

# DIGITAL TRANSITION AND WORK PEDAGOGY

Fabrizio d'ANIELLO<sup>1</sup>

**Abstract:** *The article addresses the relationship between productive work and the digital transition from a pedagogical perspective, focusing in particular on the role that this transition can play in expanding co-educational opportunities linked to the relational sphere. Going beyond the purely economic and functionalist purposes of a neoliberal performative rationality, the argument highlights the importance of an ethical-communicative-emotional training to promote mutual recognition and thus an inclusive “reflection in action” aimed at generating extra-performative learning and responding to instances of human meaning, development and realisation.*

**Key words:** *digital transition, work pedagogy, ethical-communicative-emotional training, mutual recognition, reflection in action.*

## 1. Introduction

The development of digital, robotics and artificial intelligence (from now on AI), as well as scientific advances in genetics and nano-, bio- and neuro-technologies, are rapidly driving us towards the fourth industrial revolution (Schwab, 2016). A new phase of change, which on the one hand is already modifying our ways of living, communicating, interacting and working, signalling incipient social and economic-productive transformations, and which on the other hand, turning to the potential hybridisation between the physical, biological and digital dimensions, is already raising ethical-anthropological and multidisciplinary questions about the meaning of “being human”.

Although interesting, we will not address here the post-biological or post-human hypothesis of “estrangement from the organic” feared by, among others, Gorz (2003). Instead, we will deal with the impact of digital and intelligent machines on work and the human energies that it challenges.

## 2. The digital transition and the “new” protagonism of the relational sphere at work: beyond the neoliberal rationality

From the perspective of work pedagogy, Costa (2019a, p. 90) states the following: «the worker who moves in the generative space of knowledge of the new industrial

---

<sup>1</sup> University of Macerata (IT), [fabrizio.daniello@unimc.it](mailto:fabrizio.daniello@unimc.it)

revolution does not follow procedures codified by technological rationalities, but is called upon to self-organise, with individual choice initiatives, his or her production context, building committed and empathic relationships with other subjects who, in various ways, may become fellow travellers, in the common exploration of the new and the possible. [...]. The digital network expands, not restricts, the possibilities of relationship, choice and sharing».

More specifically, according to Costa (2019b, 2023), the utilisation of robotic technologies, AI and immersion in digital eco-systems provide a platform for simulations and continuously emerging remodulative/corrective inputs that retroact without interruption on the worker's choice/action. As a result, the individual is confronted with a flexible situation of indeterminacy that necessitates adaptive and creative recursiveness in learning and the rapid disassembly and reconstruction of situated mental habits. All of this is centered “in a situated manner” around the inseparable and repeated nexus of action and reflexivity. The personal signification of this nexus is inescapable and is further entrusted to inter-subjective signification. Therefore, work activity must be based on an unavoidable pedagogical relational ethics that, furthermore, enables the identification of the processuality of action in a genuinely educational processuality, transcending performative rationality. In alignment with this line of reasoning, we could argue that it is the presence of educationally meaningful relationships that increases the value of action in the age of intelligent machines.

In short, the relational sphere would be looking for a new protagonism in the digital transition. A protagonism that is necessary to foster second-level learning – to use Bateson's words – supported by a signification that is not only operational, in the terms of the Japanese *kaizen* (continuous improvement), but also fuelled by a horizon of human meaning, for the benefit of human growth. And this protagonism is also reaffirmed by other disciplinary points of view, now with analyses and predictive hypotheses at the beginning of the new millennium, and now with more recent interventions linked to concrete technological acceleration and the implementation of new forms of work and organisation. These points of view also refer, more or less directly, to an ethical and educational evolution and highlight, more or less explicitly, the need to stem once and for all that neoliberal rationality which has anthropologically and teleologically permeated the post-Fordist model and its essentially biopolitical, functionalist and comparative-competitive conception of the relational-collaborative dimension (Bazzicalupo, 2013; Dardot & Laval, 2013; Fumagalli, 2015; Lordon, 2015; Neidich, 2017). From these last words, one understands the reason for the so-called “new” protagonism.

