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Understanding Learner's Conceptions of Work-Based Learning Pathways to Design Effective Curricula

Marcone, Valerio Massimo

University of Roma Tre, valeriomassimo.marcone@uniroma3.it

Abstract

This paper describes a part of my Ph.D. research related to the point of view of the students involved in work-based learning paths. The dissemination of work-based learning methodologies has been and is at the heart of the most significant European recommendations relating to education and training. The European Commission documents particularly insist on need to improve the attractiveness of VET, in the forms of apprenticeship and traineeships, hence the need to oversee the issue of "Quality Assurance" of the forms of teaching and tutoring applied to VET. Therefore quality of WBL is a central aspect for improving the quality of education and vocational training. Within this scenario it is crucial to understand learner's perceptions of their work based learning experience such as: relationship with the teacher and with the company tutor, the ability of self-orientation, the acquisition of soft skills through work, etc. This in order to design more effective curricula that can facilitate difficult school-work transitions giving them an integral education that combine knowledge, technical skills and soft skills.

Keywords

curriculum development; learner's agency; teacher's training; school-work transitions; capability approach

1 Introduction

The quality of work based learning is a central aspect for improving the quality of education and vocational training. In fact the main VET objective consists of helping learners to improve their knowledge, skills and competences, as these are essential in the working life (European Commission, 2013). WBL, moreover, values the advantages of alternating between classroom learning and learning in the company and therefore implies a link between formal, informal and non-formal learning (Cedefop, 2015a).

The recent scenarios relating to the transformations of work, of the industry 4.0, have brought to the forefront of the international debate, the theme of economic growth and above all the need for contraction of youth unemployment which continues to advance inexorably.

The underlying theme, which concerns the pedagogical dimension of the analysis related to the question of the future of work, is above all related to medium and long-term processes, capable of generating development opportunities, which affect the plan economic but also and above all in terms of human development. From here it is fundamental for education policies

and work to start again, facilitating and continuously monitoring transitional processes in the initial phase from school to work, through tools that support these processes and above all through new professional skills that can facilitate some delicate steps for young people especially in a historic working time so "disruptive".

In Italy since the early 2000s, the adoption by the European Union of policies based on the concept of Lifelong learning (Alberici, 2002; Di Rienzo, 2014) and the appeal to the plurality of formal, non-formal and informal contexts for learning have begun to modify in depth the scope of the school- work alternance (SWA). The SWA is a teaching methodology that allows students who attend secondary schools (vocational schools, technical institutes, high schools) to play a part of the course with a company or institution, and, together, a tool to combine the theoretical study of the classroom (school preparation) with forms of practical learning carried out in a professional context (Miur, 2015). This methodology was profoundly changed in 2015 with Law 107 (the so-called "Good School Reform"). With this law some important innovations were introduced such as:

- compulsory training hours (400 hours in technical and professional institutes; 200 hours in high schools)
- first time for high schools
- evaluation in the state exam
- national register of companies

Now it is clear that the legislator's intention was to enhance the educational aspect with the increase in the number of training hours and with the opening to high schools. And it is clear that it is a further step towards a "dual logic" of training and work typical of the German-speaking countries. The traditional "sequential" model that consists in first learning the theoretical knowledge in the classroom and then "putting it into practice" in the workplace has been rooted in the Italian system for over a century (Marcone, 2018). It is clear that a process of cultural change has also started in our country for at least a decade, with the aim both of combating youth unemployment and the negative phenomenon of NEETs, which facilitate transitional processes from school to the world of work as required by the European Strategy and European Policies on VET (Cedefop, 2017).

Even in Italy, therefore, in recent years, attempts have been made to overcome the traditional teaching methods based on the school model, based on the offer, in favor of the proactive one. It is therefore up to the school to connect to the social demand, then collect it, structure it and organize it starting from the interaction that it must be able to guarantee to all those involved, in particular by strengthening the dialogue between schools and companies that is still very far away. In fact, another critical issue in Italy in addition to the growing number of NEETs is the so-called "skill miss match" with a high gap between skills offered by companies and those demanded by students coming out of tertiary education (Cedefop, 2015b). On this question a careful reflection must be made on the design of new curricula starting from secondary schools that can anticipate these so widespread problems, which can integrate multiple aspects not only didactic but also social. In this perspective, school-work alternation, promoting social and participatory learning, activates processes of awareness, change, skills, which involve (students, teachers), institutions (school and business) and territorial contexts.

