (limited) professional experience, they have already covered some of the thematic issues, etc.). However, and according to one of the interviewees (Mr Salvans), the students who opt for a dual VET training model may less further continue University studies, as they have a quicker access to employment opportunities and labour insertion and therefore they renounce to continue further in education (for instance via a University degree).

As already mentioned, each individual University is responsible for the recognition and validation of these ECTS credits, which results in sometimes (relatively) strong differences amongst Universities for the same advanced VET degree or amongst advanced VET degrees within the same University.

For instance, and in the case of Florida, this Institution is relatively generous with the number of credits obtained in VET studies that are recognised when students decide to pursue University studies. In this regard, VET students who successfully complete a VET degree can be recognised up to 60 credits (approximately ¼ of all credits for completing a University degree) in case they decide to continue University studies within Florida.

In the case of the University Degree in Innovation Engineering in Processes and Products ("Grado de Ingeniería en Innovación de Procesos y Productos" in Spanish), and offered by the Engineering University School of the Institute of Machine Tool Elgoibar (IMH), this degree allows the possibility to partially recognise the ECTS credits obtained in some specific Advanced Vocational Training Cycles. Specifically, this University degree identifies several subjects imparted in several Advanced Vocational Training Cycles that can be officially recognised and exempted from being taught (generally speaking, this recognition usually implies between 30 and 36 ECTS credits, this is, around 12-15% of the total ECTS credits).

Some of these Advanced Vocational Training Cycles whose training contents can be recognised include the following ones:

- Programming of Production in Mechanical Manufacturing (Advanced VET cycle provided by the IMH itself)
- Design in mechanical manufacturing (Advanced VET cycle provided by the IMH itself)
- Maintenance of industrial equipment (Advanced VET cycle provided by the IMH itself)
- Metal constructions
- Programming of Production by moulding of metals and polymers
- Maintenance of thermal and fluid Installations
- Industrial Mechatronics
- Development of electronic products
- Automatic control systems and Control
- Electronic Maintenance
- electrotechnical Facilities
- Automation and industrial robotics.

The possibilities to recognise prior learning acquired in Advanced Vocational Training Cycles when continuing in University studies are qualified by some interviewed experts (for instance Mr Egurbide) as relatively poor, at least in comparison with the possibilities in other countries (i.e. France), where complete years are recognised and validated. In this sense, and according to Mr Egurbide, in Spain a person who decides to pursue a high degree VET and subsequently continues in University studies needs at least 5 years (2 years of VET degree + 4 years of University degree – 1 year of recognised studies conducted during an advanced VET degree).

Therefore, and according to Mr Egurbide, the Spanish system can be labelled as relatively rigid. Meanwhile, and in the French case, there it is possible to carry out studies that combine VET and University education, so each individual may employ 5 years (2 in VET + 3 in University) to obtain a qualification of Master degree.

5 Evaluation and summary

Introduction

Finally, this section will provide a final evaluation and summary of the results identified and discussed in previous sections of this report. In this regard, this section will try to provide an answer to the following elements, namely:

- Role played by identified partnerships for both promoting VET and the attractiveness of vocationally oriented pathways, and for meeting the needs and expectations with regard to skills formation
- Benefits of the identified partnerships for different partners/actors involved (including learners).

- Main existing problems/obstacles associated with the effective implementation of these partnerships, and associated means to address these problems/obstacles
- Future expectations related to these partnerships, transferability to other national/sectoral contexts

Role played by identified partnerships for both promoting VET and the attractiveness of vocationally oriented pathways, and for meeting the needs and expectations with regard to skills formation

The interviewees identify a number of relevant elements around this question.

To start with, the social image of the Spanish VET system has changed dramatically during the last ten-fifteen years, in a positive way. In this regard, the society perceives that graduates in Advanced VET Grade Cycles receive a solid training and have got a much better and rapid integration into the labour market than University graduates, at least VET graduates from some specialities (particularly manufacturing-related ones). Interestingly enough, there is a significant current trend amongst Spanish University graduates, in the sense that there is an increasing number of University graduates that initiate Advanced VET Grade studies after completing their University degrees as these studies are perceived to facilitate a much more rapid labour insertion than University ones.

According to some of the interviewed experts, this situation is explained in a large extent by the insufficient integration of the practical/in-company training domain in the Spanish University studies (at least until very recently). In this sense, Advanced VET studies (both the traditional VET model and the new Dual-based model) integrate successfully partnerships between in-company training periods with school-based training periods, which facilitate a much more rapid integration of students into the labour market.

Also, Advanced VET studies facilitate the accessibility to a range of jobs usually more fine-tuned with the carried out studies, where enterprises particularly value the VET training contents. In this sense, and In Spain, there is an oversupply of University graduates in some specific degrees (not in the case of STEM students), that implies that some of these University graduates are subsequently employed in jobs that correspond to middle level qualifications. An open question remains the possibilities for VET students to progress in the labour market (probably they are more limited than University graduates).

Meanwhile, and in the case of the dual University studies, the interviewee from the IMH Elgoibar suggests that graduates in the dual-based University Degree in Innovation Engineering in Processes and Products show also a very rapid labour integration, in the sense that, according to their own sources, all graduates are currently working, and more than 78% of the them continue to work within the same company they did the dual training experience.

To conclude, interviewed experts suggest that the Spanish University has to integrate more and more this dual dimension as to make it more attractive for students and more in line with the demands of the enterprises and the society.

Benefits of the identified partnerships for different stakeholders involved (including learners).

Concerning the main benefits of the identified partnerships for different stakeholders, the interviewed experts identify a number of them.

In the case of VET providers and Universities, the availability of relevant/well organised "in-company" training periods within companies is seen as a relevant element for them, not only as a tool to increase the attractiveness of the individual VET centre/University amongst potential students, but also as a relevant tool that favours not only a rapid and effective insertion of students in the labour market, but also as a sources of knowledge for VET centres/Universities about the needs and existing training priorities within companies.

Table 0.7 Example of innovation/consultancy services provided by a VET training centre to enterprises: The case of IMH

IMH is active in the provision of consultancy services in R&D&I activities for very small enterprises (ITAUN-TKGUNE). These consultancy services are provided by (groups) of VET teachers of IMH, and these services are funded (partially) by the Basque Government. Two main goals are solved with these consultancy ser-vices. On the one hand, companies are able to solve concrete technological problems in their daily life activities. On the other hand, VET trainers get in touch with external enterprises and are able to identify the real problems that concrete enterprises have to cope with. This programme is highly valued, both by participating enter-prises and IMH teachers

Meanwhile, enterprises particularly value this type of partnership experiences with VET centres/Universities, as they are able to identify interesting suitable job candidates (it is often the case that enterprises decide to offer a FCT position when they need a new young person in the company), as well as a process of "socialisation" of students into the company and the sector in which the enterprise operates. Of course, dual training programmes (both in VET and in University education) facilitate a much more individual company-specific training provision, an element particularly valued by enterprises.

For students, such partnerships bring a number of advantages and strong points, not only in terms of the acquisition of real hands-off experience in companies and a relatively rapid labour insertion but also the acquisition of specific competences/skills in different domains (interaction with colleagues, social skills/competencies, teamwork, interaction with superiors, development of responsibility, etc). Having said this, interviewed experts warn about the problems derived from the provision of "too company-specific" training/education, which may imply important difficulties for individuals in case of the introduction of disruptive new technologies/processes. In this sense, interviewed experts stress the importance of training individuals in general/transversal skills and competences (mathematics, learning to learn, etc.) that may facilitate future training activities.

Last but not least, existing bridging experiences via the recognition of prior learning acquired by VET graduates who want to pursue University studies is particularly valued by students and Universities. An open question remains if these recognition possibilities can be reinforced in the future.

