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Sustainability competences in lifelong guidance.

The key role of Pathways for transversal skills and orientation program to shape future scenarios

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Riassunto: L'orientamento permanente è la chiave per affrontare le transizioni lavorative date dalle sfide odierne. Per questo motivo il Dipartimento di Filosofia e Beni Culturali (DFBC) dell'Università Ca' Foscari Venezia ha offerto un percorso per le competenze trasversali e l'orientamento (PCTO) per l'anno scolastico 21-22. Tale percorso è stato elaborato tenendo conto di quali saranno i lavori del futuro e di quali competenze gli studenti debbano sviluppare per poter orientarsi lungo le traiettorie della sostenibilità. Mancando ancora una definizione comune tra cosa s'intenda per competenze di sostenibilità e competenze verdi, è necessario che vengano creati percorsi che permettano lo sviluppo sia di competenze trasversali che siano orientate allo sviluppo integrale umano, come le competenze di sostenibilità, sia di competenze ambientali e tecniche, come le competenze verdi.

Parole–chiave: competenze di sostenibilità, competenze green, lavori del futuro, orientamento permanente

Abstract: Lifelong guidance is the key to facing labor transitions due to current challenges. For this reason, the Department of Philosophy and Cultural Heritage (DFBC) of Ca' Foscari University of Venice offered Pathways for transversal skills and orientation program (PCTO). This program was developed considering which are future jobs and which skills students need for sustainable development. Considering that a common definition of sustainability competences and green skills is lacking, it is necessary to design programs to develop the transversal skills useful to

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achieve integral human development, as sustainability competences, and environmental technical skills, as green skills.

Key–words: sustainability competences, green skills, future job, lifelong guidance

1. Introduction

Governments should support job transitions and address the skills shortage due to current and rapid labor changes (ISTAT, 2022; Inapp, 2021; European Commission, 2020). Furthermore, considering the target 8.5 of the 2030 Agenda, Italy remains one of the worst advanced economies in terms of youth unemployment (Asvis, 2022). Therefore, according to European Recommendation we should make sure that people get the skills, training, and education needed for new occupations and redistribution of jobs in green and social sectors (ILO, 2022; Council of The European Union, 2022, Cedefop, 2021; ILO, 2019; WEF, 2020). Considering the 2030 Agenda, the EU invites to take concrete action to upskill and reskill people in Europe, yet a common definition of sustainable jobs is lacking. On the one hand, green jobs refer to jobs that facilitate the introduction of mitigation measures, such as manufacturing sectors producing renewable energies (Cedefop 2022b). Additionally, green jobs refer also to jobs that need to reduce their process impact, such as carbon footprint (Vona, 2018). On the other hand, in sustainable jobs, we might include every kind of job referred to the social dimension of sustainability, like social and creative jobs and those using technology to achieve sustainable development. In addition, sustainable jobs should be related to decent work (goal number 8 of the 2030 Agenda). Thus, we have to consider a wide range of occupations, not just those concentrated in the sectors particularly sensitive to green policies.

These kinds of changes clearly imply changes in vocational education systems (Cedefop, 2022b). According to the Copenhagen Declaration, lifelong learning involves Vocational Education and Training (VET) which includes lifelong guidance. Today, guidance from the European framework refers to a range of activities enabling citizens of any age and at any point in their lives to identify their competences and interests, make edu-

cational and occupational decisions, and manage individual life paths. The guidance assumed a strategic function to guarantee equal opportunities for human development and to promote self-reflection, the key to prepare students for self-determined learning, in line with heutagogical learning typical of adulthood (Blashke, 2012).

In Italy, there is a broader strategy for guidance in secondary education with the aim to nurture key competences for future jobs: the PCTO program (MIUR, 2019b). Applying the PCTO guidelines is mandatory in upper secondary education including Initial VET (Cedefop, 2022c). The Italian guidance system has strong regional components, differently from other European Countries (Cedefop 2022c). Furthermore, Italian IVET is generally disciplinary and knowledge-based rather than focusing on interdisciplinarity and competence acquisition. Yet in the last years, a stronger emphasis on transversal skills in VET programs and qualifications has been reported by many European countries, as Italy, Denmark, Norway, and Germany (Cedefop, 2022a). For these reasons, the PCTO can be a fundamental change in the Italian guidance system even though it remains fragmented and not sufficiently individualized when compared to other European countries, as Finland and Spain (Cedefop, 2022a).

