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## **Cross-Boundary Learning Experience Urges HE Institutions to Change. Evidence from an Italian Case-Study<sup>1</sup>**

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### **Abstract**

Italy has one of the lowest numbers of apprenticeships within higher education in Europe (Cedefop, 2021). Cultural reasons and rigid regulations prevent many Italian Universities from opening their courses to dual paths. A qualitative research highlights the strengths and weaknesses of a pioneering apprenticeship programme for undergraduates, which has been launched in 2017 by the University of Bergamo. The apprenticeship programme which is taking place at this University represents an excellent learning opportunity, both for apprentices and employers, but it seems that its results depend more on apprentices' effort to link work experience to scientific knowledge, than specific didactic or organizational arrangements. Teachers' and apprentices' collaboration should be improved, also creating formal occasions to interrelate academic studying and work practice, while all stakeholders involved have to empower tutors' role as cross-institutional figures, which can ask for study plan's customization and training on the job implementation.

### **Keywords**

apprenticeship, higher education, Italy, qualitative research

### **1 Apprenticeship and higher education**

The question of how to combine theory and practice in educational pathways is one of the major issues that all European education systems are facing nowadays. The topic is particularly complex at tertiary education level, where in many contexts there is a lack of a widespread historical tradition and cultural awareness of work-based learning (WBL) education pathways (Bertagna, 2017; Potestio, 2020).

Nevertheless, dual study programmes in post-secondary education are expanding rapidly and attract increasing attention all around Europe. Those countries where the so-called dual

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<sup>1</sup> Although this paper is the result of a joint work of the three authors, paragraph n. 1 can be attributed to Francesco Magni; paragraphs n. 2.1 and 2.2 to Andrea Potestio; paragraphs n. 2.3 and 2.4 to Paolo Bertuletti. Conclusions were written by all the authors.



system of VET is long established (Austria, Germany and Switzerland) have developed hybrid forms of work-based academic education that combine elements of vocational training and higher education (Graf, 2017); but also countries with no dual system at secondary level managed to raise conspicuously the number of apprenticeship's contracts at EQF level 5, 6 and 7 (this is the case of United Kingdom, where the introduction of the specific levy for companies due to the Finance Bill 2016 has made "higher apprenticeships" spread).

All these attempts to boost apprenticeship within higher TVET seem to reflect the results of an almost three-decade discussion among scholars about the relationship between higher education and production, academic research and innovation – see the seminal work of Gibbons (1994), but also the following of Etzkowitz & Leydesdorff (2000), Chesbrough et al. (2006), Youtie & Shapira (2008). Thanks to apprenticeship programmes, Universities and the world of work get closer. Apprenticeship allows a horizontal, boundary crossing and poly-contextual learning process, which interweaves theory and practice, promoting collaboration on multiple levels and between multiple subjects (Magni & Mazzini, 2018).

## **2 A case-study from an Italian university**

### **2.1 Introduction**

In Italy dual pathways at higher education level are very few: 783 in 2017 (Osservatorio Statistico dei Consulenti del Lavoro, 2019) and only 5,6% of them within a bachelor- or a master-degree (Inapp), one of the lowest numbers among European countries (Cedefop, 2021). Moreover, Italian academic tradition has been always affected by idealism, which is prone to divide studying and basic research from professional practices (Bertagna, 2011). Nevertheless, also in this country some higher education institutions try to cross the boundaries between academic and work experience.

In 2017 the University of Bergamo launched an apprenticeship programme for undergraduates enrolled to a bachelor-degree in Educational Sciences. While working by social-service companies, apprentices can accomplish their academic curriculum attending courses at University and taking exams. According to the Italian legislation, higher education apprentices must gain the same ECTS as other students (Ministry of Labour and Social Policies, Interdepartmental Decree of 10 Oct. 2015), but the traditional organisation of academia makes often difficult to find suitable didactics arrangements. Then, the question is: how to "customize" the education path of those who are studying as apprentices (i.e., spending most of their training on the job) inside the rigid framework of lessons and exams imposed by University regulations? The problem seems to be the following: although a training agreement must be signed by apprentices, the company and the University Department, where learning outcomes expected at the end of the academic carrier are specified, apprentices have to take all the study-plan exams as "normal" students. Now, the level of "customization" of the exams' contents is up to the responsibility of every single Professor of the courses/exams, who could theoretically take no account of the apprentices' particular learning experience.

### **2.2 Methodology**

This is a qualitative and observational research (Calonghi & Coggi, 2008) divided in two phases. Firstly, a survey has been carried out sending via email a questionnaire to all potentially interested subjects (three different questionnaires have been sent, one for each group target: apprentices, company tutors and academic tutors). Secondly, two researchers have conducted semi-structured interviews to all respondents.

