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Work-Based Learning in the Knowledge Society

Political-Ethical Socialisation and Global Citizenship Education at School

Luisa Aiello

ABSTRACT: *This contribution interprets the different orientations concerning the educational potential of Work-Based Learning in the upper secondary school as an expression of different 'theories' of the social complexity and meets some of the research goals included in the Project 'Modelli innovativi di alternanza scuola lavoro' – carried out by the National Institute for Documentation, Innovation and Educational Research (INDIRE) within the 2014-2020 National Operational Programme 'Per la scuola competenze e ambienti per l'apprendimento' – through a field research carried out by using mainly questionnaires and focus groups for the analysis of case-studies (i.e. school-work alternation programs created by the Italian upper secondary schools of any areas, from 2016/17 to 2018/19, to pursue the education for competences of global citizenship and sustainable development).*

KEYWORDS: *Global citizenship education, Upper secondary school, Work-based learning, Reflectivity, Social complexity*

1. Teaching how to 'live in the world' today

Drawing on Kant and Wittgenstein, the intersection between language *context* and *faculty* is restructured by Virno as a chiasmus. In this new form, world and language are defined as a crossroads, where each dimension is *the beyond, the*

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measure, the unconditional condition of the other (Virno, 2015: 70 ff., my translation, original in Italian):

> […] men having a 'world' (with which permeation is always flawed, conflict is inconclusive, and orientation is partial and uncertain), rather than an 'environment' (in which we are inevitably integrated like in an amniotic fluid), is due to the *limits of language, i.e. limitations and boundaries,* and not to its representational power (ivi: 69, my translation, original in Italian).

> The world is *both* the totality of the sensitive context *and* the suprasensitive scope in which we are uniquely introduced by the 'impossibility of reaching' that totality. The idea of the world is amphibious: by splitting, it always assures the transfer from this side to the other side, from the finite to the unconditional (ivi: 23, my translation, original in Italian).

In the light of this, a new interpretation can be given of social and cultural differentiation processes involving sub-systems with their own specialized 'languages' and 'worlds' – that gave rise to early modern educational and economical subsystems. Said interpretation is given in terms of a 'loss of world'. The loss of consistency results in both a 'shortfall' and, at the same time, an 'overabundance' of world, which is also a consequence of the social expansion of reflectivity processes resulting from the objectivation of knowledge amplified by communication media.

The empowerment of economy takes place in a time span ranging from 1671 to 1871 (Latouche, 2005: 10-11) and is connected with the development of capitalism in Europe, in a period when national markets control the economic life and economy succeeds in emancipating from the moral.

Leading economy and the phenomena discussed by Arendt, pertaining to the degradation of the ancient public sphere and to the growing self-reference of technical development (Arendt, 1958: 189), are conceptualized by Lévy (1994) as the human civilization passing through «anthropological spaces». At the dawn of the Greek miracle, with the invention of currency and alphabet, signs circulated faster and across one another, disclosing the «Commodity Space». This space was enhanced by the invention of printing and the discovery of new Renaissance worlds, the growth of trades, the advance of capitalism, and the Industrial Revolution in the XVII century. In XIX century, despite the use of national territories, the «Commodity Space» became predominant, subjugating previous spaces (the

«Earth nomad Space», bound to orality, and the «Territorial Space», bound to settlements and writing) and depriving social relationships of any territory.

This same context that gave birth to economy, constituted the setting for the differentiating process of an educational system hinged on the school, taking place in the XVIII century.

Luhmann and Schorr (1979: 31 ff.) describe how, in the mid-18th century, partial social systems with special functions became differentiated (e.g., systems of politics, economy, religion, and science); education also became a relevant aspect with a specific and universal function (ivi: 35-39).

In the second half of the 18th century, the educational subsystem achieved some autonomy by drifting apart from the religious system. This was attained by making teaching an autonomous profession, thus creating a partnership with the State political system. Moreover, the choice of educational topics in light of the fast development of economy and science, also contributed to said autonomy. This emancipation is an aware and structured process of teaching and learning, where teachers are employed in a rational way, for a multitude of pupils all at the same time (ivi: 61).

The autonomy of the educational functional system also included other components, such as curricula (which refer to the external world existing out of the subsystem but contribute to its internal destiny, through subjects and topics) and the autonomy of science-based research and pedagogy (ivi: 104ff).