Main existing problems/obstacles associated with the effective implementation of these partnerships, and associated means to address these problems/obstacles

Concerning the main existing problems/obstacles associated with the effective implementation of these partnerships and the associated means to address these problems, the interviewed experts identify the following elements:

Problems/obstacles related to advanced level VET studies

- To start with, the experience of the Bertelsmann Foundation shows that the process of introducing "dual training" models within the Spanish VET system is very costly and takes much more time than expected. Several elements explain these difficulties.
- On the one hand, the introduction of "dual-type" VET models is limited by the own characteristics of the Spanish enterprises. Thus, only those enterprises who are very big or innovative enough may have the capability, willingness and resources to introduce a quality training supply. But Spain is a country characterised by an overwhelming presence of SMEs. Interviewed experts underline a question of "mentality" of enterprises, so not many enterprises are "compromised" with getting actively involved in in-company training periods. In this sense, there is a limited culture amongst enterprises to get actively involved in training activities. Thus, some of the interviewed experts suggest that only around a 10% of Spanish enterprises are able to participate in these "dual training" models.
- This negative situation is reinforced by the fact that, due to the small size of most of the participating enterprises, the curriculum imparted by each enterprise is different from the others (enterprises are specialised in some specific activities and therefore curriculum contents). Moreover, the Spanish dual VET system does not facilitate the possibility of collaborative solutions amongst SMEs, in the sense that groups of SMEs collaborate with each other to provide a more complete training supply. Thus, and in the current situation, VET centres have to coordinate the whole curricula and therefore have to cover those elements not covered by enterprises, often implying the need to offer ad-hoc training itineraries and combination of school-based courses to each student, depending on the specialities of the participating enterprise and the specific situation of each student.
- This negative element is also reinforced by the existing very important lack of knowledge amongst enterprises on the issue of dual training and its specificities, not only amongst small enterprises but also and very importantly amongst large companies themselves. This is an important weakness, as enterprises do not understand the strong possibilities opened by the dual VET training for them in terms of stronger collaboration and knowledge exchange between VET centres professionals and enterprise representatives, retraining of teachers in company premises, new knowledge provided by students to enterprises, real vocational, enterprise-based training for students, etc.
- An additional big obstacle to the introduction of these "dual models" in Spain relates to the limited participation of the social agents in the process. This situation impedes that the "dual model" may become more extended within the Spanish enterprises. If Trade Unions/employers do not participate/are not informed/are against the presence of trainees and students within the enterprise it is very unlikely that the model may successfully develop in the enterprise.
- Also, the Spanish dual based model is mainly a school-oriented model, in the sense that the main access route to dual VET is still the school and not the enterprise (the student registers in a VET school and it is the school the one that finds a suitable enterprise for the student to do the dual training, and only in case the VET centre is able to find enterprises that are ready to provide in-company training places). In this regard, it is usually the situation where, in case a limited number of dual VET positions are available, the best students are given the possibility by the VET centre to opt for a dual VET position. However, not all selected students may opt

for this dual-based model (for instance, in case a student is given a company-based training position in a company located very far from his/her domicile, or in case a student is already working in a company with a training contract).

- Some of the interviewed experts (i.e. Mr Salvans) suggest that there is an important lack of intermediate agents (i.e. Chambers of Commerce, local employers' organisation, public service employment, etc) that facilitate the participation of individual or group of SMEs in dual VET training practices. This situation makes difficult for SMEs their participation in these dual VET training practices. The Fundación Bertelsmann plays an important role in this field, although they have a limited size to reach the whole number of suitable Spanish companies. Also, Mr Salvans stresses that some kind of evaluation schemes should be introduced in order to identify the main results obtained and the main problems/weaknesses of the Spanish dual VET system as a whole and the different regional systems in particular. This effort has not been done so far, and it is not clear that it might take place in the future.
- Last but not least, the current regulation gives a strong room of action for regions (Autonomous Communities). This element, intended to develop regional approaches better suited to the specificities of each region, is also considered a potential risk of important interregional quality imbalances and an obstacle for companies that have to adapt to several regional frameworks. This is not bad in itself, although perhaps it should be important to identify what has worked/not worked in each region, and foster the exchange of good practices amongst regions amongst a number of quality elements (see further explanation later on). It is also very important to bring more information about the exchange practices between the regions to the model, something that it is not the case at this stage.

Table 0.8 The difficulties of a company in their participation in dual VET training in relation to differences in regional legal frameworks: The case study of Bankia

Bankia (large Spanish Bank) is co-responsible in the provision of one high level VET degree in the family of Management and Administration (higher Technician in Management and Finance), where this experience is being developed in two Spanish Autonomous Communities (Valencia and Madrid). The interviewee suggests that the most important difficulty in the implementation of this dual VET practice is related with the different existing legal provisions in Madrid and Valencia in relation to the dual VET, which has implied that they have had to adapt the dual VET model to the specificities of each regional legal framework. For instance, and in the case of Madrid, dual VET students are not allowed to have a labour contract (so they are paid a kind of stipendium/grant), whereas in Valencia, students can be contracted via a labour contract for training and learning or can be financially compensate via a grant. In order to make both groups of students homogeneous, both groups were offered a grant, an alternative that was not particularly valued by Bankia.

Problems/obstacles related to dual University studies (University degree levels)

- Some of the interviewed experts also suggest that, in comparison to VET, dual based models are perceived by the own University as particularly difficult to be implemented in University-based studies, at least in Spain. In this sense, three of the experts (Mr Tejada, Mr Homs and Mr Badia) suggest that Spanish universities University have got important internal resistances to change, particularly to some specific changes that may alter the existing status-quo and may question the key role/protagonist role of Universities as key/central elements in the training provision. In this sense, Universities see "in-company training periods" as not real University education in comparison to the traditional and well-established University school-based tuition education. Interestingly, the University of Lleida initiated in 2014 an initiative to identify the interest of dual-based models amongst other Public Catalan Universities and, to their surprise, there were a number of Universities that were not in favour of extending the dual model. Usually these reluctant universities are the

largest ones, and the ones not located in Barcelona, who are usually particularly not close to enterprises. This situation is clearly different to other countries such as France or Germany, where this "dual" approach in University studies is much more extended and appreciated amongst Universities.

- In the case of Universities also, it is particularly difficult to coordinate enterprises and Universities so they might be able to provide a coherent and well-coordinated training supply. In the case of Spanish Universities, and with exceptions, they have a limited contact with the private sector, which makes things more complicated.
- Also, Mr Badia stresses the existing difficulties in relation to existing legislation and the hiring of students by enterprises. There is the possibility in the Spanish Worker Statute to have the so-called apprenticeship contract, which has been fully developed only after 2012. However, the existing legislation explicitly excludes the possibility to use this type of contracts in the context of tertiary education, and only limited to Vocational training students. It is important to have in mind that the use of these apprenticeship contracts by companies is supported with public subsidies, so to alleviate the burden on enterprises. Therefore, the availability of a good legislative framework might help to foster the development of dual university degrees.
- There are some additional barriers for the introduction of dual models in many University based studies, as their practical content is limited or it is difficult to be implemented (history, Philosophy, Geography, etc). In other cases, this dual perspective is easier to be done (Engineering, Medicine). Also, In Spain there is yet an important lack of tax/monetary incentives for enterprises to actively participate in dual University training models, where this situation has to be solved in the coming years.
- The example of the University Degree in Innovation Engineering in Processes and Products ("Grado de Ingeniería en Innovación de Procesos y Productos" in Spanish), developed in dual system shows the importance of the existing employment context. Thus, both the availability of a relatively large amount of companies around the IMH as well as the key role that enterprises play in the management of the IMH itself, facilitate this dual –based model.

Future expectations related to these partnerships, transferability to other national/sectoral contexts

Looking at the future, all the interviewed experts suggest that the dual VET system is getting consolidated, perhaps more in quantitative than in qualitative terms. Thus, there is a strong need to harmonise the concept of "dual" in Spain, due to the increasing number of very different experiences that are available in Spain at this stage. In any case, it is clear that both VET subsystems (the traditional one plus the new dual-based one) are going to co-exist in the future.

Also, it is likely that the full introduction of "dual-type" models in the Spanish VET education will need some time to be fully effective. Indeed, all the experiences have been introduced in the very 2-3 years, which means that the whole process is very new and is still in a sort of "pilot" phase/learning process, so practitioners are still learning the difficulties and problems derived from the introduction of such dual systems. This is well reflected for instance in the large heterogeneity in the way the dual VET system is currently provided amongst different training providers and regions. In the case of University education, there is only one example of dual-based University degree (the one developed by IMH), where the remaining experiences are referred to Master degree levels (in these latest cases, they are very new in time, so the same learning process as with VET studies will be required).

Looking at the future, it is important that the dual VET system may evolve from this pilot phase to a more consolidated phase, where the existing problems presented in this report may be solved and the existing strengths may be reinforced in the coming years. According to some of the interviewed experts, a minimum array of systemic quality criteria to be established may include i) the need the student to be remunerated, ii) the importance of having well trained and certified company-based tutors, iii) the importance of having minimum standard criteria for participating enterprises and the need to evaluate them to identify their suitability and the quality of their training supply, iv) the need to have regular training periods between the company and the VET centre, etc.).

