

# EU-COOP

## COOPERATIVE and WORK INTEGRATED HIGHER EDUCATION

A Policy Manual for decision  
makers in Higher Education and  
Regional Development.



Erasmus+



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# 1

## Introduction

This policy manual is addressing decision makers relative to strategic transformation processes in important action fields of society such as Higher Education, Research and Innovation, Regional Development, Youth Employment and Economic Development.

All of the above are faced with specific regional and general global challenges that can only be successfully met by a collaborative and concerted set of activities. The education of young citizens for their key and responsible role in sustainable economic development is at the centre of attention of the Erasmus+ project “European Network of Cooperative and Work Integrated Higher Education” leading to the publication of this policy manual.

It provides an outline of:

**Characteristics and distinctive attributes (“WHAT”)** of “Cooperative and Work Integrated Higher Education” (EU-COOP),

**Roles of the key actors (“WHO”)** students, higher education programmes and companies,

**Specific benefits for society (“WHY“)** to support decision making for the practical application of EU-COOP, introduces

**Good practice examples (“HOW“)** from pioneering universities across Europe to meet challenges in programme management, teaching and learning, and gives an overview on the

**Scope and deliverables of the ERASMUS Plus project “European Network in Cooperative and Work Integrated Higher Education”** in which this work was completed and its **future scope**.



# 2

## The concept of Cooperative and Work Integrated Higher Education

Co-op education considers the company as a learning environment together with the university. It is a form of training that brings three actors together: the student, the university and the company.

In EU-COOP academic departments in higher education institutions and companies that are typically employing graduates from these departments cooperate to design new or adapt existing degree programmes to better meet the needs of all involved stakeholders and society. Together they create a new learning environment (Fig.1) that combines classroom teaching with on the job application and innovation processes within a work experience at a partner company.

Ideally **international mobility** and **research projects** are included to enhance the learning experience for all stakeholders and bridge gaps in skills development and profiles for a fast changing and globalized economy.

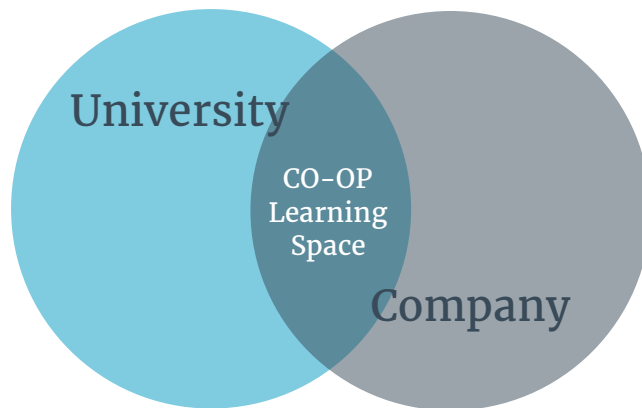


Figure 1. Learning Environment

By alternating academic and work periods within a formal cooperation agreement and including elements of constant reflection (Fig.2: “Learning Cycle”), students are enabled to design and follow an individual learning path towards a formal university degree and at the same time receive recognition, salary and job opportunities from their employer.

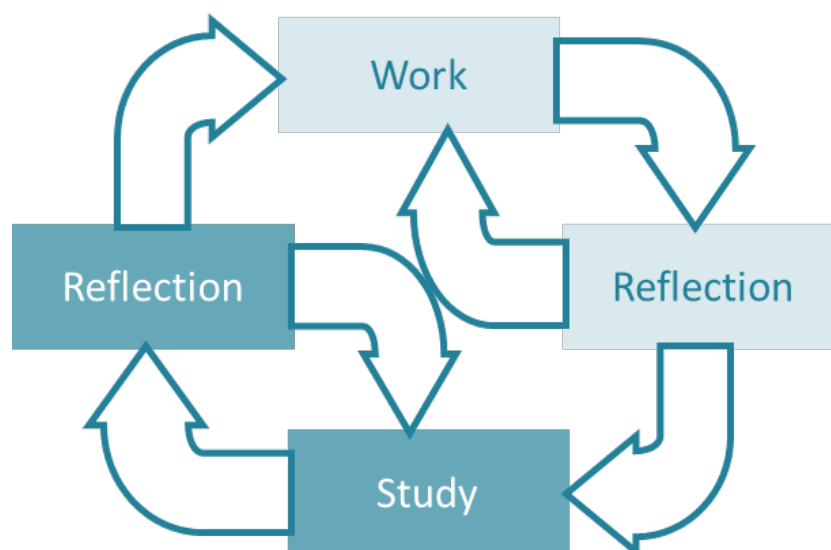


Figure 2. Learning Cycle





# 3

Distinctive  
features of  
Cooperative and  
Work Integrated  
Higher  
Education in  
Europe

**Cooperative:** The programme is delivered in a partnership between educational institutions and enterprises “at eye level”, with defined tasks for partners, with defined participation of the other, with comparable supporting structures in both learning environments and with open information on and clear allocation of cost elements.