For reasons of space, we cannot go into detail here, but, for example, the human-machine interaction, the learning and re-learning dynamics involved, the constant inter-subjective cognitive exchange required, the understanding of complex communications and the common recognition of changing patterns are accompanied in the philosophical field by terms such as «desirability» of the other, «hospitality», «knowledge identities» generated by authentic relational openness, and «ethical cooperation» (Fadini, 2000, pp. 57-58 and 66). In the sociological field, recovering Marx's assumption that «inter-cerebral actions are inexorably subordinated to the dynamics of the reproduction of

capital», Lazzarato (2002, p. 101) speaks of a «cooperation between brains», liberated from the goal of sole economic valorisation and enriched by the cultivation of affectivity and the extra-economic value of negotiated knowledge. In the economic field itself, there are calls to establish socio-collaborative, inclusive and interactive groups capable of acting “relationally” in self-organised learning and signification environments (Brynjolfsson & McAfee, 2015) and to «virtuously combine technical and interpersonal tasks» (Autor, 2015, p. 27). Then there are those who call for a renewal of the “socio-technical approach” i) to adequately cope with the unpredictability not yet manageable by AI in conjunction with the computational capacity of modern algorithms; ii) to protect the relational aspect from the probable dominance of the technological element; and iii) to celebrate the primacy of humanity at work (Seghezzi, 2021). Finally, leaving the scientific literature, it is also interesting to note that job applications published on websites between 2015 and 2020 increasingly focus on the combination of digital skills and social/interpersonal or socio-emotional skills (Colombo et al., 2021).

### 3. Mutual recognition and communicative training: an ethical point of view

Well, there seems to be no doubt about the importance of the relational sphere for digital work. But how to preserve it from neoliberal rationality? How to avoid falling back into what we usually call “competitive cooperation”, i.e. cooperation that is functional for organisational-productive arrangements, but in reality, subject to the competitive principle of performative “individualisation” (Foucault, 2005) and the substantial expulsion of the other (Han, 2017) from the project of a supposed humanisation? How to prevent the need for «interdependence» (Ellerani, 2020, p. 133) from dissolving into its mere productive instrumentalisation? And how to cultivate that human sustainability and care for relationships, the lack of which is the predominant cause of the phenomena of “great resignation”, “quiet quitting” and “organisational silence” (Coin, 2023; d’Aniello, 2022; Iacci, 2024; Pagliuca, 2024)? First of all, by promoting mutual recognition, starting with training aimed at ethically improving the dynamics of communication

In this sense, the combination of pedagogical communicative ethics<sup>2</sup> (Broccoli, 2008) and the philosophical «ethics of *complex communication*»<sup>3</sup> (Mari, 2019, p. 62) – which extends Apel’s vision – seems to be the fundamental basis for promoting such recognition through training, harmonising the technical requirements of communicative effectiveness with the pedagogical intention of moving away from neoliberal “individualisation” in order to create community. In fact, the first is aimed at sharing to support the “dis-interested” opening of relational potential to properly co-educational outlets and to a full and conscious participation in organisational discourse; the second is centered on the democratic translatability of languages and information-knowledge flows for a communicative freedom cleared from obstructive power interferences.

---

<sup>2</sup> In the etymological sense of communicate: from Latin *communicare* – derivative of *communis* (common) –, which means to make common, to share.

<sup>3</sup> Also in this case, in the etymological sense of complex: from Latin *complexus*, past participle of *complector*, which means to comprehend, to embrace.

#### **4. Mutual recognition and emotional-affective training**

With regard to recognition, we are also helped by the reflections of Honneth (2020), who entrusts emotional-affective commitment with the task of humanising work and, by extension, society. Indeed, recognition presupposes and fosters «an affective participation in the particular individual condition of the other person» (Honneth, 1992, p. 156). Moreover, mutual commitment in this dimension seems indispensable to avoid misrecognition and thus the triumph of the “capitalism of emotions”, i.e. the asphyxiating compression of the emotional-affective component within mechanisms instrumental to the mere increase of profit (Piomalli, 2024).

In the wake of the philosopher's thought, pedagogically based emotional-affective training, also propped up by pedagogically trained welfare managers – who are usually devoted to the use of playful-recreational activities for training purposes (Dato & Cardone, 2018) – seems to be the main way to prepare, together with communicative training, the necessary substratum to nurture the commitment to reciprocity of recognition, moving towards oneself (self-understanding), others (development of emotional intelligence and empathy) and the “us” (configuring a positive, hospitable climate and averting emotional wounds) (Buccolo, 2022; d’Aniello, 2015; Rossi, 2010;).

#### **5. Reflexivity and relational sphere**

In addition, both the communicative and the emotional-affective training should be accompanied by a dense individual and collective reflexivity, aimed at a deep and critical examination of the modes of relationship, using appropriate materials or stimuli that can illuminate the abstract-concrete dialectic, and thus at addressing together the vulnerabilities of these modes, weighing them up and arriving at the definition of better ones.

