

EDITORIAL

Sophia is pleased to present the publication issue 28 of its collection. This time, the core of reflection is about: philosophy, technology and innovation in education.

The changes of the digital age, as well as the innovation processes and technoscientific advances have shaped new ways of being, of thinking, of being-there and of relating to the world (Aguilar, 2011). Therefore, today, more than never, it is necessary to reflect on the philosophical foundations of technology and the implications that it may have in the various areas of human action, especially in the educational field. Thus, the subject of the present issue is of essential interest in the construction of a coherent, situated and purposeful education that promotes pedagogical updating and innovation and responds to the challenges of the current technological and educational reality.

In this sense, we proposed some questions that direct the investigations of this issue, such as the following: What have been the educational consequences of technological implementations in the classroom? To what kind of education can technological progress without limits lead us? What is the new role of the education professional in the era of innovation and accelerated technological changes? What are the philosophical foundations of technology? How to support educational processes in connectivity and computational thinking without restricting the development of critical and creative thinking of the human being? Can technology guarantee educational excellence? What are the contributions of technology to improve the teaching-learning process? How do technological devices influence the academic performance and intellectual development of the student? What are the problems and limits of technology in education? among others.

Currently it has become a necessary condition to link to the definition of 'technology' elements related to the internet and the digital, however, *tekhné* has accompanied man from his first tools for hunting, with which he began to manipulate nature of according to his needs and possibilities. However, when scrutinizing its etymological root, it is found that the origin of the word technology 'is of Greek origin and that it refers to the terms: τέχνη (*tekhné*) = 'technique' or 'art' and λόγος (*logos*)



= 'study' or 'treatise'; both polysemic terms, which can be interpreted in different ways, but that this case designate the 'study of the technique'.

The Greeks conceived that there was an extensive path between technique and technology, since the former was limited to manual labor and practical knowledge, while the latter included scientific and theoretical knowledge. As Mario Bunge (1984) states, "the pre-scientific technique was primarily a collection of not understood pragmatic recipes, many of which performed the function of magical rites; [meanwhile, modern technology is] increasingly —although not exclusively— applied science" (p. 22), hence it is understood that in the 17th and 18th centuries it becomes unsustainable to speak of technology without the technological binomial and without the convergence between 'theory' and 'praxis'. Therefore, technology and science constitute:

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A cycle of interacting systems that feed each other. The scientist makes intelligible what the technician does and this provides science of instruments and testing; and what is equally important, the technician does not cease to ask the scientist questions thus adding an external engine to the internal engine of scientific progress (Bunge, 1984, pp. 22-23).

Technology surpasses the pragmatic field of technique by including scientific elements, however, it is not simply limited to being applied science, it goes further, providing a new treatment, with a scientific approach, to practical problems. Thus, according to Bunge (1984), "technology, whether of new things or of men, is a source of new knowledge" (p. 22), since its capacity to be applied to the various areas of human life opens countless possibilities, knowledge and proposals for action. Thus, we arrive at one of the most recognized current conceptions of the term 'technology', which is defined by Morales (1998) as "the set of knowledge and techniques that, applied in a logical and orderly manner, allow the human being to modify his material or virtual environment to meet his needs" (p. 25), which combines thought and action in the process with the purpose of generating useful solutions.

According to Echeverría (2005), technological advances have brought about a substantial change in scientific work, since it is no longer just about doing research, but from it "we have to generate technological developments that result in innovations that are put into practice in the market, in business, in society" (p. 10), and consequently in education, in the teaching-learning processes and methodologies that it comprises and in the way of understanding and relating to the being of Education.

One of the biggest challenges facing current education and that has been reinforced by the lack of conscious reflection on the technoscientific changes of the time, is the growing apogee of instrumental reason over critical reason, which guides academic work and philosophical reflection under an epistemic tendency that overvalues knowledge with “immediate application utility, mediated by technology and that generates financial benefits” (2019, p. 66), over other types of knowledge; as argued by Aguilar (et al., 2019). From this perspective, technology moves away from the main objective of education which is the formative action of the human being for his own realization.

For the philosophy of education, the contributions and innovations of technology must respond to the ultimate goal of education, which is the integral development of the human being; under no circumstances should it be instrumentalized or objectified. Technology will be another tool at the service of the human being, to enhance our capabilities, because as Balladares states (et al., 2016): “Human intelligence together with information technology is still human but is enriched making it possible to solve problems more quickly, efficiently and with better levels of complexity and organization” (p. 154). However, in addition to its role as a practical tool at the service of the individual, technology, as explained by Gagné (1976 in Area, 2009), will contribute to education by developing “a set of systematic techniques and practical knowledge attached to design, measure, and update” (p. 17) the educational action, and thus respond to the demands of the educational reality and current social dynamics.