**And:** Many educational programmes include some cooperation with the professional field and / or work related experiences. The combination of both with a comparable share of responsibility by all partners and the integration of all efforts into a joint programme are unique characteristics of EU-COOP programmes.

**Work:** Participating enterprises redefine themselves to offer an attractive learning and teaching environment and possible job development by actually employing students, integrating them in their workforce and providing real life challenges related to the degree programme.

**Integrated:** Partners create a distinctive educational culture with elements of work and study in all tasks performed by the student, facilitate reflection in action / on doing by students and tutors at companies and university and therefore move along an individual and institutional learning cycle towards competence development.

**Higher Education:** Education is the key priority of the programme with formal entrance requirements and awarding of a final degree, with application of curricular tools like faculty qualification, competency orientation, workload calculation, modularization and assessment.

**Europe:** Although the concept of cooperative and work integrated higher education was introduced in the early 20th century at universities in the USA and spread throughout the English speaking world (Fig. 3), it is still rooted in the successful European tradition of vocational education and apprenticeship. Several European higher education initiatives have been created from or in cooperation with secondary vocational institutions. Over the years a highly diversified system of degree programmes on all qualification levels has emerged and are examples of good practice for all economic sectors and education disciplines and for all aspects of stakeholder participation, programme management and educational design.

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Word Association for Cooperative Education (WACE): [www.waceinc.org](http://www.waceinc.org)

US Cooperative Education and Internship Association (CEIA): [www.ceiainc.org](http://www.ceiainc.org)

Canadian Association for Cooperative Education (CAFCE): [www.cafce.cat](http://www.cafce.cat)

Australian Collaborative Education Network (ACEN): [www.acen.edu.au](http://www.acen.edu.au)

UK Work Based and Placement Learning Association (ASET): [www.asetonlinee.org](http://www.asetonlinee.org)

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*Figure 3. Resources for information on CWIHE*



# 4

Characteristic  
differences  
between  
successful  
models of  
Cooperative and  
Work Integrated  
Higher  
Education

## Role of companies

While companies are key stakeholders in Co-op education they can assume different levels of leadership; strong, weak and intermediate.

**STRONG** (e.g. „dual“ / DHBW – Baden-Württemberg Cooperative State University): Close resemblance to the tradition of vocational education and training in countries like Germany and Austria. Companies select the candidates and send students to university / academy on a temporary work contract basis.

**WEAK** (e.g. „co-op“ / USA, Canada): Companies offer co-op work placements (usually three to six months) – students select and apply, work is integrated only into one course module dealing with preparation, documentation and reflection of the work experience. „Co-op“ is mostly offered as a voluntary pathway in regular degree programmes and consists of two to six internships in different companies for undergraduate students.

**INTERMEDIATE** (e.g. France, FH JOANNEUM): Admission to a programme and hiring by a company are done in a coordinated process with a varying share of responsibility depending on discipline, legal framework and characteristics of companies involved.

## Type of Rotation

In countries with a high number of programmes in cooperative and work integrated higher education, there is a wide variety of organizational models differing in overall share of time in companies and duration of work terms. Typical examples include:

Three to six months: e.g. USA, Canada, DHBW, FH JOANNEUM

Work combined with intensive educational periods of one to four weeks is typical for programmes at master level for students already taking responsible positions.

Two to three days per week: e.g. IMH Elgoibar, Spain; Free University Bolzano, Italy

Daily distribution of workload between university and workplace (e.g. work until midday, lectures in the afternoon): several programmes in France e.g. Formasup (only possible in large cities and for small companies)

## Salary and legal issues

The national legal framework plays an important role for the specific design of Cooperative programmes. In France, higher education is directly included in, regulated and financed through the national apprenticeship system. In Germany, many universities offer programmes that include formal training for a profession through an apprenticeship parallel to the bachelor degree. Students in master programmes are usually regular employees with contracts allowing for enough time to pursue their degree.