As mentioned above, the processes described by Luhmann and Schorr lie on an unstated element, i.e., the differentiation of the media subsystem. The «school's drift away from practice», the higher degree of «abstraction» with which curricula, subjects, and disciplines enable to look at the external reality and at other subsystems' objects, the creation of the social and conceptual category of childhood and youth by separating the active and the training phases of life, the very nature of school as a cultural transfer distinguished from local community – along with all the objectivization and secularization of social symbolic reproduction; all of this would not have been possible without the social spreading of printing as a medium for the alphabetical writing, and without trades and private cultural companies.

The acknowledgement of the importance of media as a variable to define the modern educational subsystem implies an investigation of the modified scene disclosed by new media and late modern global challenges.

Didactic mediation in a pre-arranged space and dedicated time, relying on pedagogical science and symbolic mediators, and seemingly neutral, was the training required to live and work in the industrial-capitalist world. It related to the development of cognitive traits (know how to 'represent' and 'employ' the world), and behavioural and attitudinal ones (e.g., obedience, subjection to the gradation of learning, implying the reliance on centralized flow and content of information, respect for the inaccessibility of what was going on behind the scenes of social roles).

On the contrary, the Knowledge Society requires the citizen to know how to cope with a knowledge that is spread and generated in a polycentric way, also due to the connecting and hybridizing power of digital media.

At the same time, the Knowledge Economy requires to interpret the connections existing between systems and take actions through a holistic, creative, and transformative approach (Negrelli, 2013; Cerroni, 2016; World Economic Forum, 24-25 September 2018, New York).

Reflectivity required in different areas of social life is continuously expanding.

Therefore, it is up to education systems to train subjects that can cope with the uncertainty resulting from the weakening of routine (Cresson and Flynn, 1996; UNESCO, 2005).

One of the requests made today to educational and training systems is to train high soft skills by collaborating with other agencies, such as those belonging to the work environment.

However, said collaboration should not be meant as a passive adjustment to an external need. It does not entail a reconnection with market, technology, economy (Bertagna, 2006) by leaving them free to act as the sole value that can monopolize passions. In fact, the educational area has developed as a specialized subsystem, through a «contingency formula» (Luhmann and Schorr, 1979: 66 ff.), excluding any reliance of its services on other subsystems nor an immediate reference to them.

Thus, the research question consists in the definition of the type of desirable relationship existing between school and work, in order to educate students on complexity, with reference to possible educational goals and to school-work alternation methods provided by upper secondary education (in compliance with Law 145/2018). If work-oriented pedagogy in the curriculum acts as a resource, not only with the mere aim of promoting activities for systemic and social inte-

gration, but also with the aim of increasing young people's «agency» (see Longato, 2017), then investigations are needed on suggested reflectivity models.

2. Reconsidering «broad knowledge»: The role of school-work alternation

The white paper *Teaching and Learning – Towards the Learning Society* (Cresson and Flynn, 1996) describes the consequence of the challenge brought into the world of occupation and education systems by the complex changes affecting the European society and the whole world, with the global spreading of exchanges, the birth of an information society, and the development of scientific and technical revolution.

One of the possible solutions suggested is the «reconsideration of broad knowledge»:

> In the future, individuals will be called upon to understand complex situations which will change in unforeseeable ways […]. In addition, they will have to contend with a mass of fragmentary and incomplete information open to varying interpretations and partial analysis. There is therefore a risk of a rift in society between those that can interpret; those who can only use; and those who are pushed out of mainstream society and rely upon social support […] It is possible to understand the world if the way it interacts and functions can be grasped and a sense of personal direction found. This is the main function of school. […] By the same token, the development of a broad knowledge base, namely the ability to grasp the meaning of things, to comprehend and to make judgements, is the first factor in adapting to economic and labour market change. […] There are many examples to show that the vocational retraining of employees who are under skilled or highly specialized on account of the Taylorist approach to work depends upon the acquisition of this base as the foundation for new technical skills. […] More generally speaking, the forceful return of a broad knowledge base as the key to understanding the world outside the context of education can be seen (ivi: 9-10).

Starting from 2008, the evolution of the public discussion over international orientations towards the development of citizenship, key, and soft skills in education (North-South Center of the Council of Europe, 1997; European Congress on Intercultural Education, 2002), has pushed many European countries to adopt national strategies aiming at educating people on global citizenship.

In Italy, the cultural movement supporting global citizenship competences, understood as the integrating background of curriculum and disciplines, has been recently established in a multiannual action plan (Surian *et al.*, 2018), promoting practices to educate on global citizenship in any educational environment.