Enterprises are also increasingly interested in getting involved in this type of dual-based experiences. This interest is likely to increase in the coming years, where it is expected that the supply of new graduates (especially in engineering-related specialities) will be very limited, so enterprises will have to fight for new people and for obtaining the best “talent” available in the market. However, it is also suggested by a number of interviewees that in case of a new deep economic recession, many enterprises currently participating may decide to stop participating in dual VET.

Some interviewed experts also suggest that another interesting alternative for the Spanish VET system would be to develop the already existing Spanish VET model, which includes some practical periods within enterprises. Alternatives could be to increase the number of compulsory “in-company training hours”, introduce different possibilities in different time periods, improve the quality of the training tutors, etc. This could be an interesting alternative to develop for the largest group of Spanish enterprises, and not for the group of large/highly innovative enterprises that most likely be ready to develop the “dual training” model.

The idea of dual studies is perceived as “exportable” from VET to University studies, as it offers a number of very strong points and elements of interest, both for students and for enterprises themselves, although a number of existing legal and cultural obstacles already described in the previous section have to be removed. The experience of IMH is regarded as very valuable in this regard.

Some of the interviewed experts also suggest that the existing bridges and connections between VET (specially high VET degrees) and University education are likely to increase in the future. In this sense, one of the experts (Mr Homs) foresees for the future the coexistence of a more academic tertiary provision (the traditional University) with a more practical/professional-oriented University provision, to be developed around the current advanced VET degrees that might evolve towards three year courses, in line with the idea of Polytechnics developed in some countries such as Finland, Ireland, etc.

Finally, it should not be forgotten that the introduction of dual based models might be very interesting for certain specialities/studies, but it is not likely to be the model for all type of studies.

Minutes of the interview with University Professor and national expert in VET and Education) (3rd March 2016)

- Need to reflect on the concept of dual training, as it is perhaps "too narrow" for the Spanish context. In Spain, it is perhaps better to talk about the concept of "alternance", that is to say, a combination of times and training periods in the training centre and in enterprises. This is for instance the traditional model used in Spain for the provision of medium and high level VET degrees.
- In the case of University education, there are very limited experiences of "Dual training models" in Spain, particularly in the case of engineering and technology- related studies. The best and likely "only" example of Dual Engineering Degree in Spain is the example developed by the Institute of Machine Tool (IMH) in Elgoibar.
- According to the interviewee, in Madrid there is also another example of Dual University Education in Engineering. He mentions this example, but we have not been able to identify the example proposed.
- There is also another example mentioned and it relates to Engineering-related studies developed by the Polytechnic University of Catalonia, where some programmes in Alternance are available. This University is very active in the provision of "practice" periods for its University students
- In any case, the big difference between VET and University studies refer to the extent of the practice periods in enterprises. In VET it is completely integrated (either in the traditional model or in the new emerging dual model), where this is not the case in Universities.
- In Spain, and with the changes introduced after the Bologna process, all universities have to offer their students some type of "in-company" practice period. But these practice periods are very short (2months maximum), at the end of your study period and often not covered by any financial support. They are not a key element in the Curricula.
- These "in-company" training periods are increasingly rich in contents, there are very interesting programmes, that can be regarded as models.
- In any case, these "in-company" training periods are increasingly being used as a powerful tool to attract students to the University, to increase the attractiveness of universities and to foster the effective insertion of students in the labour market. This is an interesting element, where some kind of "dual"-related elements are being experimented in the Spanish University System. Element for further experimentation in Spain.
- There are 'in-company' practice periods in enterprises that are very interesting for enterprises and for students, but there are other that are not that interesting and positive.
- Perhaps there is a need to define "Dual" in Spain with a different perception, where some kind of alliance between education providers and enterprises might be existing. There is a large set of different experiences.
- In Catalonia there is a very interesting experience of the so-called "Doctorados Industriales" ("Industrial Doctorates)29, where PhDs students develop their doctoral work in collaboration

[29] See http://doctoratsindustrials.gencat.cat/es

with concrete enterprises. In this sense, the "Industrial Doctorates Plan" is a Government of Catalonia initiative, in collaboration with public and private universities, that aims to contribute to the competitiveness and internationalisation of the Catalan industrial fabric, retain talent and place doctoral students in companies where they can develop R&D&I projects. This is a very interesting experience, but intended to post-graduate level. Not many students take part here (they are PhD students, anyway), but the results are very interesting.

- According to his point of view, a dual model is not yet well seen in the University, as it is often associated with "bad" students" who cannot stand the pressure of a traditional university degree. It is not yet perceived that a dual model is suitable for University studies. In the Spanish universities it is still perceived as places to study in the traditional way, where in-company practical periods are not yet perceived as real University education. This situation goes in contrast with the situation in VET education, where this issue of "in-company training periods" are regarded as a key element.
- This situation clearly is different in other countries such as in France or In Germany, where this "dual" approach is much more extended and accepted amongst students, authorities and enterprises. In Germany, the "dual" model is increasingly appreciated by enterprises. In the current situation, they are requiring more and more university-type students, so they are increasingly interested in dual-type education models also in the University model. Strong competition between VET and University students for the job positions offered by enterprises in dual training. The large German enterprises are increasingly pressing the German Universities to introduce dual-type university studies.
- There is a need to clarify the concept of "dual" in Spain, due to the increasing number of very different experiences that are available in Spain at this stage.
- It is likely that the introduction of "dual-type" models in the Spanish University will be a process that will need some time to be fully introduced. The problem also lies with enterprises, as only those enterprises who are very big or innovative enough may have the capability and resources to introduce a quality training supply. In this regard, it is likely that the existing Spanish supply of enterprises "marks" a limit to all this, as those enterprises that are able to participate in these "dual" models are likely to be already participating, so not many more may additionally participate in the coming years. Problems related to the size of enterprises as well as of "mentality" of enterprises, so not many enterprises are "compromised" with getting actively involved in in-company training periods (if up to 20% of Spanish enterprises are able to participate in these "dual training" models, that would be a success).
- Interestingly, enterprises are interested in getting involved in this type of experiences, as they are able to identify interesting candidates and are able to train individuals accordingly to their own needs and requirements. This is specially the case in the coming years, where it is expected that the supply of new graduates (especially in engineering-related specialities) will be very limited, so enterprises will have to fight for new people and for obtaining the best "talent" available in the market.
- A good example of strategy to foster the presence of "dual training models" is, for instance, the example of the alliances suggested by the Bertelsmann Foundation (see http://www.alianzafpdual.es/). The experience of the Bertelsmann Foundation is interesting

in this sense, as it help enterprises that are interested in these dual models to effectively introduce these dual models within concrete enterprises.

- The experience of the Bertelsmann Foundation shows that the process of introducing "dual training" models within enterprises is very costly and takes much more time than expected. Thus, the expectations of the Foundation regarding the introduction of dual training activities within enterprises have not been fulfilled, as the process is very costly and lengthy.
- One of the big limits to the introduction of these "dual models" in Spain relates to the limited participation of the social agents in the process. This situation impedes that the "dual model" may become more extended within the Spanish enterprises. If Trade Unions/employers do not participate/are not informed/are against the presence of trainees and students within the enterprise it is very unlikely that the model may successfully develop in the enterprise.
- Another interesting alternative would be to develop the already existing Spanish VET model, that includes some practical periods within enterprises. Alternatives could be to increase the number of compulsory "in-company training hours", introduce different possibilities in different time periods, improve the quality of the training tutors, etc. This could be an interesting alternative to develop for the largest group of Spanish enterprises, and not for the group of large/highly innovative enterprises that most likely be ready to develop the "dual training" model.
- The interviewee identifies a relevant example of alliance between VET and University, provided by the alliance between Jesuitas Educación (a VET supplier) and the Open University of Catalonia (UOC), intended to provide different on-line VET studies since the course 2016-2017 (see more information at: http://www.uoc.edu/portal/es/uoc-news/actualitat/2016/044-je-uoc.html
- The enterprises value particularly VET, as they see that this type of education is particularly adapted to their concrete needs
- Concerning bridging models between VET and University education, it is interesting to stress that in Spain there have been some attempts amongst Universities to introduce VET degrees (an example is given by the University of Alcalá de Henares, that has introduced some VET degrees in their training supply). Two reasons why Universities are also interested in supplying VET degrees:
    - The reduction of students and available public budgets are fostering Universities to attract new types of students
    - There is an increasing trend of University graduates that initiate a high VET degree, as it is perceived that VET studies facilitate a more rapid first integration of students to the labour market than University studies. So Universities are interested in providing VET degrees by themselves. The problem with these VET graduates refers to their possibilities of further improvement within the company.
- One of the more important and attractive elements for VET degrees refers to the possibility for VET students to have access to University degrees. On the one hand, there is a reserve of places for VET graduates who want to have access to the University. On the other hand, VET graduates are validated part of their studies when doing a University degree (validation of

credits), although this validation is dependent on the University and the selected degree. There is not a generic criteria, so each University may decide to what extent and how many credits are validated. Approximately 20% of VET students decide to continue to University studies (depending on the professional family).