2 Theoretical framework

One of the main objectives of my research was to try to understand some pedagogical aspects of WBL pathways.

The research project started from the awareness that the education experiences of the young people engaged in the WBL pathways should be observed and studied not only and not so

much in the measure not only from the perspective of employability, but in particular with respect to the characteristics of the cognitive processes activated, the relevance of changes in the relationship with knowledge, participation in the process of constructing meanings (Margiotta, 2014, 2015).

It is crucial to understanding the effects of work experience on the training plan with respect to the cognitive structures of the subjects, and therefore on a long-term plan and the transferability of the willingness to learn. Therefore, learning is seen as "experience", as "action" and as "becoming" in a perspective of a "formativity" of the subject who learns in a context of work-based learning.

In order to study work-based learning processes, I assumed some relevant theoretical frameworks which I believe can be useful for understanding some pedagogical aspects such as: Experiential Learning (Dewey, 1938); Situated learning and construct of the practice community (Lave & Wenger, 1991); Transformative learning (Mezirow, 1991); Capability approach (Nussbaum, 2012; Sen, 1983,1999).

At the center of these theoretical postulates there is undoubtedly the student, and his learning. So I asked myself some questions: how work-based learning pathway can be formative and generative for personal development of learner in his transition from school to work? How WBL can contribute to the growth of the student in terms of human development?. How teachers can facilitate student learning in this perspective as a tutor or mentor?

The Learner's agency (ability to act) is the fulcrum of an educational project centered on the professional dimension. It is not a question of developing professional behaviors, functional to the processes of adaptation of young people to work contexts in some way already given, but to set the conditions for development, through the enhancement of the ability of young people to act, of a profitable collaborative experience between business and educational institution.

The theoretical framework to be considered for development new learning curricula is the capability approach (Nussbaum, 2012; Sen, 1985,1999). In fact the capability approach can be considered a new approach to education and training through which each person is considered as a goal, placing them in the condition of being and doing so that, freely, they choose from a set of opportunities as best as it can express its freedom to act and to build its own and others development. The "mission" of a society that wants to promote the most important human abilities is to encourage the development of internal capacities, through education, resources to enhance physical and emotional health, support for care, an educational system efficient. The context in this perspective assumes importance in the formation of the combined capacities, since the internal capacities emerge only if the external conditions allow it (Ellerani, 2014). It is therefore necessary in the school to rethink and redesign capacitive learning contexts that place the student at the center and prepare it - not only from the standpoint of professional skills, but also from that of the mindset -, for the scenarios of the new paradigm of the fourth industrial revolution (Marcone, 2019a, 2019b)

The scenarios of Industry 4.0 will have to focus more and more on training levers that are centered on the person, on his "mindset" and on the ability to interact in professional groups by elaborating forms of sharing and coworking. The experiences of work based learning such as apprenticeships and school work alternations, traineeships are increasingly at the center of the attention of companies and the world of work (Alessandrini, 2017, 2019).

3 Methods

The empirical survey has required the construction of a pedagogical device "Taxonomy of Quality Indicators named TIQ-WBL related to the study of work-based learning processes derives from the aim of transferring some main issues linked to theoretical framework into a schematic way in order to create a hypothetical "road map" within the practice communities of trainers, training process experts in the field of work-based learning

Every theoretical construct that I explored has been fundamental to understand in depth some pedagogical aspects inherent WBL pathways

The taxonomy is subdivided into five areas or indicators and every indicator contains two dimensions. Below I report this device divided by area and related to the theoretical framework (Table 1).

Table 1 The Taxonomy of quality indicators in work based learning pathways (TIQ-WBL)

