

BETTER FUTURES: UNIVERSITY EDUCATION FOR ALL IN 2050?

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The questions posed by the Project Futures of Education are: How would you like higher education to be in 2050? How could higher education contribute to better futures for all in 2050? The first question is about desire and hope, with some degree of wishful thinking, utopian by definition. The second one is related to an agenda of practical, feasible proposals and initiatives, protopian by definition.¹

The key to answer these questions is twofold: one, to critically and creatively foresee the year 2050 and, two, to rethink the term 'education' conceptually and politically.

Let us first examine current trends – knowledge trends, economic trends, sociopolitical trends –, taking them as prospective signs of a possible future.

The epistemological agenda point to a new knowledge production scenario in the future. **Knowledge trends** for the upcoming decades are high rate of change, compression of time-space, with time projected into the future, social trans-spaces expanded by hyperconnectivity, collective intelligence, inter-transdisciplinarity, and epistemo-diversity. Currently, there is a profound technological transition worldwide, so fast that it seems almost impossible to measure its effects on everyday life. In this world, technoscience is superstructure. Technologies of increasingly common use, comprising highly complex equipment and processes, receive massive widespread implementation. These technologies are intellectual products, configured in chains of algorithms, conventionally designated as programming. They are an essential element to new forms of value constitution that do not follow the same rules of understanding that were valid in the era of industrial capitalism. Today's technoscientific boundaries (nanomaterials, neochemistry, big data, robotics, artificial intelligence, heuristics, biomodeling, etc.) signal to a new technological profile of the professional needed by 2050. In this future world, where memory units have form, code and dimension, the competence to master protocols, standards and intervention techniques in the field of education can potentially be carried out by digital memorizing and machine learning processes, just knowing how to trigger technological mechanisms for accessing information.

Macro-**economic trends** in the international arena today point to the future economy. Markets are no longer explained by the classical economic theory of value/cost based on matter-time-energy, but by extreme optimization of the potential utility based on embedded knowledge. The value of goods is less and less defined by the costs of the physical basis of products (raw material, means of production, labor, inputs etc.) and the time used for their production. Moreover, the very notion of use-value almost ceases to make sense for typically multi-functional technological devices, which allow for uses and functions not previously predicted. A fundamental element of automated industrial production is the knowledge embedded in the hardware and also in servo-control mechanisms involved in programming these machines. Nature, design, utility and price of products also cannot be measured by the same patterns, norms, and parameters as in

¹ The difference between utopia and protopia will be developed in the conclusion of this concept paper.

the classic mode of production. The human labor time used to manufacture a small digital machine like any smartphone is very little, not least because any miniaturized process operates virtually out of reach of human capacity; so, it is impossible to be done manually and therefore it is also automated. What is paid to buy such a device covers much more the intelligence incorporated in it, to the extent that, from the point of view of its materiality, the digital processor that controls the equipment costs very little. This intelligence and its effects can be reproduced without physical input, so that for each device, the surplus-value is theoretically replicated with marginal loss and without decay. Finally, the current form of value aggregation to the product is totally different from the conventional industrial paradigm: first, because, being miniaturized, it was manufactured in a process of almost total automation; second, because operating system and respective applications have no materiality whatsoever; third, the multiplication of utilities means that the cost paid by the user does account for new functions.

The transition of the techno-scientific paradigm, with great speed, intensity and reach, is bringing an unexpected social component: the inequality of access of subjects to the uses and benefits of products of this transition. Trends in both the epistemological and economic arenas might resonate in the social and political spheres, allowing us to foresee **sociopolitical trends**: extreme inequalities, perverse effects of social and political crises, redefinition of the State/Market relationship, imperialism of economic blocks, adjustments with fiscal austerity, withdrawal of public policies, crisis of the Welfare State, racism and xenophobia, widespread individualism. In the globalized context of ultra-neoliberalism, most of the population is vulnerable for social, political, and economic exclusion. Many countries do not comply with the basic functions of a modern democratic State, as established since its conception in the early 19th century as a superstructural device capable of redistributing power and wealth, attenuating the economic inequality effects and political imbalances to their minimum to ensure social peace. Therefore, instead of welfare states, they confirm their status of an ill-fare state, or “predator state”. Underfunded and inefficient to conduct public policies capable to offset current disadvantages and fix historical social debts, the public sectors become a device for transforming economic inequalities into social and political inequities, mostly in areas such as education. In this globalized hyper-capitalism, politics is often ruled by a combination of fundamentalism and obscurantism, with economic adjustments guided by neoliberalism, producing unjust social inequalities, with negative impacts on societal and cultural life.

In this perspective, in what we do hope will be a better future, the practice of operators of systems, policies, programs and services, require inter-transdisciplinary, interprofessional, multi-referenced, culturally sensitive, politically responsible, quality-equity promoting competences. To achieve this objective, what socio-political and vocational profile will define this professional? For being effective, problem-up and creative, what principles, values and attitudes will sh/e need to develop and cultivate? What knowledge, skills and values will be minimally needed? Regarding higher education, it is pertinent, and urgent, to create, improve and implement new education models for achieving the competencies necessary for the desired technosocial integration.