- It is interesting for Universities also to have students who come from VET degrees, as they bring new insights and perspectives to the classes (these students are usually older, they have some (limited) professional experience, they have already covered some of the thematic issues, etc.).
- In Spain there is an oversupply of University graduates in some specific degrees (not in the case of STEM students), that implies that some of these University graduates are subsequently employed in jobs that correspond to middle level qualifications.
- Looking at the future, the existing bridges and connections between VET (specially high VET degrees) and University education are likely to increase in the future. An alliance between VET and University education will be dependant in any case on the ability of Universities to adapt themselves to the requirements of the enterprises and the productive sector. If they are good at adapting themselves to these requirements, the cooperation with the VET world is likely to be not so important. Also, this Alliance is also dependant on the existing institutional framework, in the sense that both worlds often do not communicate well with each other, so this can be regarded as an obstacle.
- According to the interviewee, it is likely that the concept of high degree VET is going to change in the future, following the examples of other countries such as Finland, Australia, etc., so there is going to be a development of the high degree VET supply as a separate high level non-university education, in line with the idea of Polytechnics in some countries such as Finland, Ireland, etc.). The idea is that a double high level training supply might exist.
    - On the one hand the academic-oriented one (more related with Universities) and
    - The more professional-oriented one (the so-called high degree VET)

Minutes of the interview with University Professor and expert in provision of alternance/dual VET/Education

- The dual model in University Education in Spain is not so well developed as it is the case in the VET education.
- There have been several examples of "alternance education" in the Spanish University system. Interesting examples include:
    - Some experiences of "alternance education" and in-company training periods developed in several postgraduate levels (for example at Master degree levels. A good example is provided by certain Master degrees in Business management, where the presence of "in-company" training periods is used as a powerful marketing tool to attract students.
    - It is also worth stressing the existing experiences in Medicine-related studies, where alternance periods play a very important role, specially in relation to post-tertiary education (specialisation courses, MIR, etc).
    - Finally, the introduction of the specific "in-company practices in enterprises" as a compulsory part of the University curricula implies that the so-called "alternance education" is well present in the Spanish tertiary system. These "in-company" practices usually take place in the last year of studies, and may range from 2-3 months. They vary from one University to the other in terms of contents, quality, etc. This model is currently well extended in the Spanish Universities. They can be regarded as an alternance model.
- The University of Lleida (Catalonia) has initiated some experiences several experiences and related to training of school teachers (see more info at http://www.educacioprimaria.udl.cat/es/pla-formatiu/alternanca.html). They can be really regarded also as a dual model, but not in the field of engineering/Technology.
- Degree in Business Administration and Management (Enterprise Itinerary or "Work Based methodology"), developed by the Mondragon Unibertsitatea in the Basque Country.
- In Engineering-related tertiary studies, there are only two experiences, as far as the interviewee knows:
    - The experience of the IMH and its dual degree in engineering
    - Several pilot engineering-related experiences developed by the Polytechnic University of Catalonia, in the Vilanova Campus, developed in the early nineties.
- In the specific example of Dual –based degrees, the only currently available experience as such in Spain with that name is the experience developed by the Institute of Machine Tools (IMH) in the Basque Country in relation to the Dual Engineering Degree.
- Of course, the experience of dual training is getting much more extended in VET related studies, where some interesting experiences are being developed currently in Spain.
- The dual model is something more complex, as there is a strong component of involvement and coordination between two different training providers, that is to say, the enterprise and the education centre, who provide a common and well-defined training experience and a curriculum for students that result in a formal training certification. This model goes far beyond

the example of alternance education. The training scenarios change alternatively from the very first year, where both training providers play an active role in here.

- Advantages of dual models, both for students and for enterprises in general are numerous and very clear:
  - Acquisition of real experience in companies, acquisition of specific competences in different domains (interaction with colleagues, social skills/competencies, teamwork, interaction with colleagues and superiors, development of responsibility, etc).
  - Facilitation for enterprises the identification of successful candidates.
  - Rapid and successful insertion of students into the labour market
  - Acquisition of a strong sector-related knowledge/self-consciousness and the professional socialisation.
  - Possibility for enterprise to train individuals accordingly to the specific needs of the enterprise.
  - Other
- Disadvantages of the dual model, both for students and for enterprises in general:
  - Too company specific training/education, which may imply important difficulties in the medium/long term for individuals if radical changes in technologies/processes take place ➔ relevance of transversal skills
  - Social issues, related to the fact that a competitive model leaves aside numerous students who do not fulfil the levels and minimum standards of enterprises.
- Difficulties related to the introduction of dual models in the tertiary-level education
  - The first difficulty and most important refers to the difficulties related to coordinate enterprises and Universities so they might be able to provide a coherent and well-coordinated training supply. This is very difficult, especially in situations like the Spanish University where a large part of the existing supply has limited contact with the private sector, and where Universities come from a well-established model of education provision based on “traditional” school-based tuition.
  - The dual model is perhaps not possible to be introduced in many studies, as their practical content is limited or it is difficult to be implemented (history, Philosophy, Geography, etc). In other cases, this dual perspective is easier to be done (Engineering, Medicine).
  - The existing employment context facilitates this dual –based model. For instance, the existing situation in Elgoibar and the IMH facilitates that students may have a quick and easy access to enterprises, which is not always the case
  - The existing supply of University-studies is not often well tuned with the demands of enterprises. In Spain it is a big problem that many University graduates are underemployed, that is to say, they occupy working positions that do not correspond to their education level.
  - There is not a strong culture amongst enterprises to assume a dual training model. Strong resistance to get actively involved in training activities/cooperate with Universities, in contrast with the situation in other German-speaking countries where this involvement goes back to several centuries ago.

  - The Spanish University has got important resistances to change, particularly to some specific changes that may alter the existing status-quo and may question the key role/protagonist role of Universities as key/central elements in the training provision. The Spanish University is very resistant–to-change, as they might be happy with their current situation.
  - Also, it is important to take into account that reaching agreements with external agents might be particularly difficult for Universities, especially with enterprises.
  - In some cases, the role of Professional Bodies is also relevant, as in some cases (Doctors, Nurses, etc) they are in favour of facilitating this type of dual training models.
- In other European countries, the dual model is relatively well extended (Gremany, France)
- It is important to remind that in other EU Member States there are several and important tax/monetary incentives for enterprises to actively participate in dual University training models.
- The Spanish University is losing ground, especially as it is not active in the continuing training domain. The University has to integrate more and more this dual dimension as to make it more attractive for students and more in line with the demands of the enterprises and the society.
- In Spain, the introduction of the dual VET model is being accompanied by an important legislative effort by the Education authorities in this respect. However, it is perhaps clear that this dual VET model may have important limits to extend further itself, due to different reasons (participation of suitable companies, pilot nature of many current initiatives, etc).
- According to the interviewee, there is a grey zone between high degree VET education and University education. The social image of VET has changed dramatically in Spain. High degree VET graduates have a much better and rapid integration into the labour market than University graduates. Indeed, there is an increasing number of University graduates that initiate VET studies as these studies have got a better labour market integration.
- There are currently some well-established possibilities to “bridge” high degree VET studies with University studies, where these possibilities are individually defined by each University. Currently there is a significant percentage of University students that come from High VET degrees, for different reasons (they want to continue studying, even though they are already working). These people are very interesting for the University, as they bring a higher level of maturity of labour/social experience.
- Perspectives of future ➔ the dual model might be very interesting for certain specialities, studies, but it is not likely to be the model for all type of studies. In any case, this dial model might be particularly relevant for Universities, and may offer very important possibilities for development. The Spanish University has to change accordingly.