In all cases contract details can differ: contract given only for one work term at a time or hiring the student as a regular part-time employee for the duration of the programme, retention provisions and additional contracts (e.g. university / company).



# 5

## Stakeholders in Cooperative and Work Integrated Education

Higher education programmes create and have to manage many and very diverse interfaces / transfer points when integrating work experiences (Fig.4). Faculty and administrative staff are challenged by the necessary communication and cooperation with companies in addition to traditional tasks like teaching and research activities.

Industry / companies go through a transformative process from external stakeholders to educational partner with responsibilities in designing suitable work assignments and providing tutorship and career mentoring to students.

Students become process owners of an individual learning path to graduation by working in different companies or departments, with experienced professionals and exchanging experiences with colleagues during and after work terms.

Policy and decision makers in Higher Education, Research and Innovation, Regional Development, Youth Employment and Economic Development have to develop a legal and financial framework to ensure that the programme design support and deliver key development goals in their respective responsibility

All stakeholders have to support an open design dialogue and co-creation process to ensure constant assessment of objectives and outcomes. As a result, strengths, weaknesses, threats and opportunities become clearly visible and can be managed to create a sustainable and beneficial educational system.

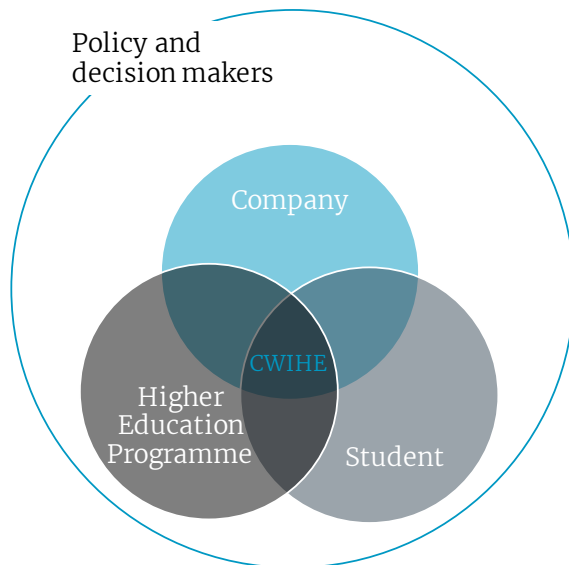


Figure 4. EU – COOP Stakeholders



# 6

Why should  
policy and  
decision makers  
consider  
Cooperative and  
Work Integrated  
Higher  
Education



Cooperative programmes around the world have been created for a number of reasons. The multi-stakeholder approach has proven to contribute not only to an improvement of specific qualities of higher education, but it also successfully plays a part in solutions to diverse issues like youth employment, economic and regional development and the support of research and innovation policies (Fig.7).

This chapter aims to identify key benefits for each of these strategic fields. The following chapters will relate them to specific attributes of EU-COOP programmes and good practice examples from European universities.

