

Best Practices on Higher Education Apprenticeship (HEA)



Refining HE Apprenticeships
with Enterprises in Europe

Authors

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Suitability of this case to the ApprEnt definition of HEA



Evaluation of how the programme/practice reaches the following goals

Scale: 1 = not at all; 2 = very little; 3 = somewhat; 4 = well; 5 = very well

	1	2	3	4	5
i. Enhances relevant working life skills and qualifications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. Promotes professional growth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii. Develops learning environment practices as a whole	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv. Develops work-based learning practices and materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v. Improves work performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
vi. Improves tutoring and mentoring practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
vii. Enhances University-Business collaboration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
viii. Showcases potential aspects for programme standardisation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Title

Post-Master Degree course in Additive Manufacturing and Industrial Automation, Polytechnic of Turin

Description

Model
<p>Apprenticeship was first introduced in Italy in 1955 as an employment contract for young people. It was reformed several times in the following decades, with major changes from the late 1990s, when youth employment measures started to be conceived and designed in connection to education and training policies. In 2003, apprenticeship took on the current structure it still has: three apprenticeship schemes. All apprenticeship schemes are defined as open-ended employment contracts and apprentices are fully entitled to rights and obligations of standard employees.</p> <p>The 2015 reform of employment contracts (2) revised the legal framework of the three apprenticeship schemes. These had the following characteristics at the time of the review:</p> <p>Type 1 apprenticeship - Apprenticeship for vocational qualifications and diplomas, upper secondary education diplomas and high technical specialisation certificates</p> <p>This is for those aged 15 to 25 and may be applied to vocational education and training (VET) programmes at upper- and post-secondary levels. The duration of the contract varies between a minimum six months and the maximum duration of the VET programme it applies to. The distribution of time for educational as well as company training is defined on one school-year basis. Besides in- and out-of-company training, Type 1 apprenticeship foresees a component of ordinary work experience. Generally, between 50% and 70% of the time is spent at school and the rest in the company.</p> <p>Type 2 apprenticeship - Occupation-oriented apprenticeship</p> <p>This is a scheme outside the VET system, which leads to an occupational qualification recognised by the national sectoral collective agreement applied in the hiring company. It is for those aged 18 to 29. The minimum duration of the contract is six months and maximum three years (or five years for artisanal jobs), of which out-of company training for basic and transversal skills covers a maximum 120 hours in total.</p> <p>Type 3 apprenticeship: 'Higher education and research apprenticeship'.</p> <p>This is for those aged 18 to 29 and includes two sub-types:</p> <ul style="list-style-type: none"> - apprenticeship for higher education and training, which leads to university degrees, including doctorates, and higher technical institute diplomas. The mode and length of training alternation varies by the programme the scheme applies to; - apprenticeship for research activities, which leads to a contractual qualification outside the education and training systems. There might be no alternation between learning venues in apprenticeships for research activities, as training outside of the company is not obligatory. <p>References: Cedefop (2017), Apprenticeship review Italy. Building education and training opportunities through apprenticeships. THEMATIC COUNTRY REVIEWS, Luxembourg: Publications Office of the European Union</p> <p>The Higher education and research apprenticeship implicate an active participation of both education institution and the enterprise to the establishment of specific training programmes matching the academic curricula with employer's skill needs. Moreover educational institutions play an important role in promoting these opportunities amongst students and enterprises. In the last years, few local Authorities have provided for a specific training supply.</p>

Incompletely developed and partially integrated regional governance mechanisms lead to a lack of strategic planning for apprenticeship provisions. There are limited exceptions to the regions' programming initiatives based on local labour market skills needs and VET system capacity.

Best practice

The Master's programme in Manufacturing 4.0 is an experiential learning path which combines educational activities at Politecnico and on-the-job training at the company's premises.

The Master's programme in Manufacturing 4.0 is intended for graduates awarded with a full degree (Master's degree/Laurea specialistica/Laurea magistrale) in Engineering, who are under the age of 30 on the date of recruitment.

It is organized as follows:

- 400 hours of training activities at Politecnico di Torino (classroom – laboratory – lecture – business case).
- 800 hours of training activities with the employer's company at their premises.
- Approximately 300 hours of self-learning activities at the employer's premises.

The participation in the 2nd level Specializing Master's programme is free of charge for admitted students, as provided for by the regional call "Apprendistato di Alta Formazione e di Ricerca 2016 – 2018 (Art. 45 - D. Lgs. n. 81/2015). The official language of the Manufacturing 4.0 programme is English.

Selected candidates are hired by the partner companies and upon completion of the programme they attain a 2nd level Specializing Master's diploma. The partner companies evaluate the applications which meet the compulsory requirements, reserving themselves the right to contact only the candidates who meet their internal selection criteria. The selected candidates are hired by the partner companies within the meaning of ex-art. 45 of D. Lgs 81/2015. The partner companies assess the candidate's level of proficiency during the interview. During the entire application period the partner companies can contact the applicants who satisfy both the compulsory requirements and the corporate selection criteria.

Classroom training is carried out in English, it is structured in modules and is entrusted to the professors of the Polytechnic of Turin and other professionals in the industrial sector. At the end of each module students develop a "case history" on a topic related to the contents of the module. As part of the company training, a project work is planned so that the apprentice can develop it in the second year before defending it during the final examination of the Master's. During the on-the-job activities the apprentices are joined by a company tutor and supervised by a tutor of the Polytechnic.

The main strength of the Master's is its overall impact on the participants' employability: the share of apprentices completing the course exceeds 95% and, in almost all cases, at the end of the course they are hired in the company with a permanent contract (VI level). The relation between the university and the company in defining the contents, the methods and timing of the activities, the support of regional policy-makers and the establishment of networks between local companies (e.g. Unione Industriale di Torino) are in this sense key elements. Another strength is the flexibility of the programme, inasmuch as, on an yearly basis, it can be modified and adjusted not only to the needs of companies and to the changes in technological trajectories, but also on the base of the apprentices' feedbacks. This adaptability facilitates the consolidation of synergies between universities and companies and the professional integration of both students and new technologies in traditional business production processes.

A critical factor of the Master is represented by its replicability in different contexts, only possible where there is an inter-institutional integration at multiple levels (between companies, universities and policy-makers) and an internal integration of the productive fabric.

Feedback from users

N/A

Relevance and Transferability

N/A

Comments

N/A