2. The DFBC's PCTO as a new model for the development of sustainability competences

The PCTO, given by Ca' Foscari University of Venice's DFBC, it involved 38 students aged 16 to 18 from five high schools and it focused on the promotion of a new ecological paradigm based on the integral wellbeing of humans (Nussbaum, 1998).

This PCTO model was built using the Learning Compass theoretical framework (OECD, 2019). The Learning Compass is "a framework [which] helps countries structure their thinking about what is important for tomorrow's world in terms of the knowledge, skills, attitudes, and values" (OECD, 2019). According to the Anticipation-Action-Reflection (AAR) cycle, we designed an iterative learning process in which learners continuously improve their thinking and act intentionally and responsibly, moving towards long-term goals that contribute to collective wellbeing. This process has characteristics in common with Episodes of Situated

Learning ("Episodi di Apprendimento Situato" EAS in Italian; Rivoltella, 2013). EAS, like flipped didactics, can give students the opportunity to connect knowledge before entering the classroom through activities designed to increase their interest and curiosity. EAS didactics has a three-way structure each of which includes actions by the teacher and students (Rivoltella, 2013). The first, anticipatory, phase focuses on the student's problem-solving skills and allows for discovery. During this phase, the teacher organizes the work that the students will conduct at home, giving it an "anticipatory" function in terms of the class's contents. During the class, the teacher will present a conceptual framework to organize the acquired information and then give the students a stimulus to go along with an assignment. The second phase is an operational one in which the teacher instructs a group of students (or an individual) to complete an activity that will result in the sharing of a product created by the person/group. The third phase is dedicated to restructuring, in which teachings are updated, corrected, and reformed. Each EAS lesson concludes with the teacher reviewing the main topics presented, emphasizing the most important points to remember, and any misconceptions. Furthermore, teachers in EAS didactics aid students in reflecting on lessons learned and reconstructing their frames of reference, which is essential for "transformative learning" (Mezirow, 1996; Cranton, 1996).

Following the stages of EAS, the DFBC PCTO model is divided into six lessons, each with three sections. Based on the Flipped Classroom model, the first stage consists of self-guided exercises. Following that, the first stage included an online brainstorming session, the second consisted in lab exercises and the third was communal and individual replication of the experience through metacognitive reflection. Furthermore, in the learning process teachers and students are co-agents and cocreators. People learn and act in social contexts with the same educational aims, such as the understanding that autonomy does not imply working in social isolation or behaving only in one's own self-interest. Students are surrounded by peers, teachers, family, and community members who engage with them and guide them toward wellbeing (Salmela-Aro 2009; OECD 2019).

In these circumstances when the phases anticipation, action, and reflection are linked into a cycle, it can promote both agency and co-agency development, which is required for students to learn to navigate unexpected circumstances autonomously and in a meaningful and responsible

way (OECD, 2019). Agency is defined in this study as a person's freedom to act in pursuit of purposes other than self-interest (Sen, 1985). In other words, it is an evaluation of "what a person can do in line with his or her conception of the good" (Sen, 1985, p. 206). According to Sen, agency is also related to what people value in autonomy (Alkire, 2005). People become agents when they fulfil the prerequisites for the intentionality of their decisions and actions, the pursuit of their goals and values, and performative actions that change or contribute to changing the world (Sen, 1999). Hence, the agency is intrinsically important in the sense that it transforms a person into a morally responsible being capable of living a meaningful life. Furthermore, according to capability approach, education plays a critical function with instrumental, intrinsic, and social value (Sen 1999; Nussbaum,1998). It is not simply a tool for a better economy, as it is viewed from the perspective of human capital, but it has value because it allows individuals to realize themselves in both dimensions: it enables people to be responsible citizens and to participate in social choices.