1. REFLEXIVITY	<i>Self-awareness Self orientation</i>	<ul style="list-style-type: none"> • Is the learner able to practice cognitive with regard to professional practice, including through the tutor's mediation? • Is the learner able to independently elaborate development objectives of his work-based learning path with particular attention to improving his her strengths ("professional mastery")?
2. PARTICIPATION	<i>Identity Responsability</i>	<ul style="list-style-type: none"> • The learner is able to elaborate in a personal way a conscious participation in the work activities related to his learning path, configuring his identity, in different relational contexts (school, company)? • Is the learner capable of developing "responsible" behaviors in the context of learning at work (an idea of mutual commitment, of shared values, of legitimizing one's own "membership" in the group)?
3. AGENCY	<i>Personal development Self-efficacy</i>	<ul style="list-style-type: none"> • Is the learner able to identify the goals of his professional development by negotiating with the tutor, medium-long-range training objectives? • Is the learner able to develop his potential autonomously in an effective way?
4. CAPABILITY	<i>Projectuality Functionings</i>	<ul style="list-style-type: none"> • Is the learner able to exercise his ability to act on a project level, pursuing his / her objectives as values through negotiation with the tutor and the group? • Can the learner develop observable skills of action in relation to the professional context that characterizes his process of learning at work?
5. GENERATIVITY		<ul style="list-style-type: none"> • Has the learner acquired the necessary learning to develop a consolidated and adaptable mental and professional habit for new work contexts?

In details, the case study presented in this paper focuses on experience of school work alternation within two Technical and vocational Institutes (in the province of Mantua in

Lombardia; in the province of Avezzano in Abruzzo). The sample is relative to the students of the fourth and fifth classes of two different courses:: graphicals and geotechnicals.

The tools adopted for the empirical research basically consists of focus groups , interviews semi-structured and self-assessment questionnaires, which have been built on the basis of the pedagogical reference research tool (TIQ_WBL).

The focus groups were eight and the participants were 120 students and 10 teachers. I developed 18 questions divided by each indicator and size of the taxonomy (Table 2).

Table 2 Focus group questions

<p>First indicator: REFLEXIVITY</p> <p>a) Self-awareness</p> <ol style="list-style-type: none"> 1. What do you think are the strengths and weaknesses of your WBL experience? 2. Do you think that it is clearer what the work actually means. Give me some practical examples (work schedules, work context, relationship with other colleagues). <p>b) Self-orientation</p> <ol style="list-style-type: none"> 3. Do you think that the SWA has improved your ability to connect what you learn at school with what is needed for the world of work? 4. Do you believe that this experience can facilitate you to choose a possible job? If yes, how? <p>Second indicator: PARTECIPATION</p> <p>a) Identity</p> <ol style="list-style-type: none"> 5. Has the SWA made you understand what it means to work together and feel part of a group? How? What are the things that help you feel part of a group when you work? 6. In your opinion, how important was the company tutor for your workplace training? 7. What moments or experiences have helped you socialize with your colleagues? Can you tell someone about it in particular? <p>b) Responsibility</p> <ol style="list-style-type: none"> 8. Do you think that this experience can give you more responsibility in carrying out a task or engaging? <p>Third indicator: AGENCY</p> <p>a) Personal development</p> <ol style="list-style-type: none"> 9. Do you think that the SWA can be an opportunity for your personal growth to better understand the meaning of work? How? 10. After this experience , did you realize that you need knowledge that you did not have at school? Which? How do you plan to fill this gap? <p>b) Self-efficacy</p> <ol style="list-style-type: none"> 11. During the SWA did you perform tasks following the instructions of the tutor company? Or have you proposed your initiatives? If yes you can give me an example. 12. How did the tutor help you understand the work you had to do? Were there moments or ways of confrontation with your company tutor that were important for you to understand the work context? <p>Fourth indicator: CAPABILITY</p> <p>a) Projectuality</p> <ol style="list-style-type: none"> 13. Speaking at home about your experience of SWA, did your parents give you advice? 14. Have your past experiences (informal context) been useful in giving you guidelines for doing the assigned task better? <p>b) Functionings</p> <ol style="list-style-type: none"> 15. When did you see during your work experience that you lacked the knowledge or skills what you did to fill them? 16. What differences have you found between learning in school and how to learn at work? Do you give me concrete examples? <p>Fifth indicator: GENERATIVITY</p> <ol style="list-style-type: none"> 17. Do you feel through this SWA experience that you were able to integrate your theoretical knowledge learned in the classroom with the technical skills in the workplace? How? 18. Has the experience of the alternative only helped you to understand technical things or even to acquire other values connected to the world of work? Which?

4 Results

The main goal of my research was to carry out an overall verification of the correspondence and / or contradiction between the emerging information between the two research phases for the following reasons:

- a summary of the validity of the results obtained with the focus group;
- the possibility to identify - through the comparative examination of the elements coming from the two phases of the survey - the "conceptions" present in the students about their experience.

