

Learning: adult education, training, and new technologies

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Abstract: Lifelong learning (LLL) is an essential tool for addressing the challenges posed by the complexity of modern life. However, it is crucial to reflect on what knowledge, skills, attitudes, and values are necessary to navigate today's world, and to clarify what we mean by "learning" and its objectives. Answers to these questions require a pedagogical reflection aimed at defining an education that enables learning as an active and generative process of constructing and transforming knowledge and skills. Furthermore, the impact of technologies and artificial intelligence on what and how we learn must be acknowledged, as they significantly influence the educational process.

Keywords: Learning; Education; Adults; Training.

1. The Knowledge Society and Learning

The current society is described as a knowledge and learning society, to the extent that lifelong learning (LLL) is considered not only a right but also a critical resource for confronting the social and economic uncertainties that characterize our present and future. The challenges posed by modernity are numerous: increased mobility, climate crisis, technological change, global health threats, and new models of production and consumption. Lifelong learning represents one of the key tools for addressing these challenges. The global community is increasingly acknowledging that investing in continuous learning for all promotes active citizenship, enhances employability, fosters well-being and health, and strengthens social cohesion (Zini, 2023). In other words, LLL is an imperative - economic, social, political, and ecological - for all countries, contributing significantly to sustainable development, reducing inequalities, and improving civic and community life (UNESCO, 2022).

Moreover, referencing the «2030 Agenda for Sustainable Development», adopted by the United Nations in 2015, lifelong learning is critical for achieving all 17 goals. It is therefore essential to foster adult education and lifelong learning as integral components of the implementation of these goals, particularly Goal 4, which focuses on ensuring inclusive, equitable, and quality education and promoting lifelong learning opportunities for all.

In this context, it is important to also consider the report from the International Commission on the Future of Education, titled «Re-imagining our futures together: A new social contract for education» (UNESCO, 2021), which highlights the trans-



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formative power of education in building a sustainable future.

These two documents outline the horizon and framework within which education today must be understood. But what knowledge, skills, attitudes, and values must we acquire to face the contemporary world?

This question, along with others, is central to the OECD project on «The Future of Education and Skills 2030» (OECD, 2018). Specifically, the «OECD's Learning Framework 2030», which takes into account the ongoing changes in our societies, provides a vision and identifies several principles for the future of the educational system. This future system should promote the acquisition of skills necessary for becoming active, responsible, and engaged citizens. The ultimate goal is well-being, a concept that extends beyond mere access to material resources, emphasizing the quality of life, civic engagement, social connections, and personal fulfillment. As highlighted in the OECD report, education plays a central role in developing the knowledge, skills, attitudes, and values that enable individuals to benefit from an inclusive and sustainable future.

From this perspective, which assigns a strategic role to learning, E. Morin argues that the planetary crisis we are experiencing is primarily a crisis of knowledge (Morin, 2011). According to Morin, we are overwhelmed by excessive information but struggle to contextualize, organize, understand, and integrate it meaningfully. Mass communication floods us with an immense amount of easily accessible information, yet we need orientation to avoid becoming lost in this sea of data. Morin advocates for a reform of thought, which implies a reform of knowledge and a thought of «reliance». The term «reliance», derived from the French *Relier* (to unite) and *Alliance* (alliance), refers to what unites and creates solidarity. In other words, it is the ability to create strong bonds, positive relationships, and constructive interactions in various life contexts. This type of thinking requires both an epistemological and a reflective reform. Epistemological, because it demands a paradigm shift from knowledge based on distinction and conjunction to one based on disjunction and reduction. Reflective, because it involves introspection, self-criticism, and questioning (Mannese, 2012).

The learning that can counter this crisis of knowledge is therefore one that allows us to develop a mindset capable of understanding relationships, implications, and complexities, as opposed to a populist mindset that tends to simplify, reduce, and isolate. It is a continuous and self-directed learning process that enables individuals to anticipate new conditions and adapt continuously, thus avoiding obsolescence. This widespread learning empowers people to navigate the multiple transitions they will encounter throughout their lives.

To support lifelong learning, it is essential to develop flexible pathways that create connections between formal, non-formal, and informal learning, recognizing that the boundaries between these modes are fluid and promoting their integration. «Learning cities» must be encouraged, cities that learn, extending the centrality of learning and education beyond traditional educational agencies (Longworth, 2007; Simeone & Locatelli, 2023). This is what Knowles defines as a «Lifelong Learning Resource System» (LLRS): a consortium of all the learning resources presents in a community (Knowles, 1996), including institutions, private organizations, businesses, media, environmental resources, daily events, and individuals.