3. Sustainability competences for shaping the future

Considering the current lacking definition of sustainable jobs, it is difficult to identify the skills needed. In the international policies, the framework that currently has the more complex perspective of competences is the OECD learning compass, where competences are both cognitive and not cognitive. In addition, they are defined as not merely performative yet transformative, addressing personal and collective wellbeing and development. For this reason, in the OECD learning compass agency and co-agency are both fundamental. The transformative role of competences is in accordance with the capability approach (Sen, 1999, 1985; Nussbaum, 1998). Therefore, in this approach competency-based education and training involve empowering people to realise their functionings, providing them with the necessary capabilities to respond to their different life situations. According to this perspective, competences are more than the ability to combine knowledge, skills, attitudes, and values, they are required to achieve integral and ecological wellbeing and development. Therefore, creating training and educational settings means creating capacitating environments, where teachers and educators could implement

lifewide learning and lifedeep learning (Margiotta, 2015). According to this view, work is a capacitative ecosystem (Costa, 2019), thus it is important to know themselves and to reach their potential development, their talent (Margiotta, 2015). In this view, talent development is an individual and a collective responsibility because enhancing and managing talent is necessary not only for individual wellbeing but also for social innovation and, therefore, for the transition to a better future, as a sustainable future.

The development of these competences is an essential contribution to achieve the SDGs. Indeed, Education for Sustainable Development, (ESD) aims to shape citizens, developing key competences to act in complex situations and to face current challenges. ESD should be understood as an integral part of quality education, lifelong learning and guidance. Since the late 1990s, scholars have tried to identify the taxonomy of sustainable competences but a common definition lacking. For instance, according to De Haan sustainability competences consist of key competences for shaping or transforming the future (De Haan, 2010). According to Wiek *et al.*, there are six sustainability competences:

— Systems thinking competence
— Futures thinking (or anticipatory) competence
— Values thinking (or normative) competence
— Strategic thinking (or action-oriented) competence
— Collaboration (or interpersonal) competence
— Integrated problem-solving competence

Recently, two more key competences are added to this list: intrapersonal skills and interdisciplinarity (Giangrande, 2019). Although in this list neither specific technical skills nor environmental values or literacy are shown, other authors include them in sustainability competences. For instance, Glasser suggests the need to include ecological literacy, such as planet knowledge (Glasser, 2016).

In scientific literature and international documents, sustainability competences are sometimes called green skills. In GreenComp European framework, integrated with other European frameworks like DigComp, EntreComp, and LifeComp, we found competences as promoting nature, system and critical thinking, problem framing, futures literacy, adaptability, and collective and individual action. In this framework, green skills

seem interchangeable with previously listed skills, called sustainability competences. Therefore, it isn't clear if sustainability and green competences are the same or if we should distinguish them. For instance, according to Pavlova, in green skills we should include STEM skills, environmental awareness, and transversal skills (Pavlova, 2012). On the contrary, Vona *et al.* define green skills as technical specific, like Engineering and Technology, Science, Operation Management, and Monitoring (Vona *et al.*, 2018).

According to the interdisciplinarity and complexity of sustainability, sustainable competences could be defined as the key competences that promote all dimensions of sustainable development, therefore, competences useful to achieve integral human development and to transform current scenarios (Giangrande, 2019; UNESCO, 2018). Instead, green skills could be defined as technical scientific skills related to green jobs development (Vona, 2018). It is important to show this distinction to maintain the complexity of sustainable development, which is necessarily linked to a green transition but shouldn't be limited exclusively to this dimension.

4. Conclusion

The 2030 Agenda promotes a complex construct of sustainable development, encouraging a systemic and transdisciplinary view, in line with the ecological approach (Mortari, 2020; Giovannini, 2018). According to this perspective, there is an urgent need to promote education in transformative terms to shape a new ecological humanism (Margiotta 2015, Bateson 1984). Education and training can play a key role in developing this new paradigm needed to achieve the SDGs. Hence, the aim of education and guidance is to facilitate reflection on habitus (Morin, 2002) and problematisation (Dewey, 2004), promoting reflective, critical, and systemic thinking (Bateson, 1984). In this line, the key value of PCTO offered by DFBC is the integration of curricular with transversal skills, specifically sustainability knowledge and sustainability competences, being both central aspects to create alternative future scenarios and transformative changes. In conclusion, sustainability competences should be integrated into lifelong guidance systems, promoting personal orientation and collective choices.

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