The questionnaire had two aims: helping people involved to reflect upon their own experience, giving the interviewers material to build up the questions for the following interviews. Echoing the statements resulting from the questionnaire, according to Rogers' non-directive

talk (Sundararajan 1995), the interviewers stimulated their targets to clarify their answer through an auto-biographic account. Critical events, situations and circumstances have been used to verify statements declared in general terms. The method of the Behavioral Event Interview has been followed (McClelland & Dailey, 1972).

The narrative interpretation aimed to seek, together with the interviewee, the meaning of learning experiences, rather than just information (Damazière & Dubar, 1997). The reliability of the accounts was assessed on the basis of a criterion of internal consistency of the speech, as well as through comparison between the answers given to the questionnaire and the subsequent stories resulting from the oral interviews (Atkinson, 1998). The following elements have been considered as clues of inconsistency: inability to remember, idealization not supported by examples or memories, extravagance or stereotypy of the chosen adjectives, contradiction between adjectives and episodes. On the contrary, accuracy of the adjectives, their realistic articulation, ability to remember facts in a fresh and coherent way have been seen as an index of authenticity (Main & Goldwyn, 1995).

## 2.3 Results

The apprentices who began the bachelor-degree in Educational sciences at the University of Bergamo were thirteen. Among them, three have already finished their apprenticeship and graduated, five are still studying and five resigned before the end of apprenticeship. Two of the three apprentices who graduated have been confirmed by their employer and now are still working in the same company where they used to be trained, one decided to resign after the apprenticeship in order to round off his education enrolling on a master-degree course in Pedagogy.

Eleven of the thirteen apprentices answered the questionnaire. All company tutors (eight) filled the questionnaire, whereas it was not possible to reach an academic tutor (eight out of nine answered). At the moment, have been conducted twelve interviews, eleven to apprentices (all those who filled the questionnaires) and four to the company tutors, who could be reached.

### 2.3.1 Questionnaires

The questionnaires clearly show that the training experience was appreciated by all components.

**Table 1**

Replies to the questionnaire (excerpt)

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*Based on your experience, please express your level<sup>2</sup> of agreement with the following statements*

Statement n. 2

*Apprenticeship in the HE is an educational path of excellence*

| <b>Apprentices (11)</b> | <b>Company tutors (8)</b> | <b>Academic tutors (8)</b> |
|-------------------------|---------------------------|----------------------------|
| 8: totally agree        | 4: totally agree          | 3: totally agree           |
| 3: very much agree      | 4: very much agree        | 3: very much agree         |
|                         |                           | 1: quite agree             |
|                         |                           | 1: disagree                |

Statement n. 3

*Apprenticeship in the HE allows young people to develop skills which cannot be cultivated in a "traditional" study path*

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<sup>2</sup> Respondents had to choose between: *totally agree; very much agree; quite agree; not entirely agree; disagree*. In some cases: *often; sometimes; rarely*.

|  |   |  |
|--|---|--|
| <b>Apprentices (11)</b><br>8: totally agree<br>3: very much agree  | <b>Company tutors (8)</b><br>Question not answered                  | <b>Academic tutors (8)</b><br>4: totally agree<br>2: very much agree<br>2: quite agree |
| <u>Statement n. 4</u>  |   |  |
| <i>The professional training of apprentices is better than that received in a "traditional" study path</i> |   |  |
| <b>Apprentices (11)</b><br>8: totally agree<br>2: very much agree<br>1: quite agree                        | <b>Company tutors (8)</b><br>4: totally agree<br>4: very much agree | <b>Academic tutors (8)</b><br>Question not answered                                    |

Apprentices say that studying at University supports their professional development and, vice versa, the work experience helps them study better. Their tutors share the same view.

**Table 2**  
Replies to the questionnaire (excerpt)

|  |   |  |
|--|---|--|
| <u>Statement n. 7</u>  |   |  |
| <i>What you learn on the job during the apprenticeship helps to study better</i>   |   |  |
| <b>Apprentices (11)</b><br>5: totally agree<br>4: very much agree<br>3: quite agree  | <b>Company tutors (8)</b><br>Question not answered                                    | <b>Academic tutors (8)</b><br>Question not answered                                    |
| <u>Statement n. 8</u>  |   |  |
| <i>Work experience helps to enlighten what apprentices are studying at University</i>  |   |  |
| <b>Apprentices (11)</b><br>6: often<br>4: sometimes<br>1: rarely   | <b>Company tutors (8)</b><br>Question not answered                                    | <b>Academic tutors (8)</b><br>5: often<br>1: sometimes<br>2: rarely                    |
| <u>Statement n. 9</u>  |   |  |
| <i>What apprentice studies at University gives him/her ideas, motivations etc to work with more interest/enthusiasm/care</i> |   |  |
| <b>Apprentices (11)</b><br>Question not answered   | <b>Company tutors (8)</b><br>3: totally agree<br>4: very much agree<br>1: quite agree | <b>Academic tutors (8)</b><br>4: totally agree<br>3: very much agree<br>1: quite agree |
| <u>Statement n. 10</u>   |   |  |
| <i>Subjects studied at University help better understand situations at work or even solve job problems</i>                   |   |  |
| <b>Apprentices (11)</b><br>3: often<br>6: sometimes<br>2: rarely   | <b>Company tutors (8)</b><br>Question not answered                                    | <b>Academic tutors (8)</b><br>Question not answered                                    |