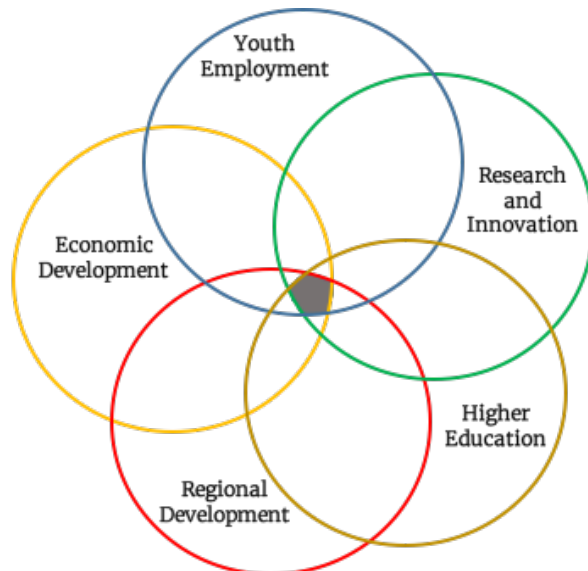


Figure 5. Policy Framework for EU-COOP

## Higher Education

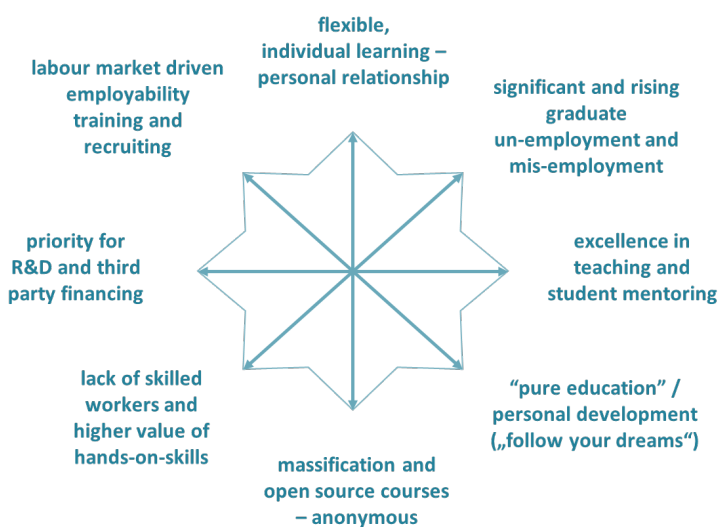


Figure 6. Challenges for Higher Education

The first EU-COOP programme was initiated in 1906 at the University of Cincinnati. The main purpose was to improve quality and relevance of studies in mechanical engineering by substituting laboratory work with real life situations in neighbouring machine tool companies. Nowadays

universities are challenged by a number of contradictory expectations from society (Fig.7). These contradictions cannot be neglected or solved, they have to be dealt with in a joint effort of all stakeholders for the benefit of society.

In EU-COOP programmes students learn to understand the purpose of course content, to apply classroom learning to varying practical situations, practice soft skill development and prepare themselves well for directly starting a career after graduation. Faculty members involved in tutoring receive up-to-date insight in

company processes and material for their courses by including students' experiences.

## Youth employment

Many job offers include “work experience” as a typical prerequisite for hiring. In EU-COOP, companies hire students as trainees providing a salary, job orientation and an attractive test period for future hiring. Throughout Europe there is a lack of skilled workers and a rising number of highly-educated and research-oriented university graduates from disciplines not matching enterprise needs. “Over-educated” is in danger of becoming the new “un-skilled” and stakeholders in higher education must provide solutions to this trend.

EU-COOP programmes ensure skills that are adequate from the very start and are especially attractive for students coming from vocational education and from low income families (trainee salaries help support students). They have proven to help students to enter engineering positions without any technical background.

## Regional and Economic Development

An EU-COOP programme offers higher education to young people without cutting their ties to the region they grew up in and companies in areas with no direct access to a university can offer attractive opportunities for local youth.

EU-COOP programmes create natural networks – students typically learn from each other and keep up relationships after graduation – and facilitate cooperation and peer-learning among participating students, faculty and companies that can generate new business ideas. Students can successfully learn from experienced employees and thereby maintain their know-how for the company before retirement.

## Research and Innovation

Especially small and medium sized companies cannot afford research teams and are often left out of innovation processes because of lack of resources and connection to universities. EU-COOP students can operate as knowledge “brokers” when they move back and forth between company and university. They can include specific faculty members, solve problems using university infrastructure and literature or even bring them directly to the class room.



# 7

How is  
Cooperative and  
Work Integrated  
Higher  
Education put  
into practice

The following picture (Fig.7) shows examples of specific benefits of EU-COOP in policy areas directly affected by an educational cooperation of relevant stakeholders. While European nations and regions agree on the importance of these policy areas and development goals, they differ considerably in their economic situation and strategic focus. The same is therefore true for initiatives and programmes in their aim to contribute to these goals.

