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## SCIENCE, HUMANITIES AND BIOETHICS: A NECESSARY INTEGRATION FOR THE EDUCATION OF THE FUTURE

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**Abstract:** This article addresses the need to integrate secular bioethics in education, considering the impact of scientific and technological advances, especially in the context of artificial intelligence. It is argued that human sciences, such as ethics and philosophy, have lagged behind other sciences, posing a challenge for the formation of critical and responsible citizens in the age of artificiality. An educational approach based on complete dialectics with transversalities is proposed, which seeks to integrate human sciences with science and technology, to promote the understanding of self-similarity, universality and the search for solutions to contemporary challenges.

**Keywords:** secular bioethics, education, human sciences, science and technology, artificial intelligence, era of artificiality, self-similarity.

## INTRODUCTION

Today, we find ourselves in a historical moment in which scientific and technological development is advancing at a rapid pace, while human sciences, such as ethics and philosophy, seem to have lagged behind. This disparity poses a challenge for education, which must train citizens capable of understanding and facing the ethical and social challenges posed by scientific and technological advances, especially in the context of artificial intelligence.

## THE NEED FOR A SECULAR BIOETHICS

Secular bioethics is presented as a fundamental frame of reference for education in the 21st century. In an increasingly globalized and interconnected world, it is essential to promote ethics that respects the diversity of beliefs and values, while fostering dialogue and cooperation among people from different cultures and traditions. Secular bioethics, based on reason and evidence, can provide the necessary tools to address ethical dilemmas that arise at the intersection of science, tech-

nology and society. For example, in the face of the development of gene-editing technologies such as CRISPR-Cas9, secular bioethics invites us to reflect on the ethical implications of modifying the human genome, considering both the potential benefits and the risks and possible inequalities that could be generated.

## THE ERA OF ARTIFICIALITY

Artificial intelligence (AI) is rapidly transforming our society, and its impact on education is becoming increasingly evident. AI can be a powerful tool for personalizing learning, improving teaching efficiency, and providing new educational opportunities. However, it also poses significant ethical challenges, such as data privacy, algorithmic bias, and the impact on the labor market. Education must prepare students to understand and address these challenges by promoting responsible and ethical use of AI. For example, it is crucial that students learn to critically evaluate the information they receive from AI systems, identify potential biases, and understand the implications of automation for the future of work.

## THE INTEGRATION OF SCIENCE, HUMANITIES AND BIOETHICS

To meet the challenges of the age of artificiality, it is essential to integrate science, humanities and bioethics into education. Science provides the knowledge and tools to understand the natural world and develop new technologies. The humanities help us understand the human condition, our values and our history. Bioethics provides us with an ethical framework for making responsible decisions regarding science and technology. This integration is not limited to the inclusion of specific content in the curriculum, but implies a profound transformation of pedagogy, fostering interdisciplinarity, critical thinking and the ability to connect different areas of knowledge.

## **AN EDUCATIONAL APPROACH BASED ON DIALECTICS COMPLETE WITH TRANSVERSALITIES**

An educational approach based on complete dialectics with transversalities is proposed, which seeks to integrate human sciences with science and technology. This approach fosters critical thinking, creativity and the ability to solve problems from multiple perspectives. It also promotes the understanding of self-similarity, universality and interconnectedness of all living beings.

Dialectics complete with transversalities implies a dynamic process of analysis, synthesis and overcoming contradictions. In the educational context, this means that students must be able to identify tensions between different perspectives, integrate them into a new framework of understanding, and generate creative solutions that transcend the limitations of a one-dimensional approach. For example, when analyzing the impact of biotechnology on society, tensions can be identified between health benefits and environmental risks, or between individual freedom and collective responsibility. The complete dialectic with cross-cutting issues makes it possible to address these tensions in a comprehensive manner, considering the different dimensions of the problem and seeking solutions that promote human well-being and sustainability.

### **OBJECTIVES OF SECULAR BIOETHICS EDUCATION**

Secular bioethics education should pursue the following objectives:

To form critical and responsible citizens, capable of making ethical decisions in relation to science and technology.

Promote the understanding of self-similarity and universality as fundamental principles for peaceful coexistence and sustainable development.

Encourage dialogue and cooperation between people from different cultures and traditions.

Develop the necessary skills to face the ethical and social challenges of the age of artificiality.

### **METHODOLOGY**

The full dialectical method with transversalities is presented as a fundamental tool for the integration of science, humanities and bioethics in education. This method fosters critical thinking, creativity and the ability to solve problems from multiple perspectives.

It also promotes the understanding of self-similarity, universality and interconnectedness of all living things.

### **DISCUSSION**

The integration of science, humanities and bioethics in education is a complex challenge that requires the participation of different actors, including teachers, researchers, policymakers and society in general. It is essential to generate spaces for dialogue and collaboration to build a future in which science and technology are at the service of human well-being and sustainable development.

One of the main challenges is to overcome the fragmentation of knowledge that characterizes traditional education. It is necessary to break down the barriers between disciplines and encourage interdisciplinarity, so that students can understand the interconnections between different areas of knowledge and apply them to the resolution of complex problems.

Another important challenge is teacher training. Teachers need to develop competencies in secular bioethics so that they can integrate this approach into their teaching practices. This implies not only the acquisition of theoretical knowledge, but also the development of skills to facilitate dialogue, critical reflection and ethical decision-making in the classroom.

## CONCLUSIONS

Secular bioethics is presented as a fundamental frame of reference for education in the 21st century. The integration of science, humanities and bioethics in education is essential to form critical and responsible citizens, capable of facing the ethical and social challenges of the age of artificiality. The educational approach based on dialectics complete with transversalities offers a tool to promote the understanding of self-similarity, universality and the search for solutions to contemporary challenges.

Education in secular bioethics is not only necessary to train future scientists and technologists, but also to form informed and responsible citizens, capable of participating in public debates on the development and application of science and technology. In an increasingly complex and interconnected world, secular bioethics can provide the necessary tools to build a more just, equitable and sustainable future.

## REFERENCES

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## ONLINE RESOURCES

UNESCO Bioethics Core Curriculum: [Enlace al recurso]

National Institutes of Health (NIH) Bioethics Resources: [Enlace al recurso]

## OTHERS

Aplicaciones de Inteligencia Artificial.

AI Gemini Advanced.

AI Meta.