At present, digital technology has made it possible to transcend both the temporal and spatial limits of formal education, shortening its barriers and limitations through a network connection and instant communication that makes the internet viable. Likewise, technological innovations such as smartphones, tablets, social networks, and the different virtual learning platforms have become tools and means that facilitate access to information and enhance learning. However, it should be borne in mind that the implementation of state-of-the-art technological tools and virtual platforms in institutions are not, by themselves, a guarantee of better educational results. It is necessary to know how, when and where to adopt technological innovations, avoiding, as stated by Cobo and Moravec (2011), “a vertical, uniform and standardized implementation” (p. 83). It is necessary to prepare in advance the necessary objective conditions and train the educational agents for their correct use and exploitation.

In this context, talking about philosophy, technology, and innovation in education moves our thinking towards three fundamental dimen-



sions that make up a theoretical-practical corpus mediated by reflection and that have, as the sole and main reference, the subject that thinks, builds, reconstructs and proposes.

In order to respond to problems and dimensions we have discussed, the approved manuscripts for the publication of this issue have been organized from a conceptual and interdisciplinary framework to a methodological-experiential and even experiential level, which surrounds its protagonists.

The article “*Survival or well-being? Need of the technique from metaphysics and ethics*”, by Juan Camilo Hernández Rodríguez and Jhonatan Pérez Bedoya, opens the reflection itinerary. The authors consider that the philosophical question regarding the technique is important because it responds to the essence of the human to the extent that only man is a properly technical subject and because it is considered as the vital function of the human being. In this sense, the writers intend to investigate various philosophical conceptions of the human technical essence from the metaphysical conception of José Ortega y Gasset and from the bioethical conception of Hans Jonas; from an anthropological approach, they discuss the concepts ‘well-being’ versus ‘need’.

The document “*Homo Sloterdijk: philosophy of technology in post-modernity*” follows the intellectual path, written by Leopoldo Edgardo Tillería Aqueveque. The article addresses the different guidelines, problems, and challenges of the philosophy of the German thinker Peter Sloterdijk, which, according to the author, is presented as “a new ontology”, whose essential component is the principle of information. The manuscript allows us to understand the post-liberal project as a postmodern philosophy of technique, which, from the perspective of Sloterdijk, allows us to understand technology as a destination within the history of being. In this sense, the author of this paper presents his political criticism as unmasking of the macrosphere of power (military, financial, journalistic, fiscal) and his biotechnological offensive as a manifesto of a historically invisible quinism by what he calls “elite cynicism” and for the idea of truth as a non-essential concept to his psychopolitical project.

Next, the article “*Techno-science and consilience as an agenda for the philosophy of technology*”, prepared by José Luis Guzón Nestar, is presented. In this manuscript, the author points out some paths made in the dialogue between science and technology over the last decades; he describes the main milestones that have led these processes from classical (Newtonian) science to current technoscience. And offers some reflections on the new philosophy of technique that is built with the theo-



retical development of consilience. In this sense, he describes the technoscience project in its historical perspective; places the technique in the history of science and technology; addresses the possibility (also need) of new wisdom and transdisciplinary vision of these issues. Finally, he points out some steps that are being taken in the field of technical philosophy and analyzes the emergence of ethical approaches and new views of science-technology-society.

The manuscript "*Educational Cybernetics, actors and contexts in distance higher education systems*", structured by Angélica María Rodríguez Ortiz and Eduardo Isaac Chávez Cibrián, marks our path forward. The authors argue that distance higher education assumes great challenges in the pursuit of updating technological mediations that allow for social interactivity and interaction processes; they promote the recognition of the actors and the context in order to favor the development of the general and specific competencies that the new professionals require to respond to the needs of the social and educational environment. The authors believe that educational cybernetics allows the recognition of actors as human beings who assume challenges for the transformation of the economic and social system.