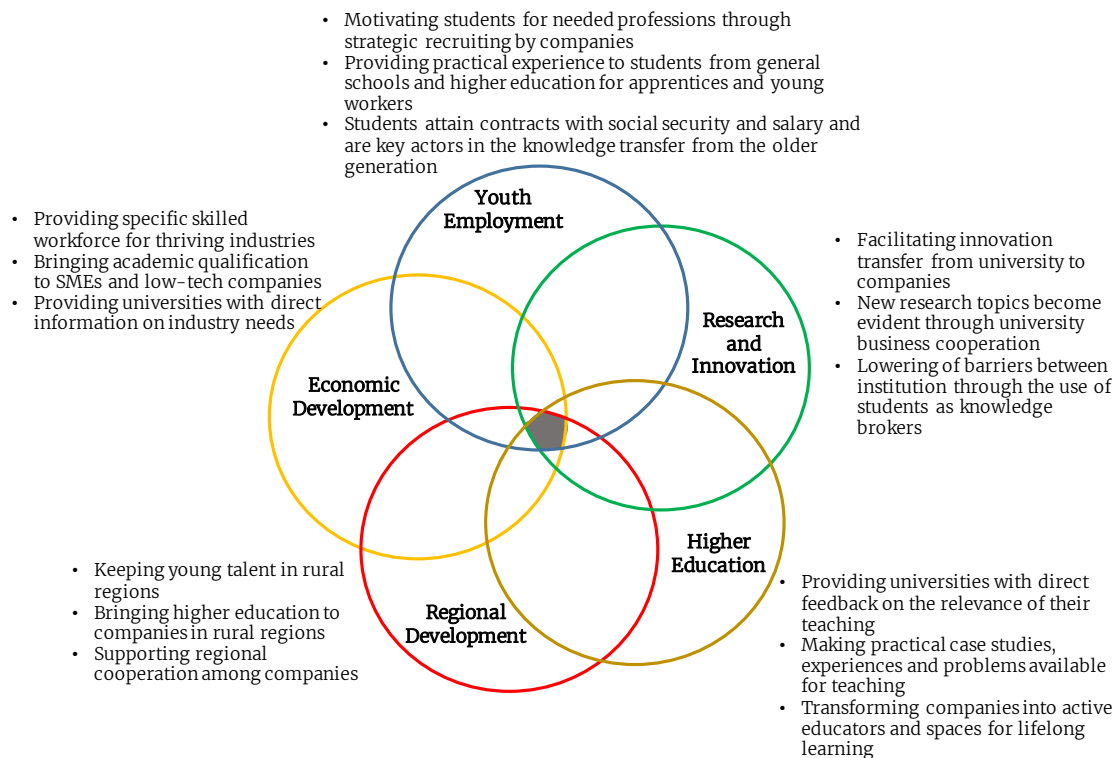


Figure 7. Policy areas and contribution of EU-COOP to development goals

In this chapter of the policy manual important attributes of programmes are identified, the diversity of possible solutions is shown and connected to examples of good practice in the partner institutions of this project. Good practice covers organizational as well as pedagogical issues along the entire lifeline of EU-COOP programmes and are described in more detail in another set of documents<sup>1</sup>.

Attributes include company involvement in programme design, the qualification level, the question whether companies are actively looking for students (“pull”) or universities have to find positions (“push”), rhythm between theory and practice, issues of salary and contract, tutorship in company and university and the assessment of learning outcomes.

<sup>1</sup> Set of Good practices of sustainable Cooperative and Work Integrated Higher Education programmes”, European Network of Cooperative and Work Integrated Higher Education, 2017

We have tried to select some possible implementations and practices related with the most relevant attributes. The mentioned practices are further specified in documents related to good (pedagogical and organizational) practices mentioned before.

## Company involvement in programme design

One of the main objectives of the COOP approach is the employability of students. In this regard the skills acquired must be adapted to the needs of companies. Universities and governments must not only consider the current needs of companies, but future trends of the specialty in question also in order to be able to design a training program that secures these competences while providing the possibility to alternate study at university with work and learning in the company.

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Even though this involvement may be easier in the PULL model, it is recommended to involve them also in PUSH approaches.

The PULL model is recognized in Germany, specifically in the region of BADEN-WÜRTTEMBERG. In the case of DUALE HOCHSCHULE BADEN-WÜRTTEMBERG, it set up in 1974 on the proposal of the companies from the federal states themselves.

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## Push Vs Pull approach

Depending on the agent that leads the process, the system is approached in two different ways. In the PUSH approach, it is the university or educational institution that offers qualified people to the market and it is the market itself that integrates them depending on their need and degree of adequacy. On the other hand, in the PULL approach the labour market itself pulls the university, forcing it to adapt to the specific needs of the labour market.

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The PUSH model is the most usual approach, where the university leads the educational process.

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# The Qualification Level

Always within the framework of higher studies, we can cover 3 cycles, Degree (or BCs), Master and Doctorate (or PhD). Most of the studied universities concentrate their offer on the bachelor degree, although some of them also offer studies of Masters in a dual format. The PhD is at another level of studies since although some universities offer it, its research essence does not fit the scheme of Degree and Master studies, where the boundary between university and company may be clearer.