Global citizenship competences enhance the emancipation strength of school education (https://en.unesco.org/themes/gced) promoting holistic approach, systemic competence, and a commitment to change, which can all favour a proper management of complexity. They promote the sense of belonging in a wide community and in a shared humanity; the understanding of the interdependence of political, economic, environmental, social, and cultural dimensions; and the understanding of the interconnection of a local, national, and global plan. They refer to frameworks of learning methods that can respond to the challenges of current socialization processes, including the incessant interaction between theoretical knowledge and direct experience of reality, in which work pedagogy plays a critical role.

Work-Based Learning, with the chance of experiencing work organizational realities, is an effective strategy for the person (as an individual, not as a mere working person) to acquire a wide range of soft skills, transversal competences, and attitudes that could hardly be acquired otherwise (European Training Foundation, 2013).

Moreover, the «transfer» between the different «activity systems» (Engeström, 1987) of school and work offers several chances to train creative competences, by encouraging subjects collaborating in a collective practice to question said practice through the construction and combination of heterogeneous networks expertise nodes (*ibidem*; Guile and Young, 2013).

The training opportunity offered by mandatory school-work alternation, provided in Italy by Law 107/2015 and amended in terms of «Percorsi per le competenze trasversali e per l'orientamento» (Paths for transversal competences and orientation, Law 145 of 30.12.18, OJ 31.12.18), is characterized by specific features that make it different than previous forms of training internship and work-based learning applied to different contexts. These include: the mandatory involvement of all school curricula, the distance taken from the work environment to reflect on knowledge that is not related to training but plays a functional and orientational role for students; the recommendation to design plans based on competences; attitudinal and metacognitive, interpretative, stra-

tegic, creative, and decision-making aspects related to higher/complex cognitive and affective operations and transversal competences. Said peculiar features call for a cultural change that promotes Work-Based Learning as an agent participating in the acquisition of higher competences for the individuals as persons, besides their working identity.

3. Theoretical frame and methodology

This work interprets the school-work alternation meanings employed in the educational system, in the official debate, and in the public opinion as a function of two concepts, with relevant approaches: the concept of 'complexity' and that of 'reflectivity'. The hypothesis here is that orientations often collide in Italian social, family, and professional environments, with reference to the implementation of alternation as mandatory and the educational potential of Work-Based Learning (specifically, in the case of work-school alternation), should be considered as the result of different (and contrastive) theories resulting from social complexity and, hence, from different ideas on reflectivity.

Introini (2017) advanced some criticism in regard to the Complexity Turn (Urry, 2005), as it uses «new natural sciences» (Barabasi's network science, Prigogine's physics-chemistry, Bertalanffy's and Maturana and Varela's contributions in biology) as the reference paradigm to be implemented in sociology, with a new-systemic perspective. He also questions the post-modern approach, in which science only describe differences without transferring them into a general framework. The author suggests then a third possibility, highlighting the contributions provided by Edgar Morin (offering a philosophical analysis of the modern organization of knowledge and of its dualisms) and Bruno Latour (who does not embrace the solution of a new science but proposes a different way to look at the scientific endeavour as the result of the hybridization of natural and social elements).

Both in neosystemic and hermeneutic perspectives, complexity implies the normalization and generalization of reflectivity (regardless of it being conscious or not) as an essential principle.

The other major theoretical reference of this contribution is thus the work by Donati (2011), who describes reflectivity as a sociological topic arising at the end of the 20th Century (in a society characterized by risk, uncertainty,

fluidity) and discusses its fluctuation between two poles: the modern enhancement of individual reflectivity as a warranty of progress and the crisis of governability resulting into the transfer of reflectivity to the social system. Donati's suggestion, by criticizing the Giddens, Lash and Beck's theory of reflective modernization, proposes a new form of relationship-centred reflectivity, which does not aim at the negation of subjectivity but at its contextualization in the relational texture (ivi).

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The activity of the Project 'Modelli innovativi di alternanza scuola lavoro' develops two parallel paths of action, including the analysis and design of innovative school-work models for *a*) alternation and *b*) first level apprenticeship. Competences, soft skills and their connections with the evolving economic, productive, and cultural environment are investigated in the project on the alternation, with the aim of defining innovative models of school-work interaction, with reference to the didactic and organizational dimension.