2. Training to Promote Learning

This framework needs a pedagogical reflection on what kind of education and training should be promoted, for what purposes, by which methods, and based on which values. Addressing this question compels us to reflect on our society and its concept of learning. In this regard, it is interesting to note how often adult education has been closely linked to societal interests, which have historically prioritized the satisfaction of societal needs. In a context marked by instability and unpredictability, the key terms have been adaptation and updating. In other words, individuals are expected to educate themselves to adapt to socio-cultural changes and stay constantly up-to-date. What objectives, then, should the society of learning pursue? What purposes should it fulfill? Should it serve only the goals of the market, employment, and the economy? Is the goal simply adaptation, or is it to act upon and improve the context?

It is insightful to revisit the definition of adult education provided by UNESCO in 1976 (UNESCO, 1976), which underscores the dual perspective of individual integral growth and participation in socio-economic and cultural development. What is at stake, then, is the integral growth of the person, which involves not only the acquisition of knowledge but also the development of critical and creative thinking, social responsibility, and the ability to engage with and transform one's environment. This vision highlights the importance of education and training that goes beyond mere adjustment to market demands and instead focuses on fostering the individual's holistic development and active engagement in societal improvement.

It is crucial to pursue a person-centered culture of training, in which the needs of businesses and the socio-economic context are integrated with educational and training requirements. In a society marked by technology and innovation, it is no longer sufficient to merely learn a profession; it is essential to learn how to learn, to acquire flexibility, the ability to adapt quickly, and to embrace requalification. In addition to competencies, it is vital to strengthen latent potentials and to broadly

develop cognitive skills (Natoli, 2010). A learning process should be favored and supported that is seen as an active and generative process of knowledge construction, achieved through socialization, participation, dialogue, and negotiation. This definition highlights a constructivist orientation, the importance of interaction, and an emphasis on the metacognitive component. Central to this perspective is the subjective, social, and contextual dimension of learning. Learning is not a mere accumulation of knowledge but leads to the transformation and modification of our conceptions and representations (Mezirow, 1991; Engeström, 2001; Engeström, Sannino, 2010). Motivation, drives, and emotions are called into play: learning always has an existential dimension, linked to one's life project, the desires guiding choices, and what one aspires to become, as well as the emotions that influence both the structure of knowledge and the learning process. Learning is also social; it is embedded within and dependent on context (Lave, Wenger, 1991). It follows that learning is a dynamic process, creating connections and transformations (Formenti, Hoggan-Kloubert, 2023).

What kind of training to promote this type of learning? To answer this question, it is important to acknowledge that there are multiple conceptions of training. According to P.G. Reggio, we can have a conception of training from the perspective of adaptation to predefined conditions, or an educational approach aimed at creating conditions for learning and development in individuals and organizations (Reggio, 2014). In the first conception, training starts from needs and goals to be achieved. Therefore, the educational process is a transfer of predefined knowledge, designed to meet the needs of the context. In this regard, the approaches defined by D. Lipari as «instructionalist» (Lipari, 2014) and by P. Freire as «depository» (Freire, 2011) are relevant. The second conception, described by Freire as critical, problematizing, and dialogical, originates from a critical attitude, an interrogation of reality aimed at improving the capabilities of the learner. The key question is, therefore, what role does education play - is it an opportunity for empowerment, or a form of indoctrination?

G. Quaglino also outlines different training modes and approaches (Quaglino, 2011). According to the author, the first type of training involves the transmission of content, where the trainer designs objectives and presents participants with data, facts, and theories. The second form is seen as the place of knowledge elaboration: the central idea is the construction of knowledge, where the cognitive structure is seen as flexible and subject to continuous change. The third form is «the school of life», which allows individuals to rethink their own life. The starting point in this form of training is the needs and perceived necessities of the individual: it is an education that allows individuals to shape their own identity.

Starting from these classifications, it becomes clear that in a changing world, it is crucial to offer a critical, problematizing, and dialogical education, where knowledge is co-constructed. A training that helps overcome rigid distinctions between learning contexts, bridges fragmented worlds of experience, and reframes them, not viewing them as separate or even in competition, but instead enabling recognition of their interconnections, overlaps, and interrelations. Thus, unity today cannot be sought in the contexts themselves, which are constantly changing, but must be found within the subject, who is the architect and builder of their own identity. Protecting individuals' autonomy and responsibility is central, along with fostering self-regulated learning of competencies (Zini, 2021).