On the other hand, the workload seems to be partially a hurdle, at least for someone, against study: 7 apprentices out of 11 very much or quite agree with this statement. Some academic tutors (5 out of 8) also say that University teaching, as it is generally conceived and practiced, doesn't facilitate the connection between the apprentice's experience and study.

### 2.3.2. Interviews

Although all apprentices declare to have had the chance to interweave theory and practice during their apprenticeship, they find rather difficult to remember precise events, where things studied at University enlightened their work practice or, vice versa, work experience helped them to understand the situation and take correct decisions at work.

According to their account, the main “didactic tool” which promoted a constant boundary crossing between HE and workplace was the trilateral relation with tutors, fundamental «mediators» (apprentice n. 5), who encouraged apprentices’ integration in the company organization, but also seen as experts «open to discussion» on educational choices taken by the company and relevant issues covered by scientific literature (apprentice n. 3). For the same reasons all apprentices appreciated the confrontation with colleagues too.

The institutional place appointed to support study plan’s customization were the private talks with University teachers before the beginning of the relative course. During these talks teachers and apprentices used to make arrangements on the contents and bibliography, which would have been discussed at the exams. One apprentice however complains the lack of readiness to change course’s subjects: «some professors treated me as a “traditional” student, because I managed to attend most of the lessons» (apprentice n. 4). Moreover «not all professors provided support materials» for those apprentices who couldn’t attend the courses (apprentice n. 1).

All apprenticeships report that training on the job by the company has become very often ordinary job without any educational setting (at least intentional) nor real scaffolding by the tutor. This was confirmed even by three company tutors. The opinion of apprentice n. 2 sounds quite revealing: «employer was not ready to face something totally new for his own organization as apprenticeship».

Finally, the four company tutors interviewed reckon that the presence of apprentices within the organization was a «valuable asset» for the company (company tutor n. 4), which stimulated the team «to re-think their working style [...] towards a new approach more open to innovative solutions and research, in a lifelong perspective» (company tutor n. 1), whereas «social service workers too often stop studying educational problems due to work-overload or prevalence of job routine» (company tutor n. 3).

## 2.4 Discussion

The apprenticeship programme which is taking place at the University of Bergamo represents an excellent learning opportunity, even if quite challenging, as the high rate of resignations proves.

Although companies have sometimes misused apprenticeship as an “ordinary” job contract – in this sense working hours has to be reduced, while specific activities for training on the job should be increased in quantity and quality – apprentices managed to develop skills which cannot be cultivated in a “traditional” HE path not only in terms of professional training, but also of academic preparation. This is certainly the strength of this programme.

Nevertheless, it seems that this result depends more on apprentices’ effort to link work experience to scientific knowledge, than specific didactic or organizational arrangements. Important “boundary-crossing” figures are company and academic tutors, but their personal commitment in order to help apprentices connect theory and practice can only partially compensate the rigid and curriculum-based organization of University.

However, boundary-crossing “connections” made by apprentices, with or without tutor’s support, is so important for the learning ecosystem as a whole that it goes far beyond their vocational education and training. It has a significant impact also on employers, as came out from the interviews to company tutors: «exchange of ideas between apprentice and senior educators was good especially for the team. This brought a breath of fresh air in our strategies, in

the way we looked at work problems. Sometimes it happened that our apprentice came up with innovative solutions thanks to what he had learnt at University» (company tutor n. 4).

## 2.5 Conclusions

This research is still ongoing. The results presented in this paper are hence only partial. In addition, the enquiry considers just a small number of subjects, who have been involved in a particular experience. Nevertheless, it let us see some major problems that the use of dual apprenticeship in the Italian HE may cause.

The following actions should prevent those difficulties: i) raise awareness among employers and teachers on apprenticeship's specific educational aim; ii) improve teachers' and apprentices' collaboration, also creating formal occasions to interrelate academic studying and work practice; iii) empower tutors' role as cross-institutional figures, which can ask for study plan's customization, as well as training on the job implementation.

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