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In the case of higher education, the most common are grades in dual training. However, there are experiences where they offer masters and other postgraduate courses in dual training, such as in the case of the UNIVERSITY OF LLEIDA, HOGSKOLAN VAST, DUALE HOCHSCHULE BADEN-WURTTENBERG and FH JOANNEUM GESELLSCHAFT M.B.H.

The case of doctoral programs in dual training is incidental although there is work underway, for example, in UNIVERSITY OF LLEIDA.

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## Rhythm

There are several kinds of rhythms:

- Weekly rhythm: 2/3 days at university, 3/2 days in the company
- Alternating periods on a weekly, fortnightly or monthly basis (alternative presence at the university/company: for a week/week, a fortnight/fortnight, a month/month.
- Variable rates during the year: more presence at the university at the beginning, and more in the company later on.

There is no “general perfect rhythm”. Everything depends on the kind of job, the economic sector, the geographic aspects (distance between the company and the higher education institution), the way skills can be learned.

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In DHWB, dual training consists of a 3-month period at the University and a 3-month period in the company. Students start in the company. Their first objective is to go to the company for 3 months to be integrated into the system and to start with the practical stage/phase/aspect.

On the other hand, at the IMH, dual training is programmed in a weekly rhythm: 3 days in the company / 2 days at University.

# Tutorship in company and university

The supervision of the student is the most essential and critical part of the training process. In all systems, the student has at least one tutor at the university and another one in the company. It is essential that there is a fluid and constant relationship between the student and each tutor, but also between the tutors.

The tutor at the university must meet student's needs in terms of the theoretical training required in general but also in terms of the theoretical training needed to perform the tasks required by the company.

The company tutor must accompany the student to adapt to work life and help the student in adapting to the company and to entrusted tasks within it. Ultimately, the tutor is responsible for overseeing and helping students during their learning period in the company.

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In the case of the Free University of Bolzano – Bozen, the student has an official tutor although depending on the work carried out in the company, different operative tutors may be assigned. On the university side, the student also has a course tutor as well as project tutors.

In the case of the IMH, the student has two tutors at the university, one of them for tutoring the academic field and a second who liaises with the tutor of the company and keeps track of the work of the student in the company. The tutoring system is regulated and deployed with biannual follow-up meetings with each student as well as monthly class meetings with students. As for company tutoring, each student meets with the company tutor at least once a month in order to evaluate progress and the degree of acquisition of the competences.

In Formasup, 3 to 5 meetings are trilateral (student, university tutor and company tutor) to assess progress and identify specific needs.

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## Salary and contract

The employment contract and the salary between student and company is based on the labour legislation of each country. In some countries, ordinary work contracts are given but most have specific contracts for such situations.

The benefit the student receives from the company during the learning process is unquestionable. However, the contribution of the student to the company should also be highlighted. Obviously students are not experienced full-time workers, but

their contribution to work must be assessed and also the possibility of bringing the company closer to new concepts and trends as a result of their learning in the university.

In this sense, a policy for students' allowances must be established. This policy must respond to whether the existence of allowances is regulated or whether it is left to the discretion of the companies and, if left to the company's discretion, whether limits are set (minimum and / or maximum) or not.

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***Contract:***

In Austria there is a contract only between student and company and student and university (common also for non-dual students). Between university and company, verbal agreements are in place and there is constant contact between the involved parties.

In France, an employment contract is signed between the company and the coop student, who has a double status: employee and student. There is also an agreement between the company and the CFA, including sometimes part of the financial support (in addition to that given by the Region).

In Sweden, there are no written contracts between the companies and the university.

***Salary:***

The diversity of cases is remarkable. There are universities that establish the mandatory nature and the amount of allowances, as is the case of the IMH or the Free University of Bolzano – Bozen. While in the first case the university itself has established the amount, in the case of the Free University of Bolzano the amounts have been established between the University, the labour unions and Associations of the Industrial Companies.

However, most universities leave the amount to the company's discretion, although they propose recommendations so that the student can afford his studies. In some cases, such as in France, allowances are established by law depending on age and training period.

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## Assessment of learning outcomes

Educational programs consider the evaluation of acquired learning and competences. However, this evaluation is more complex in dual education, since evaluation is to be made in both higher education as well as the learning in the work place. The competences of higher education are more in line with problem-solving and research capacities, and their evaluation is more complex because of the diversity of tasks and problems each student faces. That is why, given the flexibility of the educational programs mentioned above, more flexibility in the evaluation systems should also be considered/introduced.