Engeström's (2004) change laboratory could be functional even if only the first two phases of the expansive learning cycle are used to initiate the reflection intended for change, namely the questioning of practices and their contradictory elements (questioning) and the explanatory analysis of criticalities (analysing).

In the same way, the collegial reflexive conversation in Brookfield's (1987) theory of transformative learning – which is dedicated precisely to comparing and evaluating one's own and others' assumptions in order to abandon prejudiced attitudes and socio-culturally conditioned beliefs to arrive at new interpretations and meanings that fluidise relationships and facilitate inclusive care – could be functional. Since Brookfield uses artistic experiences to support this reflexive dialogue (in addition to brainstorming and guided storytelling of relevant events), the aforementioned welfare managers could make use of the transformative propositions outlined. And the examples could go on.

#### **6. “Reflection in action” and inclusive signification**

In any case, reflexivity is a resource that, overcoming the intermittence of specific

training interventions, should constantly concern, *in itinere*<sup>4</sup>, the processuality of action, involving its objects, the action itself, the context in which it is situated and the relationships that unravel in it. In reality, the formative moments suggested above with the aim of training human recognition practices find their culmination in “reflection in action” and are inseparable from it. The goal is to build together – and when we say together, we mean all the members of a corporate organisation – an inclusive signification that encompasses the experience of each one and the shared answers to the questions that each one brings with him or her in carrying out his or her work. It is a signification i) that concerts different perceptions, visions and values, honouring the mutuality of recognition as a practice of educating gift; ii) that certainly interrogates action to improve it, but that also produces learning and knowledge in progress of an extra-performative type, useful for life, integral growth and self-realisation; iii) that is, therefore, generative of good relationships and educational meaning. And this brings us to another kind of commitment.

## 7. “Reflection in action” and ethical commitment

Sen (2000, p. 36) proposes commitment as an ethical commitment to feel responsible (able to respond) “in action” towards others, because «in its quintessence, individual freedom is a social product» and it is precisely from the meaningfulness of the encounter-confrontation with others that opportunities arise to expand capabilities in view of a substantial freedom of action aimed at progressively enhancing our states of doing and being (not just doing) and corroborating human development. This is why Sen, in line with Honneth (1992, 2020), calls for the marginalisation of the competitive maximisation of individual utility, emphasising the interdependence between agents and the faculty to act beyond one's own advantage or well-being, or out of sympathy, considering the ‘good’ for the human development of everyone.

Within this anthropological enrichment, which transcends the limitations of the neoliberal «self-entrepreneur» (Foucault, 2005, p. 186), of “human capital” and “self-capitalisation in competition”, the commitment to being able to respond to others finds its fruitful pedagogical translation in the above-mentioned “reflection in action”, welcoming everyone's realising instances in the shared response to pragmatic-procedural and technical-professional questions, but also to the learning, communicative, emotional-affective, ethical-moral, symbolic, value and relational questions that insist on the action itself.

## 8. Conclusions

This article does not claim to be exhaustive. Rather, it proposes pedagogical paths that are useful in facing the challenges of the contemporary world and in restoring educational and human dignity to work and its relational dimension. First the “lean” post-Fordism and then the “immaterial” have distracted workers from Fordist

---

<sup>4</sup> Latin *in itinere* which means on the road.

alienation, but the performative and competitive logic that animates neoliberal thought and economic action has translated them into a self-alienation (the “valuing” of the whole self-conceived as a machine) that excludes otherness from a genuinely relational organisational and productive metamorphosis. And this is precisely when teamwork and horizontal coordination seemed to be able to overcome the distortions of an operational solitude imposed by the parcelled division of labour, promising a liberating collaboration that was also the bearer of educational relations. In reality, these relationships have been largely instrumentalised and deprived of a wider scope, capable of giving rise to a neo-humanism of work.