Minutes of the interview with a representative of the Engineering School of the Institute of Machine Tool Elgoibar ("Instituto Máquina Herramienta", IMH)

- The possibilities to recognise prior learning acquired in Advanced Vocational Training Cycles when continuing in University studies are qualified by Mr Egurbide as relatively poor, at least in comparison with the possibilities in other countries (i.e. France), where complete years are recognised and validated. In this sense, and according to Mr Egurbide, in Spain a person who decides to pursue a high degree VET and subsequently continues in University studies needs at least 6 years (2+4 years), despite that each individual University may partially recognise (some) of the studies conducted during an advanced VET degree.
- Therefore, and according to Mr Egurbide, the Spanish system can be labelled as not very flexible, and relatively rigid. Meanwhile, and in the French case, there it is possible to carry out studies that combine VET and University education, so each individual may employ 5 years (2 in VET + 3 in University), and the individual obtains a qualification of Master degree.
- In the case of the University Degree in Innovation Engineering in Processes and Products ("Grado de Ingeniería en Innovación de Procesos y Productos" in Spanish), between 30-36 ECTS can be recognised, depending on the advanced VET cycle, which implies between 12.5%-15% of the total number of ECTS credits required for passing the Degree. These percentages are very generous for Spanish standards.
- The idea is that the Spanish system should evolve into a system where the recognition of high degree VET and University studies is very smooth, with an automatic recognition of all previous high degree VET curricula.
- Some regional governments (for instance the Basque Government) are interested in alleviating the transition between high degree VET and University studies. However, this is not still the case as far as the Spanish government is concerned.
- By way of contrast, the Spanish government has facilitated the transition between medium level and high level VET degrees, in the sense that the transition between both degrees is now automatic (since the introduction of the new Organic Law 8/2013, of 9th December, for the Improvement of the Education Quality (the so-called LOMCE Law). This possibility is not positively valued by Mr Egurbide, as he reckons that the advanced VET degrees are devaluated in this way as the academic entry levels of students are lowered.
- Mr Egurbide mentions the experience of FPEMPRESA (see http://www.fpempresa.com/),
- Mr Egurbide suggests the interest of contacting with Bankia, a national Spanish bank that is recently actively engaged in developing an interesting experience of dual VET study in business management related degree, in collaboration with a training centre in Madrid.
- Mr Egurbide is also able to identify one interesting case study intended to develop dual-based experiences in University Education. This case study is developed by the University of Lleida, who has developed some interesting experiences in the imparting of dual training models in alternance:
    - For instance, the have developed a University Grade in Primary Education, where the students of the University degree combine school-based tuition with two days per week of practical experience/training in educational centres.

- The University of Lleida also currently develops three own Master Degree on a dual basis (combining school-based and enterprise-based tuition), this is, a Master degree in Computer Engineer (official master), a Master in Operation and Distribution Management (own Master degree) and, finally, a Master in Human Resources management and Competence Development (own Master, initiated in 2015).
- In this regard, the participating enterprises offer the students a labour contract, where the tuition is school based (Fridays and Saturday morning) and enterprise-based (from Monday to Thursday, according to the timetable suggested by the enterprise). Courses have a total duration of one year (with the exception of the Master Degree in Computer Engineer, with a duration of two years). Interestingly, the University of Lleida is also interested in developing next year a Master in Psicopedagogy also on a dual-based modality.

- Specific information from the IMH ➔
  - They offer, in addition to traditional medium and high level VET degrees in different technical-related modalities, also some high VET degrees in dual format (approximately 53% of total VET students) (the so-called or Dual Vocational Training in Alternance or "Formación Profesional Dual en Alternancia" in Spanish). They are starting a medium-level VET degree in dual format this year.
  - The tuition model of this dual VET is as follows. Students are at school during the first year, and in the second year they spend 50% of their time at school and the remaining 50% of time in an enterprise.
  - Due to the small size of most of the participating enterprises, the curriculum imparted by each enterprise is different from the others (enterprises are specialised in some specific activities and therefore curriculum contents). This means that students are offered ad-hoc training itineraries and combination of school-based courses, depending on the specialities of the participating enterprise.
  - Interestingly, the IMH is currently designing a high VET degree with a third year of specialisation, according to the training needs that the IMH identifies amongst the local enterprises. In this sense, they have already very advanced a third year specialisation course in mechatronics.
  - In addition, they offer the University Degree in Innovation Engineering in Processes and Products ("Grado de Ingeniería en Innovación de Procesos y Productos" in Spanish), the only engineering degree in Spain provided in a dual perspective (combination tuition at work and at school). Approximately, 50 students per academic year.
  - IMH offers distance VET courses for those students who may have limitations in participating in daily training activities for different reasons. In these distance courses, VET students have to attend one–day per week classes in the IMH premises, whereas the remaining training activities are carried out via distance learning (primarily ICT-based facilities).
  - Finally, IMH is active in the provision of consultancy services in R&D&I activities for very small enterprises (ITAUN-TKGUNE). These consultancy services are provided by (groups) of VET teachers of IMH, and these services are funded (partially) by the Basque Government. Two main goals are solved with these consultancy services. On

the one hand, companies are able to solve concrete technological problems in their daily life activities. On the other hand, VET trainers get in touch with external enterprises and are able to identify the real problems that concrete enterprises have to cope with. This programme is highly valued, both by participating enterprises and IMH teachers.

Minutes of the interview with teacher of a dual VET degree within Florida Grup Educatiu Cooperatiu

- The interviewed person is Mrs Andrea Pons Juan, who works in Florida Grup Educatiu Cooperatiu (Florida Cooperative Educational Group). She is teacher and general coordinator within a high level dual VET degree, and she has developed this dual VET degree since its initiation four years ago after the passing of the Spanish Law regulating all this issue of dual VET in 2012, so the first students in dual-based VET initiated their studies in the academic year 2013-2014.
- Florida (see http://www.florida.es) was founded in the seventies that initially was founded as a VET centre and that since then has evolved to a comprehensive educational centre, providing educational services from secondary education to VET education, University Education, language training centre orientation vocational centre and continuing training activities.
- Florida Group is a cooperative, so it is run by a managing team ("Equipo de Dirección"), as well as a Ruling Council ("Consejo rector" in Spanish). Approximately 30-40% of the workers are also cooperative partners, whereas the remaining personnel is employed as normal employees.
- Florida Group is currently very active in the provision of dual based VET degrees, and they are increasingly interested in transferring all this experience to the world of University Education, as they believe that both worlds (high level VET and University Education share many things).
- Specifically in University Education, Florida Universitaria (the subgroup responsible of the provision of University Education and VET degrees (where the University studies are associated to the University of Valencia). Florida has got four main Departments, this is, Tourism, Engineering, Enterprise studies and Education
- These Departments provide both VET degrees and University Degrees, as well as some postgraduate studies (master level). Some of these VET degrees are imparted on a distance-based basis
- Specifically in the engineering domain, they provide the following University and high level VET degrees:
    - University Degree in Mechanical Engineering
    - University Degree in Electronic Engineering and Automatisation
    - High level VET studies in Automatisation and Industrial Robotics
    - High level VET studies in Industrial Mechatronics
- Interestingly enough, the largest share of VET degrees in Florida are imparted both in the traditional form as well as via dual-based, not only those linked to engineering-related studies

but also in others. All in all, this academic year 2015-2016 they have a total number of 109 VET students in dual-based education (including students of first and second year), in ten different VET studies (including the two High level VET studies in Automatisation and Industrial Robotics and in Industrial Mechatronics

- As already mentioned, the first students in dual-based VET initiated their studies in the academic year 2013-2014. This means that the process is very new and is still in a sort of "pilot" phase.
- The rationale for their involvement in dual-based VET studies is clear. The national legislation, together with the regional legislation by the regional government and developing the national legislation obliged VET centres to introduce dual VET studies by year 2019-2020. Also, Florida was very conscious of the key role that enterprises have to play within the VET system and the importance of bringing them to the educational world, so they started to analyse the possibility of introducing such dual models. Having in mind this, Florida decided to analyse successful experiences in other countries and introduced very early in 2013-2014 the first VET degrees in dual modality.
- To implement this, they initially used their network of companies that participated in the compulsory module of in-company practices (FCT in Spanish). In this sense, it is very interesting to analyse how the dual model has been gradually introduced in the different VET studies. Generally speaking, this process has been as follows:
    - In all cases, traditional VET studies coexist with dual based systems, so only a limited number of students are able to access this dual-based studies whereas the remaining students continue in the traditional VET studies modality.
    - VET training centres are very interested in offering dual-based VET studies, as these studies are perceived as perceived as particularly attractive in the current moment.
    - They started an important work of identification of companies that were ready to impart part of the training curriculum. Enterprises are contacted to participate and are identified as both interested and suitable for imparting this training, including the availability of a tutor within the enterprise who is in charge of the student, their attitude towards training provision, the implication of the enterprise with students, the feedback between the enterprise and the training centre, previous experiences of students, availability of other training resources, etc. This process is not easy, and sometimes requires important efforts to convince enterprises to participate.
    - Meanwhile, students are offered the possibility to follow a dual model, and some of them on a freely basis decide to opt for this via. Usually, the training centre selects also the students depending on the academic performance, closeness to the enterprise, work attitudes, etc.
    - It is very important that the student might be very autonomous and with great self-capacity and initiative, as it is often the case that the enterprise may have limited time to devote to each student (production is always the priority for enterprises).
    - Subsequently, enterprise and students are got in contact, and in case the enterprise is interested in the student (and the student in the enterprise), the enterprise offers him/her a training position in the company.