Contextual elements described in paragraph 2 provided ground for two sections of the analysis in the project, involving 8 programs of school-work alternation of high schools, technical, and vocational institutes of years 2016/17, 2017/18 and 2018/19, with 153 students and 30 members of economic and educational institutions.

Replicability was a major criterion for the selection of cases, with reference to disadvantaged territories and the diverse configuration of work in Italy. Much attention was paid to the presence of technological partners and innovative teaching strategies, to enrich experiences and orientate to the new economy. Paths related to different organizational working contexts were included, along with innovation ecosystems in which school is embedded.

Data were collected by employing online questionnaires (administered to a sample of students, teachers, school principals, and representatives of institutions involved) and focus groups (only for students).

This work discusses the results of the analysis conducted within the investigation of global citizenship and sustainable development, involving students as a target. A sample of students from 4 schools in the regions of Veneto, Piemonte, Lombardia, and Campania completed a questionnaire (63 students from different classes participating in the school-work alternation projects analysed) and was then involved in focus groups (32 students). The results of univariate analysis and qualitative analysis performed with the software N-Vivo 11 are reported.

4. Becoming global citizens: Students' feedback on experiential learning in school-work alternation programs

The cases analysed show recurring didactic strategies, already known in the art but also new approaches and digital-based activities, e.g., digital storytelling (in collaboration with professionals of digital communication and student communities, in a smart-working mode, to promote intercultural relationship or sustainability), digital production (to create a new type of pasta), ethical cashmob (students work as influencers to support environmental-friendly products), and living lab (to design the regeneration of the urban territory or develop 4.0 solutions to raise users' awareness of responsible energy consumption).

Most of the students reported that the alternation experience had a 'significant' or 'quite significant' effect on the perception of the potential of digital technology for different applications in the public sphere.

Learners could participate in practical activities to employ digital media and IT, to raise awareness on the respect of the environment, gather data through the Internet of Things, promote sustainable products, perform digital storytelling (blogs, apps) or digital production, establish their identities as innovators by producing an immediate effect on their communities.

Most of the students (56%) report of the existence of a relationship between the experience and their behaviours as global citizens.

The vividness of learning resulting from experiential teaching and the awakening of critical thinking is made manifest in the development of awareness of the influence exercised on the aspects where students can project themselves, and in the desire they have to reproduce what they have learnt: «The Internet

of Things triggered my curiosity. At the end of the project I started to program smart objects to domotize my house and reduce waste».

In order to investigate the critical and transforming dimension that characterizes the competences of global citizenship, to develop the attitude to read the relationship existing between systems and to perceive the effects of individuals' and communities' actions on a global scale, it is important to point out that most of the students, through the alternation activities experienced, were pushed to make new inquiries, about their community (55%), the global context (55%), and their school (51%).

It is worth to highlight that these questions mostly originated during the personal experience (57%) or the experience shared with others (44%), compared with those resulting from input provided by teachers (27%), related to elements experienced in the working activity that characterize organizational working contexts.

62% of students claims that the alternation process is a major opportunity to explore new viewpoints and values, by sharing opinions and experiences with others and 22% partially share this opinion. The same percentage of students is aware of the fact that they had the chance to explore the future, intended as what is desirable and sustainable, thus getting in touch with desires and hopes.

Moreover, students (92%) could enhance their creative and critical skills and attitudes: 52% of respondents performed co-creation and co-designing activities, and other subjects have explored, imagined, discovered new uses, behaviours and opportunities (46%), and evaluated concepts, products, services, and prototypes (43%).

These activities required the involvement of other people in the school, mostly external ones, coming from the same city (59%), the same Country (according to half of the respondents) or foreign Countries (6%).

From a pedagogical perspective, the specificity of school-work alternation as a training method consists in the hybridization established between school and work environments, a sort of 'border area' that favours the negotiation of meanings, cultures, and values of the two contexts. The hybridization of activity systems gives rise to specific learning settings that enhance some aspects of the learning experience (problematic nature, reality, complexity, continuity, reflectivity. See Reggio, 2010), as reported by students in focus groups.

The recurring elements of «reality» (contact/exchange with professionalism, tools, expertise, situations of the organizational working environments) and «problematic nature» (what is not routine) are encountered in many of the students' reports, and are the most appreciated aspects of the experience: «the creation of the prototype, the possibility of seeing it originate and develop, understanding how to connect it to the platform; it was difficult at the beginning and then, with the school and the CSI support, I could put things together». Another student says: «during the test on the field at the chalet, we were the protagonists of what we were doing. We went from usage cases to the actual usage, then we were left free. Even at the refuge, we were the ones who had to decide what to do, what was more useful for the project».