Now, we see a possible new promise, but neoliberal rationality is still dominant. Therefore, an economic discourse and practice that have subordinated ethics to a utilitarian and anthropologically reductive reason can only be countered by an ethical discourse and practice that put the person and his/her growth needs back at the center. Pedagogy can contribute to this. Starting from giving value (not “valuing”) to relationships, by means of a training which promotes a confrontation/dialogue that, while nourishing a cognitive plasticity in a technical sense, also nourishes it in a broader sense, supporting at the same time communicative and emotional-affective plasticity. A confrontation/dialogue in order to satisfy the “human interest” together with the legitimate economic interest, based on a mutual recognition as human beings first and foremost than as workers. In this perspective, the work experience, in all its aspects, can make use of a reflexivity capable of truly freeing individual potential in pedagogical terms. Work occupies a great part of our existence. Often it does not serve the expression of the person, but his/her subjugation. The digital transition is an opportunity to re-establish an anthropological balance.

## References

- Autor, D.H. (2015). Why Are There Still So Many Jobs? The History and Future of Workplace Automation. *Journal of Economic Perspectives*, 3, 3-30.
- Bazzicalupo, L. (2013). *Dispositivi e soggettivazioni* [Devices and subjectivations]. Milan-Udine: Mimesis.
- Broccoli, A. (2008). *Educazione e comunicazione. Per un'etica del discorso pedagogico* [Education and communication. For an ethics of pedagogical discourse]. Brescia: La Scuola.
- Brookfield, S.D. (1987). *Developing Critical Thinkers. Challenging Adults to Explore Alternative Ways of Thinking and Acting*. Buckingham: Open University Press.
- Brynjolfsson, E., & McAfee, A. (2015). *La nuova rivoluzione delle macchine. Lavoro e prosperità nell'era della tecnologia trionfante* [The Second Machine Age. Work, Progress and Prosperity in a Time of Brilliant Technologies]. Milan: Feltrinelli.
- Buccolo, M. (2022). Resilienza, agilità emotiva e lavoro ibrido: nuovi scenari della formazione nelle organizzazioni. In A. Galimberti e A. Muschitiello (Eds.), *Pedagogia e lavoro: le sfide tecnologiche* [Pedagogy and work: the technological challenges] (pp. 129-147). Fano: Aras.

- Coin, F. (2023). *Le grandi dimissioni. Il nuovo rifiuto del lavoro e il tempo di riprenderci la vita* [The Great Resignation. The new rejection of work and the time to take back our lives]. Turin: Einaudi.
- Colombo, E., Giabelli, A., Mercurio, F., & Mezzamanica, M. (2021). Un mercato del lavoro che cambia. Analisi degli annunci di lavoro del Web 2015-2020. In A. Brugnoli, M. Mezzamanica & G. Vittadini (Eds.), *Sussidiarietà e... lavoro sostenibile. Rapporto sulla sussidiarietà 2020/2021* [Subsidiarity and... sustainable work. Subsidiarity Report 2020/2021] (pp. 63-96). Milan: Fondazione per la Sussidiarietà.
- Costa, M. (2019a). Agency capacitante e sviluppo della competenza. In G. Alessandrini (Ed.), *Sostenibilità e capability approach* [Sustainability and capability approach] (pp. 89-103). Milan: FrancoAngeli.
- Costa, M. (2019b). *Formatività e lavoro nella società delle macchine intelligenti. Il talento tra robot, I.A. ed ecosistemi digitali del lavoro* [Formativity and work in the intelligent machines society. Talent between robots, A.I. and digital labour ecosystems]. Milan: FrancoAngeli.
- Costa, M. (2023). *Formazione e lavoro negli ecosistemi digitali, robotici e delle macchine intelligenti* [Training and work in digital, robotic and intelligent machines ecosystems]. Lecce: Pensa MultiMedia.
- d'Aniello, F. (2015). Emotions at Work within Organizations. *Bulletin of the Transilvania University of Brasov. Series VII Social Sciences – Law*, 2, 9-16.
- d'Aniello, F. (2022). Behind and beyond the Great Resignation: A pedagogical viewpoint. *Education Sciences & Society*, 1, 329-346.
- Dardot, P., & Laval, C. (2013). *La nuova ragione del mondo. Critica della razionalità neoliberista* [The new world reason. Critique of neoliberal rationality]. Rome: DeriveApprodi.
- Dato, D., & Cardone, S. (2018). *Welfare manager, benessere e cura* [Welfare manager, well-being and care]. Milan: FrancoAngeli.
- Ellerani, P. (2020). Ecosistemi formativi capacitanti [Capacitating training ecosystems]. *MeTis*, 2, 129-145.
- Engeström, Y. (2004). The new generation of expertise: seven theses. In H. Rainbird, A. Fuller & A. Munro (Eds.), *Workplace learning in context* (pp. 145-165). London-New York: Routledge.
- Fadini, U. (2000). *Sviluppo tecnologico e identità personale* [Technological development and personal identity]. Bari: Dedalo.
- Foucault, M. (2005). *Nascita della biopolitica. Corso al Collège de France (1978-1979)* [Birth of Biopolitics. Course at the Collège de France (1978-1979)]. Milan: Feltrinelli.
- Fumagalli, A. (2015). Precarious condition: a challenge for new forms of struggle. New York: Institute for New Economic Thinking. <https://www.ineteconomics.org/research/research-papers/precariou-condition-a-challenge-for-new-forms-of-struggle>.
- Gorz, A. (2003). *L'immateriale. Conoscenza, valore e capitale* [The immaterial. Knowledge, value and capital]. Turin: Bollati Boringhieri.
- Han, B.-C. (2017). *L'espulsione dell'altro* [The expulsion of the other]. Milan: notteteempo.