What seems important is to think of a training that aims at self-knowledge, which becomes a quest or a journey. Training, therefore, must support the adult learner in reconstructing and valuing their personal and professional history, assisting them in the transitions they face throughout life. In other words, training should aim to help individuals identify their project and accompany them in its realization. Furthermore, training aimed at personal growth should offer adults the opportunity to continue learning, discovering their own educability. It should provoke doubts, encourage reflection on one's ways of acting, and open up new possibilities for change. Training should not be limited to mere learning, but should foster the development and orientation of learning capabilities, creating conditions for new and diverse learning experiences. It should teach how to think, enabling one to use thought for meaningful learning (Zini, 2024).

This shifts away from transmissive, undifferentiated training, moving toward an approach that allows individuals to rework their practices, engage in reflective thinking, and participate in experiences that are educational, contributing to growth. J.A. Moon, to represent this shift, speaks of the transition from superficial to deep approaches to learning (Moon, 2012). Superficial approaches are geared towards absorbing content to perform assigned tasks, as memorizing material without connecting it to prior learning or questioning it. In contrast, deep approaches involve the learner's intention to understand the material, grasp its underlying principles, and connect it to prior knowledge. According to Moon, it is vital to rethink how we approach training, distancing ourselves from rote learning and prescriptive methods, which give linear cause-and-effect instructions on how to behave to achieve a particular outcome. We need training that is more attuned to the individual, their experiences, and their contexts. Therefore, learning spaces today are not only formal educational settings but also everyday practices. Specifically, the learning process starts from spontaneous learning and the knowledge embedded in different life contexts, which, through education and

training, can be made explicit (Marsick, Watkins, 1990; Eraut, Hirsh, 2007). Experiential learning (Kolb, 1984) and reflective learning (Schön, 1987) become crucial in this view.

Another critical aspect of this view of training is the empowerment of the individual, who becomes the protagonist of their own learning process. They are not passive spectator, but are actively encouraged to reflect on their experiences, choices, assess the outcomes of their actions, and identify new paths. In this sense, we can assert that the ultimate goal of the training process is self-education: the adult learner becomes self-directed in answering the questions of social life (Brockett, Hiemstra, 1991; Biasin, 2009). However, it is essential to recognize that not all adults are capable of undertaking this path. Therefore, individual responsibility must go hand in hand with collective responsibility; in other words, there must be a community investment in lifelong education.

3. Training and Technology

From the framework outlined, it emerges that learning contexts are seen as laboratories of reflective thinking, aimed at the epistemology of practice (Mortari, 2003), where participants question their ways of acting and their experiences. A central role is assigned to spaces of spontaneous, natural learning, examining how people learn and the types of knowledge they produce in different contexts. Training, thus, helps recognize and value the competencies developed through everyday life. Lindeman (1926) had already highlighted the strong connection between education and life, seeing adult education as a cooperative adventure towards an anti-authoritarian and informal learning process, with the primary goal being the discovery of the meaning of experience (Marescotti, 2013).

The aim of such pathways is to promote the growth of the reflective person, with the goal of elaborating further meanings to understand and reinterpret lived experiences and thoughts, in order to rewrite one's story and act differently in the future. Education thus becomes a process of interpreting practices, assigning meaning to thoughts and actions, and triggering changes within them.

Given these observations, it follows that today, working with adult learners means creating spaces and times to support them in reviewing their practices and recognizing the competencies embedded within them. In these educational contexts, pedagogy stands out as a facilitator of reflective thinking and disposition.

As C. Scurati emphasizes, we must bring education back to a pedagogically appropriate vision, where the person is not seen as a resource for something else (industrial approach) but as a resource in and for themselves (humanistic approach) (Scurati, 2008). Education, therefore, is called not only to shape others but to help

them take shape, enabling them to assume their own form. In other words, in a context where a single temporal dimension (the present) seems to prevail, it is important to support the exercise of expanding horizons, thinking, asking questions, and seeking meaning.

Certainly, our time presents significant new challenges for adult education, particularly as technologies and artificial intelligence change how and what we learn. These are knowledge technologies in the sense that they intervene in our relationship with what is known and modify how we know things. This profoundly impacts educational processes (Laurillard, 2014). Educators must be aware of what technology offers and the changes it produces, so they can harness these opportunities effectively. To do so, it is essential to clarify the educational objectives they aim to achieve with technology. Technologies, after all, do not perform the learning process; they support educators in organizing thinking and developing new types of skills needed to understand digital materials. Ongoing reflection, deeper research, and innovation in educational practices are crucial to ensure that education leads innovation, rather than merely following it.

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