- Approximately, students spend between a 33% and a 50% of their training time in the Enterprise, depending on the enterprise that is training the student. In most cases, the in-company training period begins in the second/third quarter of the first year, and it is combined with training periods within the VET training centre during the week. Initially, students are encouraged to understand the concrete enterprise, the existing relational framework, the characteristics of the job the enterprise pursues, timings and working patterns, etc.
- The company is responsible of paying the student the compulsory social security contribution plus a small grant that depends on each enterprise but may rank between 50-500 euros per month, depending on the degree/VET studies and the type of enterprise.
- There are a number of elements individually agreed before between the enterprise and the training centre concerning the minimum number of elements that each student has to learn within the enterprise. This minimum number of elements is checked by the training centre.
- In some cases (for instance as far as enfant and primary education related VET studies are concerned), participating companies are able to provide a common and relatively similar curriculum. However, and in other cases (i. e. engineering-related VET degrees), each enterprise is only capable of providing a different part of the curriculum, which requires that the training centre has to complement missing parts and therefore has to provide the student with an ad-hoc training supply➔ Customised training provision for each student.
- Subsequently, each enterprise is responsible for evaluating each student, according to a predefined template that summarises all the competences/skills and activities that had to be imparted by the enterprise. This template is usually not very complicated, and enterprises tend to be particularly accurate with the marks they provide to students.
- The VET training centre still plays a very important role in the identification of the curricula that can be imparted by enterprises, as they are not used to pedagogical elements but rather they are used just to work. In this sense, the training centre is responsible of the whole training process, where the enterprises usually adopt a more subsidiary role concerning the definition of training contents and curricula, etc. Enterprises are more concerned about skills and attitudes rather than training contents.
- The issue of geographical closeness between the student and the enterprise may play a very important role as selection criteria for students, since travel expenses are not covered.
- It is important to stress that the compulsory training period within an enterprise (the so-called FCT in Spanish) is still compulsory for dual VET students, an element that is regarded as senseless by the interviewed person, since dual VET students do not perceive any grant no more. This element is perceived as a strong disadvantage amongst those students that have been receiving grants from enterprises. Students do not necessarily make their FCT practice in the same enterprise where they have conducted the dual training experience.

  - So far, no experiences of collaborative enterprises providing a more complete training supply have been developed. However, this is an important tool that perhaps should be more explored in the future.

- Advantages of the dual VET studies. Students participating in dual studies are able to provide very interesting practical experiences to their colleagues within the VET training centre, enriching therefore the academic experience.
- Also, students in dual VET studies clearly have better job insertion possibilities, as reflected from the experience of Florida Grup, and usually in the same enterprises where they have conducted their in-company training period.
- Interestingly also, students are able to provide enterprises with interesting resources and ideas/knowledge/skills that enterprises usually value as they represent an important innovation within the enterprise.
- All in all, it is important to have in mind that the implementation of the dual VET system in Spain is still in a pilot phase/learning process, so practitioners are still learning the difficulties and problems derived from the introduction of such VET system. This means, for instance, that there is a large heterogeneity in the way the dual VET system is provided amongst different training providers.
- Looking at the future, it is important that the dual VET system may remain in the future, so it may pass from this pilot phase to a more consolidated phase, where the existing problems may be solved and the existing strengths may be reinforced in the coming years.
- The idea of dual studies can be exported from VET to University studies, as it offers a number of very strong points and elements of interest, both for students and for enterprises themselves.
- Florida is relatively generous with the number of credits obtained in VET studies that are recognised when students decide to pursue University studies. In this regard, VET students who successfully complete a VET degree are recognised up to 60 credits (approximately ¼ of all credits for completing a University degree) in case they decide to continue University studies within Florida.

Minutes of the interview with a representative of Dual VET in Bankia (large Spanish Bank)

- The interviewed person is Mrs Mercé Chacón Delgado, Director of Dual VET in Bankia. Bankia is a very large Spanish Bank, and they are involved since the academic year 2014-2015 in some projects of dual VET in Madrid and Valencia (two different Autonomous Communities), in collaboration with four private VET training centres (two VET training centres in Madrid from the Coopeartive Gregorio Sandiego and two training Centres in Valencia (Florida Universitaria and Islata)). The centres were selected by Bankia.
- There has been a strong collaboration between Bankia and the VET training centres, both in the definition of training contents, the coordination of courses and the collaboration between teachers and Bankia people.

- Bankia is co-responsible in the provision of one high level VET degree in the family of Management and Administration (higher Technician in Management and Finance). Interestingly, Bankia has added to the core required training contents of this degree some specific training modules in digital/on-line banking with a time duration of 758 hours in addition to the basic 2,000 training hours of the degree. Bankia has got around 50 students in dual training, scattered around the four VET training centres, young people between 19 and 30 years old). Bankia selects the students to be participating in the dual VET project, after being proposed by the VET training centres, and accordingly to the same criteria as they use when they hire a new employee (i.e. general knowledge, specific attitudes and competences, etc). The selection is done by the workforce selection directorate of the Bank.
- Interestingly, Bankia collaborates with some concrete business clients in the facilitation of dual VET in two different domains, this is, Foreign Commerce and Trade and, secondly, Digitalisation and Computing. Bankia is therefore facilitating the extension of these dual VET practices to other companies that are clients of Bankia, as part of their social responsibility policy (Bankia acts as facilitator for companies).
- The training provision is as follows: during the first academic year, participant students are in the VET training centre from September to April, and from May to July in Bankia. During the second academic year, from September to November in the VET training centre, from December to May in Bankia premises, June in the VET training centre and finally July in Bankia's premises. 1,390 hours are imparted in the VET training centre and the remaining 1,368 hours are imparted in Bankia's premises. Within these 1,368 hours, 1,126 hours are imparted in specific individual Bankia's offices and the remaining 242 hours are imparted in specific training facilities of Bankia.
- Concerning the setting up of company tutors, Bankia had already a culture of mentoring new people in the company, which has been used in the dual VET domain. In Bankia, people who act as mentors/tutors are particularly valued within the company, so it has not been that difficult. They selected individuals who have outstanding skills for this purpose, and they have trained them in some specific elements (pedagogics, etc. via different tools). Their role as tutors are part of their daily activities. Usually, they are directors of Bankia offices, and they have just one person under his/her supervision.
- The participation of Bankia in dual training has required the company the development of some specific elements, particularly in relation to the adaptation to specific regional legal frameworks. In this sense, Mrs Chacón suggests that the most important difficulty in the implementation of this practice has been the different existing legal provisions in Madrid and Valencia in relation to the dual VET, which has implied that they have had to adapt the dual VET model to the specificities of each regional legal framework. Indeed, these different legal regional frameworks imply that the existing practices within different Autonomous Communities vary widely from one to the other.
- For instance, and in the case of Madrid, the law suggests that dual VET projects developed with public VET training centres are comprised, so students spend the whole first academic year in the VET training centre and the whole second academic year in the company (with no periods in the training centre). As Bankia was not in favour of this time organisation, they decided to

contact with private VET centres that have more freedom/flexibility to organise the training periods, facilitating in-company training periods and training centre periods within the same academic year.

- Also, in Madrid, dual VET students are not allowed to have a labour contract (so they are paid a kind of stipendium/grant), whereas in Valencia, students are contracted via a labour contract for training and learning. In order to make both groups of students homogeneous, both groups were offered a grant, and including the payment of social security contributions by the company (sine-qua-non condition for Bankia). Bankia suggests that it does not understand the practices of the region of Madrid.
- The role of the VET training centres can be regarded as very positive in order to facilitate the participation of the enterprise in such dual VET projects. Bankia decided to work with some selected VET training centres, that may fulfil the expectations and needs of Bankia
- Additional problems are identified by Bankia in relation to the extension of dual VET practices in Spain. Examples include the existing legislative framework (particularly in relation to the differences amongst regions) and the lack of intermediary organisations that act as interface with companies, especially small ones (and thus facilitating their access to dual VET).
- Looking at the future, it is not clear what Bankia is going to do with these students. The intention is to hire them, but this will depend on the market circumstances. In any case, Bankia is interested in continuing in the development of the dual VET project in the coming years. Bankia suggests that it is very important to reinforce the link between the enterprise and the VET training centres world.