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In University West (Sweden), after each Co-op period the students are required to give an oral and written presentation on their return to the university. The presentation includes a brief description of the performed work tasks and an assessment of what they have learnt during their work placement linked to the learning outcome of their education.

In the CWIHE bachelor programs at FH JOANNEUM, students compile a portfolio of all work term reports including reflective diaries, of a « module report » relating specific work experiences to predefined key modules in the curriculum.

In other universities, the evaluation of acquired competences is done in collaboration between the university tutor and company tutor in accordance with the target competences for the period.

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# 8 Some recommendations

## R1. A clear and consistent legal framework that allows all stakeholders to act with sufficient guarantees for the fulfilment of their obligations and their rights

Dual training has unique characteristics that combine academic and work-related issues. The combination of two worlds, so far rather separated, such as education and work, to become part of a linear sequence, makes it necessary to set the rules for the different stakeholders.

## R2. Providing incentives to attract companies to co-op programs

Given the need to attract companies to show them a new system of higher education, it will be necessary to step up efforts in communication, information and awareness about the benefits of dual education. But this is probably not sufficient and at an early stage this work will require support through incentives. These will depend on the country itself but they should be considered in the design phase of the legislation that will regulate the practice in case tax advantages or public financial aid are instituted as tools to attract companies.

## R3. Inviting the identified stakeholders to participate in planning, implementing and evaluating higher education programs (government, university and companies)

Universities and government must not only consider the current needs of the companies, but also the future trends of the specialty in question in order to be able to design a training program that adapts to these competences whereby it is possible to alternate study at university with work and learning in the company.

The variables to consider and collaboration of the different stakeholders include:

- a) The degree and the period of study:
- b) The competences to be acquired and the contents
- c) The dedication in the different learning spaces (university and work centre)
- d) The admission criteria and the selection process.

## R4. Fine-tuning general, substantial and social skills/competences between the university and work environment

The academic environment has little to do with the workplace. The skills to be acquired in each environment may be very different. However, it is necessary to align the competences to be acquired in both environments in order to for the student to follow a coherent itinerary.

Each competency can be acquired i) at university through theoretical / experimental contents, ii) in the workplace through specific practices or iii) through a combination of both. A clear and well-known assignment for the students is desirable, since it will provide a coherent and logical perspective of the itinerary that they have to follow to reach the general competences of each study.

## R5. Blueprint for long-term job design (degree program) where competences related to research activities are covered

Higher education studies differ from other studies because of the greater relevance of problem solving skills and research capacity. That is why, just as in the academic

space, content aimed at endowing the student with these skills, these problem solving and research skills must also be developed in the workplace.

## R6. Promoting students' mobility for CWIHE students

Traditional models are confined to face-to-face classes at the university of the target country. However, in a dual model, in addition to these classes, the participation of the company is required where it addresses the student's work competencies. It is therefore recommended to create links between universities that can exchange students, taking advantage of the network of companies with which they already collaborate with their own students.