To rethink the term ‘education’ politically, one needs a premise, with its due corollary, as well as a preliminary condition. The premise is that Education constitutes a fundamental human right, because it is the matrix of all rights capable of promoting equity in modern

societies. Its corollary is that, if well understood and aptly provided, Higher Education is surely a condition for enabling the human being to participate in social and political interactions through a fully entitled cognitive global citizenship.

Given such a premise and its corollary, the preliminary is that we must distinguish functions of tertiary education from the missions of university education. The functions of tertiary education are instruction of technical and managerial cadres, mere users of technological applications, replicating established disciplinary knowledge and standardized techniques. However, the missions of university education, as historically developed so far, should be revised and updated in the light of contemporary trends. These missions have been:

1. Promotion of academic cultures (scholastic, humanistic, ethical, technoscientific, ecological)
2. Formation of intellectuals [Scientists (knowledge producers); Inventors (technology developers and spreaders); Critics (voices for contested knowledge); Educators (promoters of a new contemporary *bildung*)]
3. Knowledge creation-production [meaning generation of symbolic capital in the Bourdieusian sense]
4. Cultural criticism: social transformation (general education; intercultural learning)

In order to build up better futures for the year 2050, we need an agenda (political, social, cultural, ethical) for emancipatory higher education in democratic societies in a globalized world. Schematically, this agenda may include:

1. Overcoming subordinate globalization, through approaches and solutions converging for a renewed multilateralism.
2. Recognizing knowledge as an economic and geopolitical asset that must be directed for the common-good.
3. Reviewing and reinventing the welfare state as an ethical-social project.
4. To create and to foster innovative institutions, fully committed to quality-equity.
5. Investing in disruptive technosciences capable of triggering more and better change.
6. Pursuing critical technological competence as a means for adding social value for all.
7. Regaining the societal-community space to prioritize transformative public policies.
8. Promoting the idea of general education, in order to update the humanistic values of the university for the new emerging contexts.
9. To value education for social and environmental sensitivity, promoting planetary accountability and broad sustainability values.

A huge challenge is to organize higher education curricula well-adjusted for this agenda, in a future uncertain and mutant, articulating interprofessional and transdisciplinary general education not only for training professionals, but also to form concerned and participative citizens. This problem may be unfolded in multiple questions, in different dimensions: How to build a new model of education, which is not mere training? And, consequently: How to transform a pattern of conducting historically consolidated social practices that, in many ways, may be able to critically challenge and that, in some way, will transgress and overcome the hegemonic mode of organization of professional practices and educational models? How to achieve such an adjusted model, full of possibilities, within such a conservative, inertial context which, at the limit, is hostile to innovation and refractory to change?

These issues are part of a general question that, in my opinion, needs to be dealt with as the result of institutional action in the complex sphere of public policies. In this sense, beyond rhetorical concerns, it is necessary first to overcome the fragmentation produced by the reductionist disciplinary approaches, since many projects for deep change, committed to inter-transdisciplinary models in the academic sphere, have failed to translate this epistemological option into the field of practices through interprofessional education.

Also, transformative learning is about developing leadership attributes. Badly needed now and in the near future, its purpose is to produce enlightened and skillful change agents. In medieval universities, the education of freemen was based on general studies (*studia generali*) composed of two sets of arts, called liberals: the *trivium* (logic, grammar, rhetoric) and the *quadrivium* (arithmetic, geometry, astronomy, music). In the faculties and schools of the modern era, with the emergence of the capitalist mode of production and liberal individualism as its ideology, so-called mechanical arts were introduced as practical knowledge, management strategies and productive techniques adjusted for vocational and specialized higher education. In today's globalized, complex and diverse world, interconnected, increasingly accelerated, lacking solidarity and sensitivity, we must consider the relevance and perhaps need to resume, in higher education, the concept of general education. In this sense, I propose to name as the *pentavium* a set of five core competencies to be developed in higher education:

1. Linguistic competence (domain of the vernacular and of at least one foreign language, defined by the area of professional activity);
2. Training in research (analytical reasoning and interpretation skills to produce scientific knowledge);
3. Pedagogical competence (didactic skills necessary to share knowledge);
4. Critical technological competence (mastery of the means of practice and its implications);
5. Ecosocial sensibility (empathy and ability to listen sensibly, to fight against social inequalities, with ethics and respect for human diversity).

Development of these competencies requires training models mediated by integrated knowledge and practices, guided by quality-equity values, using active pedagogical processes and intensive use of information and communication technologies. In my opinion, the most important prospect for the year 2050 is the notion of ecosocial sensibility, composed by planetary consciousness (territory-world; local-global); systemic responsibility (part-whole; network integrity); openness to change (ethics and respect for human diversity); solidarity and empathy (to overcome self-centered individualism); transepistemic thinking (an ecology of knowledges). Does it seem utopian?

Originally, the term *utopia* implied the allegorical conception of a place that does not exist, wonderful, fabulous, but fanciful, located in nowhere. The term *protopia* also configures a neologism proposed even more recently. Recovering an original Manheimian proposition, *protopia* means a proactive movement to execute some radically creative proposal or to profoundly transform a given reality. In a sense, *protopia* refers to realistic and viable projects aimed at achieving a utopia, such as the plea of university education for all in the year 2050.