

Human food complexity in teacher training: a multi-referenced didactic design that includes metasciences

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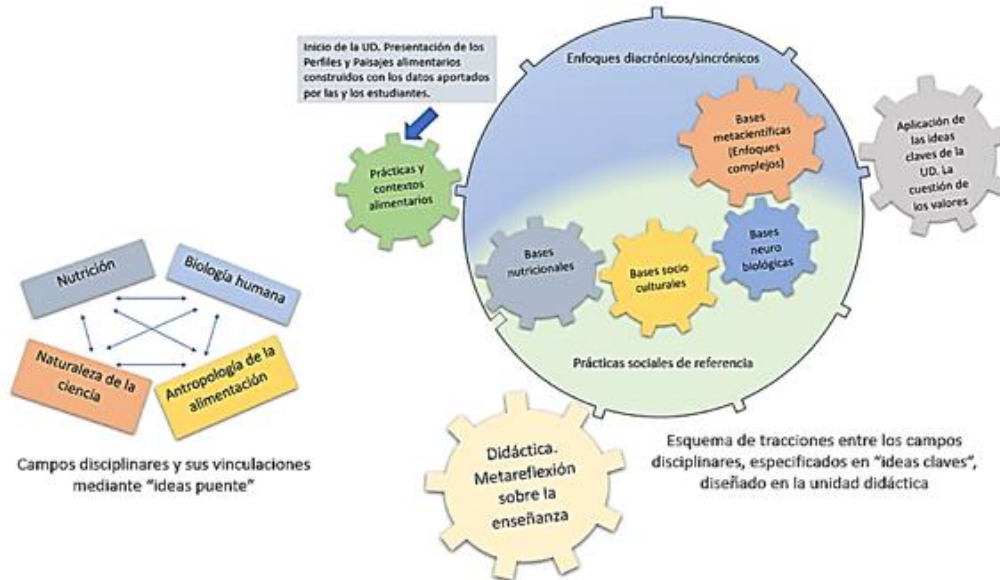
Extended summary:

Human food is conceptualized in various disciplinary fields as a complex and multidimensional phenomenon. From sociocultural perspectives, it is conceived as a phenomenon that mutually integrates and conditions both the biological-nutritional and the sociocultural aspects (Contreras and Arnaiz, 2005). Food transcends the act of eating, carrying meanings and revealing representations and values. The relationship between humans and food is complex in at least two dimensions: from the biological to the cultural (from the nutritional function to the symbolic one) and from the individual to the collective (from the psychological to the social) (Fischler, 1988). It is every day, familiar to all people and communities, and shapes identities, worldviews, and social distinctions (Flandrin and Montanari, 2011). From current health perspectives, it is associated with a genuinely complex phenomenon due to its properties of interaction and emergence (Rocca and Anjum, 2020).

This deep understanding is essential for guiding educational approaches that promote a conscious and holistic relationship with food in various sociocultural contexts. Consistent with this theoretical framework, we have developed a complex and multi-referenced approach to address socioscientific issues such as human food, constructing an islet of disciplinary rationality and educational reasonableness (Bahamonde, 2007; 2012; Bahamonde et al., 2021; Lozano et al., 2021). These interdisciplinary theoretical models are designed "ad hoc," selecting elements from different disciplinary fields and the everyday models of the students, combining them according to the project's objectives and the educational context, without abandoning theoretical thinking. It is an amalgamation of disciplinary rationality and educational reasonableness (Izquierdo and Aliberas, 2004), which promotes meaningful and action-oriented knowledge. Thus, diverse conceptualizations and methodologies are recombined, incorporating axiological issues and reference social practices (multidimensionality). The consideration of the spatial and temporal axes (synchronous and diachronic) situates and energizes the "islet", providing continuity and change (Bahamonde, 2007).

The didactic design includes activities to build key ideas about food in the nutritional, sociocultural, neurobiological, and metascientific fields from the Nature of Science (NOS) perspective. It simultaneously proposes the construction of "bridge ideas" that link these fields. The initial models are building on annotated photographs of the students' eating practices, produced by them, and organized into individual Food Profiles and the class group's Foodscapes, which serve as the foundation for work in each disciplinary field. The concepts of "Foodscape" (FS) and "Food profile" (FP) capture the complexity

of human food and are effective tools for engaging students (Mikkelsen, 2011). Since it is a didactic design for teacher training, it incorporates a metareflection on its architecture and implementation.



General Plan of the Didactic Design Architecture and Scheme of Interactions between Disciplinary Fields through "Bridge Ideas"¹

In this presentation, we choose to highlight the metascientific bases that promote explicit education in this field, updating and providing a critical approach to society's conceptions of science (Lederman, 1992; Adúriz-Bravo, 2005). We consider it appropriate to link the issue of human food with the metascientific notion of paradigm (Kuhn, 2006), as it facilitates the analysis and comparison of paradigms related to health and food from a reductionist disciplinary model and from an interdisciplinary, multidimensional, and complex. This analysis allows us to identify solutions to the problem, the diversity of social practices involved, and the possible explanations and interventions under the "theoretical umbrella" of each one.

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¹ A complete version of the Didactic Unit can be found at: <https://rid.unrn.edu.ar/handle/20.500.12049/11009>

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