With the repeated occurrence, although with some changes, of problematic situations, the alternation could trigger learning by means of «continuity», related to the relationship between the alternation activities and the study program: «I think that, since this is a correlated project, each element has had a part in it. In class we address each topic using PowerPoint, but also when we were inside the facility, we could use the app to look at the companies and the products they produced, and how they produced them».

The continuity and «complexity» of the learning experience are also related to the cooperative work and to the organization of students in groups, to the transfer of contents via different tools and languages, within the same class, the same school, and across different schools: «yes, learn by mistakes. For instance, if your prototype did not work, you asked yourself why and then you tried to improve and design again and understand why it did not work».

Narration, tales of experience and encounters have also included «reflectivity», by turning to the interaction of distant contexts and to the transfer between school and work with technology: «Since the project involved a collaboration with French students, we also had Skype calls with which we discussed and reported step by step the state of the work»; «I've seen that the CSI's role was to listen to our projects, our ides, and what we did but the refuge owners were more attentive to understand what solution fit their refuges best». The reflection did not only concern the actions performed and the facts occurred but also the way these have been interpreted by the group and the meaning assigned, even with the aim of placing a critical distance from the way with which, in the professional contexts of reference, problematic areas included in training programs are faced.

The reports of some students also highlighted the need for a higher involvement between programs and basic teaching organization: «A disadvantage of the alternation is that when you experience an alternation program, school teaching goes on, the risk is that you try to do both and you cannot cope with it». However, the orientational value of these processes is acknowledged as a very positive aspect: «As a student in a socioeconomic high school, I could reflect on different ways to understand production and consumption, and on the value that our choices can have when we modify these models […] I would be interested into investigating at school the possibilities for the economic growth and development of a business company by respecting the environment, at the same time, and meeting all the sustainability goals»; and, another student says: «in my territory I would commit to adjust building to produce a lower environmental impact. For example, doors and windows that isolate the building should be implemented, so as not to waste heat», and, with reference to higher education: «the school helped me acquire awareness of my possibilities, of my capabilities […] I could focus on my knowledge on the creation of innovative contents, this experience of school-work alternation has had an effect on my future choice of the university».

5. Praise of plurality

In the modern world, the action by which an individual examines her/his action or questions her/himself in light of the same action about its effects (as a result of the material and cultural factors described above) has gradually increased its scope.

Some investigations highlighted that the new spaces of participatory democracy, created by the Internet over the 1990s digital revolution, have established a representation of the cyberspace that depicts it as an enhancing factor of subjective reflectivity, replacing the conflict theories as a tool to interpret society (see Formenti, 2008). Both the utopian (e.g., Lévy's theory or Jenkins' neo-liberal myth of the network) and the catastrophist (e.g., de Kerckhove's theory of connected intelligence and the Euro-American post-human theory) perspectives are rooted in an understanding of complexity that reconciles technology and nature, removing the class struggle from the core of the analysis.

Alternatively, another paradigm can be taken into account, i.e., the relational one, in order to consider another type of reflectivity that is no more understood as a systemic control over more and more individual freedom according to market logics (Donati, 2011: 48).

It is well known that the two most symbolic elements of modernity are the ideology of progress and the continuous and unregulated opening to contingencies. However, there is a certain point at which the two souls become recursive: the variety of social forms generated to face environmental complexity ceases to be regulated by the semantics of progress and the production of said progress is identified as the production of growing contingencies (and the other way round, see ivi: 50 ff.).

Social regulation becomes thus increasingly problematic and calls for reflectivity as a tool to fight social disintegration. Nonetheless, this call for reflectivity takes place within a modern understanding of reflectivity (ivi: 58). In other words, «reflection happens regardless of the ownership and quality of the relationships subjected to reflection» (ivi: 59, my translation, original in Italian).

Donati criticizes the reflective modernization theorized by Beck, Giddens, and Lash, because they all understand reflectivity as a mere effort, without any result of humanization or emancipation (ivi: 123) and suggests «a relational theory of reflectivity», giving rise to a civil society that is able to avoid the drifts entailed by reflective modernization (generating generalized, membership, and individual social capital; ivi: 212): «Relational reflectivity retrieves its innermost sense in the act of connecting instrumental and purposeful dimensions – i.e., the reasons for interests – with symbolic reflectivity, i.e., the needs for the acknowledgement of identity» (ivi: 201, my translation, original in Italian).