- Honneth, A. (1992). *Lotta per il riconoscimento. Proposte per un'etica del conflitto* [Struggle for recognition. Proposals for an ethics of conflict]. Milan: Il Saggiatore.
- Honneth, A. (2020). Democrazia e divisione sociale del lavoro. In A. Honneth, R. Sennett & A. Supiot, *Perchè lavoro? Narrative e diritti per lavoratrici e lavoratori del XXI secolo* [Why work? Narratives and rights for workers in the 21st century] (81-114). Milan: Feltrinelli.
- Iacci, P. (2024). *Smetto quando voglio. Il lavoro nel nuovo millennio tra quiet quitting e silenzio organizzativo* [Quitting when I want. Work in the new millennium between quiet quitting and organisational silence]. Milan: Egea.
- Lazzarato, M. (2002). Invenzione e lavoro nella cooperazione tra cervelli. In Y. Moulier Boutang (Ed.), *L'età del capitalismo cognitivo. Innovazione, proprietà e cooperazione delle moltitudini* [The age of cognitive capitalism. Innovation, property and the cooperation of the multitudes] (pp. 88-104). Verona: Ombre Corte.
- Lordon, F. (2015). *Capitalismo, desiderio e servitù. Antropologia delle passioni nel lavoro contemporaneo* [Capitalism, desire and servitude. Anthropology of passions in contemporary work]. Rome: DeriveApprodi.
- Mari, G. (2019). *Libertà nel lavoro. La sfida della rivoluzione digitale* [Freedom at work. The challenge of the digital revolution]. Bologna: Il Mulino.
- Neidich, W. (2017). Cognitive capitalism and the governance of the prefrontal cortex. In S. Prozorov & S. Rentea (Eds.), *The Routledge Handbook of Biopolitics* (pp. 187-203). London-New York: Routledge.
- Pagliuca, S. (2024). Perché abbiamo perso fiducia nel lavoro [Why we have lost faith in work]. *IlSole24h*. <https://alleyoop.ilsole24ore.com/2024/09/05/fiducia-lavoro/>.
- Piomalli, E. (2024). Axel Honneth: il lavoro come ambito di riconoscimento e di conflitto normativo. In G. Mari, F. Ammannati, S. Brogi, T. Faitini, A. Fermani, F. Seghezzi & A. Tonarelli (Eds.), *Idee di lavoro e di ozio per la nostra civiltà* [Ideas of work and leisure for our civilisation] (pp. 1089-1094). Florence: Firenze University Press.
- Rossi B. (2010). Lavoro e vita emotiva. La formazione affettiva nelle organizzazioni [Work and emotional life. Affective training in organisations]. Milan: FrancoAngeli.
- Schwab, K. (2016). *La quarta rivoluzione industriale* [The fourth industrial revolution]. Milan: FrancoAngeli.
- Seghezzi, F. (2021). Gli impatti sull'organizzazione del lavoro, oltre la pandemia. In A. Brugnoli, M. Mezzamanica & G. Vittadini (Eds.), *Sussidiarietà e... lavoro sostenibile. Rapporto sulla sussidiarietà 2020/2021* [Subsidiarity and... sustainable work. Subsidiarity Report 2020/2021] (pp. 99-112). Milan: Fondazione per la Sussidiarietà.
- Sen, A.K. (2000). *Lo sviluppo è libertà. Perché non c'è crescita senza democrazia* [Development as Freedom]. Milan: Mondadori.

**Other information may be obtained from the address: [fabrizio.daniello@unimc.it](mailto:fabrizio.daniello@unimc.it)**