This research phase was able to confirm the criteria used for the elaboration of Taxonomy ("TIQ-WBL"). The learners' conceptions emerged as a synthesis of the two phases indicated above. They are summarized in Table 3.

Table 3 Description of learners' conceptions

Learners' Conceptions	Description
1. Perception of the separation of the "two worlds" (school-work)	The different positioning of the two worlds has not overlooked by the student, both in terms of communication strategies and in terms of expected and accepted behaviors.
2. Difficulties in transferring learning in most of the cases of the students	The student cannot perceive clearly the logical and methodological links between what learned in the classroom and what at the workplace.
3. Acquisition of responsibility for behaviors at work	The student feels invested with completely different expectations and responsibilities in working contexts in the sense that in working contexts he/she becomes deep awareness in perceiving responsibility.
4. Self-orientation	The student acquires a greater awareness of his/her "professional vocation" by understanding the more or less congenial activities for his/her future.
5. Collaborative relationality	The student at the workplace understands the added value of the "help relationship" with the colleagues or the experienced adult more than he can do in the classroom.
6. Increase of reflective capacity	The student perceives his / her ability to exercise a reflexive action while acting (knowledge in action) and then learns by doing.
7. Alternating negotiation management in the relationship with the tutor	The student understands the role of the tutor as a mediator in the work environment perceived as "hostile" and "cold".
8. Perceptions of the positive value of the practice for the acquisition of skills	The student understands that putting knowledge into practice (using laboratory tools and tools) involves reinforcing his/her skills.
9. Orientation integration of work with life experiences (family, groups of equal, free time)	The student understands that the reference communities (family, peer group, etc.) are in continuity and that the permeability of boundaries can be a value added for his/her growth.

From this partial analysis it emerges in a strong way, how the students themselves are trying to understand the experience they are living and through experience in the work context they are able to improve themselves. Also emerges that the teachers' action as tutor can be decisive for many aspects such as, for example: facilitating the connection between the knowledge learned in the classroom and the technical and practical skills in workplace; carrying out an activity in the workplace and also improving their approach in the classroom once they return, as emerges from a response drawn from a focus group by "Ludovica" who says: «surely I believe that this experience of work-based learning can make us understand things we do not understand at school: being more responsible is one of them! ». The value of this experience can help improve their perception of theoretical learning in the classroom, through greater mutual commitment within a community of practice (Wenger, 1998), different from the school community for example, through a collaborative relationship with more experienced people, through participation in a new context of practical learning, laboratory, which develops a "manual thinking" (Bertagna, 2017).

5 Conclusions

In a future perspective, it is necessary to consolidate and integrate the WBL methodologies as require the evolving scenarios and the European VET strategies. Curricula must be redesigned starting from a general education to learn a method of analysis, integrating it with practical education. Only in this way an integral education is possible in future perspective for young people. In my opinion, the education through work can be one of the fundamental pillars for a qualitatively based approach to personal development.

The key issue is the perspective of the idea of employability not leveled on the present and substantially not of an adaptive type but anchored to the development of the expansive capacities of the learner towards acting and thinking in the context of professions and work scenarios that can enhance the "generativity" and creativity of human agency.

It is crucial in this perspective to train a new class of teachers who can also play the role of tutors in order to contribute to stimulate students who are able to become first "good citizens" and then "good workers".

Experimentation of new WBL methods can become the opportunity for the development of "laboratory teaching" that is able to structure training situations that go beyond the relationship between theory and practice, expanding towards the social, towards sustainability and contributing to the following actions:

- to free the student's internal capacities towards greater autonomy and responsibility;
- to facilitate teacher's action in empowering the student's learning;
- to create new forms of cooperative learning in the classroom;
- to train students who know how to "read life contexts" and pursue goals as autonomous and responsible people;
- to create social, intercultural, multiple interdependencies, mutual recognition between student and teacher.

This approach makes it possible to go beyond technicality and a performance-centered vision, and is focused on aspects that are essential for an integral education of the learner.

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Biographical notes

Valerio Massimo Marcone Ph.D in Philosophy and Education Sciences is a research fellow at the Department of Education Sciences of University of Roma Tre. His research interests is focus on work-based learning, work related-learning, school-to-work transitions , and teacher training.