In this intellectual process of systematization of thought, the article "*Mobile learning mediated with PACIE methodology for constructivist knowledge*" is next. Presented by Juan Carlos Cobos Velasco, Verónica Patricia Simbaña Gallardo, and Lilian Mercedes Jaramillo Naranjo. The document aims to analyze how mobile devices in teaching-learning processes help students and teachers interact immediately in the construction of knowledge; In addition, the authors present points of view about various conceptions that support m-learning and relationships with the PACIE methodology processes (presence, scope, training, interaction, e-learning), aspects that allow the use of mobile devices for e-learning to be assessed. This text seeks to understand the gap between traditional education and teaching through the use of mobile devices, stimulate the sense of autonomous responsibility, support and strengthen curricular and extracurricular teaching-learning practices from several innovative scenarios and present innovation alternatives for improving the educational process based on the PACIE teaching-learning methodology.

For its part, the manuscript "*Social imaginaries about the use of technology and interpersonal relationships in university students through fiction films as a didactic resource*", made by Julio Cuevas Romo, exposes the educational experience with undergraduate students in mathematics education, they participated in a film-debate cycle focused on science fiction and pos-



sible worlds. To consolidate and systematize the potential that cinema has in educational processes, the author makes a categorization regarding the educational objectives, based on the most common uses; so that through the contemplation of the movie *Her*, he analyzes the social imaginary of young people regarding the use-abuse of technology and explains how this impacts interpersonal relationships. Likewise, the writer considers that the social imaginary, which is detonated from fictional narratives such as cinema, serves as the basis for special educational interventions.

In this path of knowledge, the article “*Beyond the tablet, ¿an intermediate zone of learning?*”, Structured by María Isabel Miranda Orrego and Isaac David Grijalva Alvear, is presented. The authors intend to deepen the study of the child’s learning processes associated with the use of new technologies in the classroom, explaining that, according to national and international experimental and quasi-experimental studies, of the last decade, learning has become the increase and repetition of the content offered on the mobile device, omitting the experience of apprehending learning processes that allow the appropriation of knowledge. That is why the text seeks to answer questions such as: Does the tablet collaborate or break the act of apprehending? Is it relevant to consider the tablet as a mediator of learning processes? The answers to these questions come from a qualitative investigation, with a psychoanalytic theoretical framework. The results allow us to identify playing or ‘games without a rules’ as one of the central elements in the apprehension processes. The authors consider that children exceed the activity programmed by the software creating figures and shapes on the screen, and exploring numerical possibilities that allow them to think beyond the activity proposed on the tablet. Likewise, the researchers explain that while the teacher is a mediator who facilitates the learning processes, the tablet is a possible intermediary of knowledge and learning processes with technologies.

In the same vein of innovation in education, there is the article “*Potential for innovation and institutional management at the National University of Cañete - Perú*”, presented by Dulio Oseda Gago, Ruth Katherine Mendivel Gerónimo and Amanda Durán Carhuamaca. The authors have, as their starting point, the framework of the multiple political, economic, social and cultural transformations posed by the current Peruvian university system. They propose to generate mechanisms for the innovation of public universities in order to respond to the requirements of the National Superintendence of Higher University Education and the National System of Evaluation, Accreditation, and Certification of Educational Quality. The research aims to determine the relationship



between the potential for innovation and institutional management in the management, teaching and administrative staff of the National University of Cañete.

Along the same lines of educational innovation, the manuscript “*Transformational leadership from the perspective of humanist pedagogy*”, presented by Oscar Alfredo Rojas Carrasco, Amely Dolibeth Vivas Escalante, Katihuska Tahiri Mota Suárez and Jennifer Zurina Quiñonez Fuentes, is presented. This research aims to generate a theoretical approach to transformational leadership from the perspective of humanist pedagogy. They present the interpretation of experiences and knowledge on the subject in question and analyzes the axiological, ontological and teleological perspective of humanist leaders.

The categorical and reflexive journey of *Sophia* 28 closes with the document “*The Ecuadorian Crisis of aesthetic representation from the second half of the 20th century to the beginning of the 21st century*” structured by Pablo Eugenio Cabrera Zambrano. The work analyzes the characteristics of the aesthetic experiences of Ecuadorian art from the mid-20th century to the present. The author states that the foundations of contemporary art are found in the so-called ‘aesthetic samples’, typical of postmodernism and the neo-Marxist ideological trend conceptualism, whose validity is justified in Marcel Duchamp’s *ready-mades*. This article criticizes these aesthetic samples for several reasons, but especially for imposing itself in Ecuadorian art in a decontextualized and authoritarian way, denying the Andean art own traditions.

The ideas expressed in each line of the pages of this issue of *Sophia*, *Collection of Philosophy of Education* are not definitive or absolute, on the contrary, all of them constitute the starting point for the generation of new reflections, questions, reconstructions, and proposals.

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