## R7. Training the company tutor

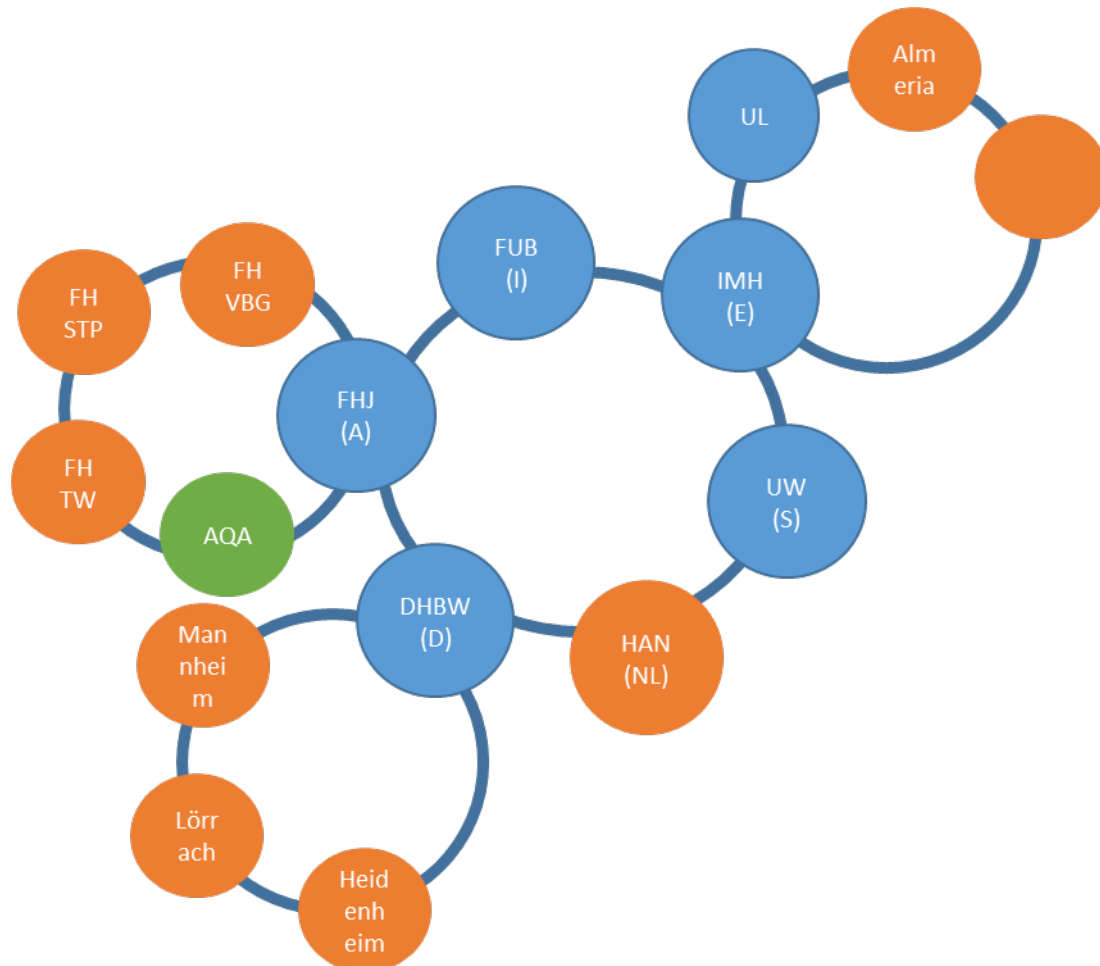
Regardless of the tutor's ability to teach, it is advisable to carry out a brief training in the dual educational model, the teaching – learning process, the competences to be acquired by the student and the proposed evaluation system. In this sense, it is recommended to design a "company tutor hosting guide" where all these terms are detailed. (In any case, this manual is not a substitute for a brief face-to-face training that makes it possible for the future tutor to clear up specific questions and receive feedback on the understanding of the concepts dealt with).



# 9

The future

CWIHE is a project that seeks to implement an international network of educational institutions involved in co-op education. Originally started with six universities, it now has eight more universities and an educational quality assessment agency.



The mission of this network is to share experiences and learn from other member institutions and try to co-create innovative solutions to challenges that are common to all members. Thus, the more partners, the better the exchange and learning experience, positively influencing co-op education as an educational model of the future.



10

The project



## Brief description of the project:

In line with the objectives of the 'Europe 2020' strategy, targeting to increase the employment rate across all member states, the present project intends to establish a solid European Network of Cooperative and Work Integrated Higher Education, which will face the challenges currently presented by the model, while spreading it at EU level as a valuable alternative to tackle unemployment and promote entrepreneurship skills. This objective will, at the same time, contribute to reinforce links between education and the world of work supporting new career paths for individuals.

## Partners

CWIHE project and resulting network have been promoted by 7 higher education institutions of Spain, France, Italy, Germany, Austria and Sweden.



The collaboration of these educational institutions during the first phase after it was set up and after consolidation of the network has resulted in several publications intended to create awareness and to facilitate the implementation of co-op education programs. This published material is a direct result from a series of mutual learning experiences, and consists of:

This Policy Manual tries to clarify the key aspects of co-op education in a brief manner and is directed primarily at policy makers.

A handbook which details both the key features of co-op education, and its benefits, the process for its implementation and deployment, and certain recommendations.. This document is intended for all those interested in implementing or improving co-op education programs.

Certain good practices that aims to provide reflections on cooperative education have been observed among the Project partners and which aim to facilitate the implementation of typical aspects of co-op education.

All the results and materials developed throughout the project are published on the project website: <https://cwihe.com/>