Reflections on complexity probably exist (like the ones made by Morin or Latour, see Introini, 2017) that now look more appropriate than the way we currently understand the complexity of natural sciences[1], which are going to face some scientism, in response to the complexity of replacing an 'old' science with a 'new' one, claiming they are the new natural sciences, or complexity sciences, or chaos sciences (see Introini, 2017: 55). These reflections might also be more appropriate than the downsizing of rationality – typical of post-modern perspectives, where the acknowledgement of complexity entails the rejec-

[1] Natural sciences refer to concepts like non-linearity, emergence, and self-organization, from which the Complexity Turn draws inspiration; see Introini (2017: 38).

tion of science, and the enthusiastic vision of complexity as pure chaos – and than the delivery of modern reflectivity to structures (ivi: 72). For instance, by understanding complexity as the supersession of the Cartesian dualism separating subject and object, Morin is able to bring back the subject in flesh and blood and gives back reflectivity to said subject.

The argument suggested in the present contribution is that both the viewpoints existing in the current approach to complexity (criticized by Introini, ivi, i.e., neo-systemic and post-modern interpretation) share a common root that can be identified as the idea of reflectivity they refer to.

Although a shift between opposite frameworks of social theory is required, both the «reflective modernity», understood as a celebration of the individuals' reproduction of differences, and the attribution of reflectivity to the social system, rely on the prejudice of technology's and science's neutrality (Pulcini, 2001; 2004), and on the modern 'passion' for the reproduction of differences.

Post-structuralist and post-humanist scholars claim that symbolic activity results from impersonal forces and the role of thought is to remove and condemn what limits 'productive' energies, i.e., the concept of subjectivity, dialectic, and structure.

Other authors fight this claim, because it looks too much compromised (rather than distant) with symbolic logics and the (totalitarian) ambition of modernity. Indeed, authors like Duclos (2004) suggest to replace the idea of the hybrid dialogue with alterity, thus anticipating a merge (this solution is supported by post-humanism), with passionate inevitable contradictions, acknowledging an equal sovereignty of different passions (see Aiello, 2011). In this perspective, the truth of technoscience as a dominant claim, the acquiring passion and the distinguishing passion or passion of the Self (Pulcini, 2001: 162 ff.), which might lead to an irreversible and totalizing intervention on life, should be toned down, by opposing a right to the human, although with some limitations, a right to the safeguard of the rights of future generations, in light of a democracy of passions.

Besides a mistrust of the presumed neutrality of technology and science, the presumed neutrality of the educational subsystem as a producer of «human capital» requires a reformulation of its nature, that might include the capability of shaping knowledge beyond modern dualisms: «To educate to citizenship today means to educate to human condition in the global age, which requires educating on complexity» (Ceruti, 2018: 161, my translation, original in Italian).

Hence, there are two ways to shape policies pertaining to the school-work relationship. Firstly, school creates «human capital» and performs an adapting function, meeting developmental needs and economic demands. In this case, we rely on «skills», i.e., on the procedural aspect of competence, which can degenerate into training.

Secondly, school trains subjects that can change the reality of the society they live in, so as to produce a quality future for everybody. In this case, school shall enhance the development of higher competences required by the knowledge society and rely on «attitudes» (see Guasti, 2013: 36-43).

Therefore, 'teaching how to live in the world' nowadays means to develop knowledge, values, and attitudes that enable to handle complexity in a plural perspective, with a democratic view of passions.

Education to global citizenship is hence a valid framework to train people to life and professions in the current reality, by practicing ethical-political socialization in a democratic sense.

As shown by the early results of the empirical research carried out within the National Operational Programme 'Modelli innovativi di alternanza scuola lavoro', said educational form can elicit extremely useful transformational outcomes from work-based and experience-based teaching strategies. Work can be used as a means to orientate students to new forms of networked, 4.0, green, and circular economy. Moreover, it can educate on a new transformational approach, with a broader extent. In the case-studies, learners were encouraged to ask themselves new questions and to reshape work in terms of higher sustainability, thus affecting the three dimensions of learning (cognitive, socio-emotional, and behavioural), through didactic paths based on experiential learning, creative forms of problem solving and participated innovation.

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