Minutes of the interview with a Senior Project Manager, Fundación Bertelsmann

- ¾ of the existing experiences in dual VET training in Spain correspond to high VET degrees.
- There are a number of Universities in Catalonia that are currently getting involved in the provision of high VET degree courses, as they see a further training and income opportunity. A good example of this is the University of Vic (http://www.uvic.es/), where currently three high VET degrees are imparted (two in multimedia and one in food management), and one additional one is expected to be introduced this year (in Administration and Finance). All these examples are based on a dual-based training model (two years of duration, 50% of the learning time in University and 50% in enterprises).
- According to the interviewee, the students who opt for a dual VET training model may less opt for the possibility to continue studies, as they have a quicker access to employment opportunities and labour insertion and therefore they renounce to continue further in education (for instance via a University degree).
- According also to the interviewee, the Spanish dual VET training model is getting consolidated, perhaps more in quantitative rather than in qualitative terms. In this regard, the interviewee suggest that the Spanish dual VET system has shown has shown since its introduction in 2012 a number of weaknesses that have to be solved in the coming years. Some of these weaknesses are presented next

- First, the Spanish dual based model is mainly a school-oriented model, in the sense that the main access route to dual VET is still the school and not the enterprise (the student registers in a VET school and it is the school the one that finds a suitable enterprise for the student to do the dual training, and only in case the VET centre is able to find enterprises that are ready to provide in-company training places). In this regard, it is usually the case that, in case a limited number of dual VET positions are available, the best students are given the possibility by the VET centre to opt for a dual VET position. However, this might not be the case for all students (for instance, in case a student is given a company-based training position in a company located very far from his/her domicile, or in case a student is already working in a company with a training contract).
- The Fundación Bertelsmann defends a company-based model, where students find a company and subsequently they look for a VET training centre. This model facilitates a much better adaption of the existing training supply to the existing needs of enterprises.
- Second, the existing model implies a number of additional difficulties for VET centres, as they have to manage the whole training process (VET centres have to find suitable enterprises, they have to coordinate the whole curricula, they have to cover those element's not covered by enterprises, often implying the need to customise the training supply to each specific situation of the students, etc.)
- Third, there is a very important lack of knowledge amongst enterprises on the issue of dual training and its specificities, not only amongst small enterprises but also and very importantly amongst large companies themselves. This is an important weakness, as enterprises do not understand the strong possibilities opened by the dual VET training for them in terms of stronger collaboration and knowledge exchange between VET centres professionals and enterprise representatives, retraining of teachers in company premises, new knowledge provided by students to enterprises, real vocational, enterprise-based training for students, etc.
- Fourth, there is an important lack of intermediate agents (i.e. Chambers of Commerce, local employers' organisation, public service employment, etc) that facilitate the participation of individual or group of SMEs in dual VET training practices. This situation makes difficult for SMEs their participation in these dual VET training practices. The Fundación Bertelsmann plays an important role in this field, although they have a limited size to reach the whole number of suitable Spanish companies.
- Fifth, the Spanish dual VET system does not facilitate the possibility of collaborative solutions amongst SMEs, in the sense that groups of SMEs collaborate with each other to provide a more complete training supply. Thus, and in the current situation, VET centres have to coordinate the whole curricula and therefore have to cover those element's not covered by enterprises, often implying the need to customise the training supply to each specific situation of the students, etc.)
- Sixth, the Spanish dual VET system is not sufficiently consolidated, which means that in case of a new economic recession, many enterprises currently participating may decide to stop participating in dual VET.

- Seventh, there are important differences amongst Autonomous Communities in the way the dual VET system has been developed (even within the same region, the dual VET model might be different for public and private VET centres, see the example of Madrid). This is not bad in itself, although perhaps it should be important to identify what has worked/not worked in each region, and foster the exchange of good practices amongst regions amongst a number of quality elements (see further explanation later on). It is also very important to bring more information ex-change practices between the regions to the model, something that it is not the case at this stage.
- Finally, some kind of evaluation schemes should be introduced in order to identify the main results obtained and the main problems/weaknesses of the Spanish dual VET system as a whole and the different regional systems in particular.. This effort has not been done so far, and it is not clear that it might take place in the future.
- So far, the Spanish dual system has developed as a pilot project, so to say. Now, and after a number of years (3-4 years), there are a number of lessons that perhaps should be learned in order to improve the existing supply. In this sense the interviewee stresses the importance of well regulating and establishing a minimum number of systemic quality criteria (i.e. the need the student to be remunerated, the importance of having well trained and certified company-based tutors, the importance of having minimum standard criteria for participating enterprises and the need to evaluate them to identify their suitability and the quality of their training supply, the need to have regular training periods between the company and the VET centre, etc). As it can be seen, these elements have not been yet sufficiently developed, which requires further efforts in the future.
- It is clear that both VET subsystems (the traditional one plus the new dual-based one) are going to co-exist in the future.
- In any case, it is important that the dual VET system might be particularly flexible, and adaptable to different specific sector/type of studies situations, provided that some minimum quality criteria are fulfilled.

Minutes of the interview with a representative responsibe for Planning, Innovation and Enterprise, University of Lleida

- The University of Lleida is public, and it is one of the seven Universities of the Catalan System of Public Universities. It is the oldest one, as it was founded in 1297, although for different reasons it was not given a fully independent status until the year 1991.
- They have seven centres, mainly located in the city capital. The University imparts University studies in different domains, including Education, Business Studies, several Engineering specialities, Medicine, Law, etc.
- The University of Lleida can be regarded as a very innovative example of University that has tried to increase its relationship with the enterprise world. They have acted as pioneers in this issue of dual studies in the University world, both in Catalonia and Spain. Already in 1997, the Faculty of Industrial Engineering initiated an experience by which a compulsory practical period of two months in an enterprise (not possible but compulsory) was introduced as part

of the whole Curricula. This experience was very innovative and new in the Spanish context at that time, and it was difficult to be introduced having in mind the "relatively" poor industrial importance of the area of Lleida. This experience was subsequently extended to other studies, such as Computer Engineering, in 2004.

- In parallel, a person from the Education Faculty got interested in the issue of dual education and education in alternance and went to France to learn more on this experience, where she developed a PhD thesis on this. This was 2009
- Parallel to this, they got in touch with the IMH experience and learned the experience of IMH in this domain, basically with the idea of extending the idea of dual/alternance models in other University studies. However, the introduction of the so-called "Bologna Plan", which affected the University studies so they had to reform all the existing Curricula in a large number of degrees in order to adapt themselves to this new Plan. This situation implied that they had to postpone any attempt to introduce more practical experiences within enterprises. In any case, and as a result of "Bologna Plan", all students of the University of Lleida have to complete since 2009/2010 a compulsory two-month practice period, either in a public or private institution (depending on the type of University study). It is often the case that engineering students often do their final degree project in the same company where they have done the company practices.
- Since 2011-2012, the University of Lleida initiated a pilot project of a dual University Degree in Primary Education, where the company training period is done in primary schools of the regional government of Catalonia (for this reason, students are not hired, are not contracted, but rather they are under a regime of practices but they do not receive neither any financial compensation nor have access to social security regime). This University Degree was prepared in collaboration between the University of Lleida and the Education services of the regional Government one year before its launching. This model is relatively similar to the one followed since many years ago in the Nursery School.
- They have also developed some experiences in the field of dual University education in relation to several Master degrees offered. The first one refers to a Dual-based Master Degree in Management of Operations and Distribution, initiated last academic year 2014-2015 and lasting one year long. The University searched for enterprises who might be able to participate in the training provision, and working with them in order to develop a coherent curriculum. They had 14 students, all of them contracted by enterprises under a "practice contract" ("contrato en practicas" in Spanish) and whose training organisation was from Monday to Thursday full-time work in the companies and Fridays all day and Saturdays morning they received some academic training in the University. The training contents of the enterprises were agreed beforehand, and each enterprise had a tutor to take care of the student and report on his/her progress to the academic tutor of the University (the company tutors have to be people with enough technical competences, and the University helps these people with the provision of all materials needed to effectively value the students and their work, including the continuous support of the academic tutor of the University). Obviously enough, and as each enterprise was able to provide part of the Curriculum, the University was responsible to provide on an individual basis those elements that were not covered by each enterprise.

Interestingly, each student is presented the different training possibilities offered by enterprises, so each student decides which one is the most interesting for him/her. In case of several candidates, it is the company who finally decides the participating candidate. The main rationale behind participating companies is, primarily, access to talent and new human resources.

- Another experience is given by another Master in Computer Engineering, initiated during the academic year 2015-2016 and with a duration of one year and a half. Here the motivation of enterprises to participate in this Master has been very big, as enterprises really need to have access to talent and new employees. This Mater is offered both on a traditional base and on a dual base, and approximately half of students take part in the traditional model whereas the remaining 15 students participate in the dual—based training model (30 students in total). The students in dual model are employed in the company from the very first day, and they carry out projects suggested by the enterprise from the very first day (these projects have to fulfil a number of minimum criteria in terms of contents and interest, and have to be related to the training curricula to be imparted by the Master). Equally to the other case, it is the University of Lleida to complement those areas not sufficiently imparted by the companies. Students work during the morning in the company and go to University in the afternoons (first year), and the second year they spend most of their time in the companies. Participating enterprises are particularly happy with the experience and many other enterprises are getting interested in participating in future years.
- The University of Lleida is also involved in some additional dual-based experiences. This year they have also started a Master course in Human Resources (although not many students and enterprises are interested in this Master). Another two experiences are intended to be developed for next academic year 2016-2017, this is, a Master degree in Industrial Engineering with 5-10 students, no more, and a Master Degree in Administration Management. They have good expectations concerning these Master degrees.
- The idea is therefore to extend these dual-based Master degrees to those studies where private enterprises play a major role as final destinations of students and/or a strong vocational content is very important for the successful training provision.
- The biggest challenge for the University of Lleida is to set up additional dual-based University degrees, in addition to the already existing one. However, the existing difficulties are very important, particularly in relation to existing legislation and the hiring of students by enterprises. There is the possibility in the Spanish Worker Statute to have the so-called apprenticeship contract, which has been fully developed only after 2012. However, the existing legislation explicitly excludes the possibility to use this type of contracts in the context of tertiary education, and only limited to Vocational training students. It is important to have in mind that the use of these apprenticeship contracts by companies is supported with public subsidies, so to alleviate the burden on enterprises. Therefore, the availability of a good legislative framework might help to foster the use of dual university degrees.
- Another important difficulty refers to the so far small interrelation between enterprises and the Universities in Spain, where Universities see themselves sometimes as having the only monopoly of tertiary education and are not ready to share this role with others, namely

enterprises. Interestingly, the University of Lleida initiated in 2014 an initiative to extend the dual-based model to other Public Catalan Universities and, to their surprise, there were a number of Universities that were not in favour of extending the dual model. Usually these reluctant universities are the largest ones, and the ones not located in Barcelona. These Universities are usually particularly not close to enterprises.

- In this sense, the University of Lleida is using these dual-based Master degrees as pilot projects and experiences to further develop the use of dual-based models, with a clear intention to extend this possibility to University degrees. However, the interviewee is clear that the introduction of dual-based Master degrees is easier as for general University degrees, for a number of reasons, namely that enterprises bear less costs in the case of Masters (the existing labour legislation facilitates the use of "practice contracts" ("contratos en practicas" in Spanish), and associated with important support measures for enterprises; these masters are shorter in time, students are older and already well educated so enterprises receive them in a complete different way, etc). In any case, it could be also possible that the University of Lleida might make use of existing modality of grants and stipendiums to pay students (these grants are paid by the enterprise), but they prefer to wait if some movement in the labour legislation takes place. Also, the interviewee stresses that many enterprises in Spain prefer to have people under a grant/stipendium regime than under a labour regime for different reasons (relations with trade unions, possibilities to dismiss, etc.).

Comparative synopsis of case studies on LLL partnerships

Cases analysed in depth reveal a landscape that is even more heterogeneous than strategies and approaches analysed in IO1. But it was possible to identify some dimensions being of crucial relevance for all, or almost all, cases:

- Funding: Integrated learning opportunities and bridging programmes are, per definition, not part of one of the two mighty pillars of post-mandatory school educational systems, neither of the Higher Education (HE), nor the Vocational Education and Training (VET) subsystem. Accordingly, expenses for curriculum development, negotiations between representatives of the different participating organisations, recognition of prior learning, additional (bridging) lessons, development of appropriate assessments etc. for integrated learning opportunities and bridging programmes are not covered by basic funding of HE resp. VET providers. Thus financial support by third parties must be organised, either quite stable by solvent companies as for the German dual study programmes or rather short-termed as for Latvian Erasmus+ or ESF funded partnerships.
- Recognition: Although recognition of prior learning is high on the agenda of European Union and member states, most cases found and analysed do not apply recognition of prior learning. Main reason is that most cases established fall under the category “integrated learning opportunities” and aim at persons, who enter the post-mandatory school educational system for the first time.
- Graduation: Cases analysed refer either to established qualifications or integrated their diplomas into the national qualification frameworks, either on HE-level like the Spanish “University degree in Innovation Engineering in Processes and Products” or on VET-level like the Latvian “VETnet project Logistics specialist.”
- Engagement of companies: In all countries, with the exception of Germany, tradition and willingness of companies to invest (time and/or money) for training are rather low. Thus industrial culture is one of the huge barriers to foster integrated learning opportunities and bridging programmes.
- Trainers/teachers: Whilst teaching and training in VET-schools and universities is undertaken by skilled teachers, learning in the process of work is supported and supervised mainly by skilled workers (without pedagogical expertise); even in Germany with its tradition in apprenticeship.

Research revealed not only similarities between countries respective cases, but also some differences:

- Sustainability/tradition: Whilst some of the cases analysed, mainly the German cases, have long traditions (e.g. rooted in the educational system of the former socialist part of DE (GDR)) are most of the cases, especially those from post-socialist transition state Latvia and from economic crisis state Spain rather new and can be considered as approaches to foster economic challenges, especially via work-based learning (WBL). Accordingly do we estimate that "established" programmes will sustain; but the future of "new" programmes, especially when the process of catching up of post-socialist states is finished and south Europe overcame the crisis, is unsure. Additionally some of the cases analysed are based on the personal engagement of few actors; it cannot be guaranteed that programmes remain if these persons retire or change their job.
- Length: Differs largely, from only 6 month (Latvian "Training at the employer"-programme) until 4 years (German Dual studies).
- Entry requirements: Some analysed cases of apparent good practice offer access only for applicants with higher education entrance diploma, others focus more on socially disadvantaged and have no or lower entry requirements.
- Cooperation: Some programmes are established with narrow cooperation of stakeholders from different institutions based on mutual trust; others refer rather to a case-by-case cooperation.

Lessons learnt: Recommendation for the further development of existing integrated learning opportunities and bridging programmes resp. establishing of new partnerships

- Funding: We are aware that a consideration of integrated learning opportunities and bridging programmes within basic funding of VET resp. HE providers is not realistic within short-term perspective. But, especially when partnerships are supported by (national or European) project-funding, a short track for prolongation should be established: We recommend that projects can apply for such a prolongation and that a certain amount (e.g. 20%) should be funded without bureaucratic procedures.
- Recognition: We recommend that more integrated learning opportunities and bridging programmes should focus on “second chance”; aiming at beneficiaries who lost their job or struggled due to other reasons – not on best school leavers.
- Graduation: We recommend that all diploma are fully recognised within national qualification frameworks. A bachelor degree via an integrated learning opportunity should offer the same access to master programmes as a “normal” bachelor.
- Engagement of companies: The shy development towards WBL of companies in countries without apprenticeship traditions should be supported by any means. But it should be kept in mind that “training for a vocation” differs from “training for a company”.
- Trainers/teachers: Mentors or work place tutors are the weakest pedagogically skilled actors in integrated learning opportunities and bridging programmes. Additional resources for their upskilling should be made available.
- Sustainability: The fact that many cases of integrated learning opportunities and bridging programmes analysed have no long tradition does not mean that they have no future: We recommend to further advertise and support successful approaches.
- Length: Case studies do not reveal an optimal or minimal/maximal length of integrated learning opportunities and bridging programmes. We recommend to design such programmes within the respective national qualification frameworks; focussing on qualifications (not only on modules, propaedeutic measures, or training for a job).
- Entry requirements: We are aware that programmes are often market driven (search for talents). But we see a promising option of increasing success of integrated learning opportunities and bridging programmes via increasing the amount of (potential) beneficiaries: A closer link to other initiatives like “open universities” could or should raise attractiveness.
- Cooperation: Although the engagement of the actors in voluntary integrated learning opportunities and bridging programmes has to be appreciated and cannot

be underestimated, an establish cooperation should be aspired: Binding, basing on mutual trust, committing cooperation is of essential value for the success of voluntary integrated learning opportunities and bridging programmes.