

# Reflections on Curricular Design for Undergraduate in Health Sciences

Reflexiones sobre Diseño Curricular para el pre-grado en Ciencias de la Salud

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**ABSTRACT:** Since the 70's of the previous century, the Department of Histology and Embryology (Faculty of Medical Sciences, National Rosario University) issued publications on different facets of medical education, which still continue. Given the interest that curricular design still arouses, these reflections, which expand on related former publications, intend to contribute to this issue, particularly in developing countries like Argentina, where it constitutes a constant challenge and concern. In this regard: (a) its conditioning framework and multiple items linked with the curricular design, (b) already socialized hampering behaviors, and (c) recommendations from the Pan-American Health Organization to be considered and some personal suggestions in the same sense are successively addressed.

**KEYWORDS:** curricular design, undergraduate, health sciences.

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## PRELIMINARY COMMENTS AND AIM

Since the 70's of the twentieth century, the Department of Histology and Embryology (Faculty of Medical Sciences, National Rosario University) issued publications on different facets of medical education, which still continue, as one of its several research projects.

Given the interest that curricular design still arouses (Carrera *et al.*, 2003; Chapa *et al.*, 2022; D'Ottavio, 2022), these reflections, which expand on related former publications (D'Ottavio, 2016; D'Ottavio & Bassan, 2014; Mann *et al.*, 2009), intend to contribute to this issue, particularly in developing countries like Argentina, where it constitutes a constant challenge and concern.

## CONDITIONING FRAMEWORK

The following items may be considered as conditioning framework:

- the present global and digital world.
- the national context regarding its historical-socio-economic and cultural aspects.
- The educational laws and resolutions in force.
- The characteristic and educational level of the previous instructional stages.

- Health as a right and, simultaneously, as a complex and integral system.
- The current health care system.
- The population health's needs.
- The curricular design to replace or improve.
- the future forecast of professional practice, and,
- the quantity and quality of the student and teacher *corpora*.

## CURRICULAR DESIGN

Without establishing any priority, what cannot be omitted is below mentioned.

Intelligent model selection, curricular construction from the graduate profile to the admission system, operational objectives clearly establishing the pursued: competencies (i.e.: knowledge, attitudes, habits, values, cognitive and communicational skills, among them), patient-centered curriculum for health promotion, illness prevention and illness diagnosis and cure, use of learning theories and Edward McKeachie's principles (i.e. related and systematized issues, early contact with patients and community, varied experiences and future usefulness of acquired competencies).

Regarding its structure, the curriculum may be organized in cycles, areas and/or modules admin-

istratively supported in Chairs, Departments or Areas and contain compulsory and elective subjects, instrumental areas (statistics, foreign languages, scientific investigation methodology, etc.) and systems of correlations, evaluation and promotion.

It is also relevant the acquisition in increasing complexity throughout the curriculum of biological (particularly diagnostic skills) and scientific competences plus psychological, socio-anthropological, historical-philosophical and humanistic-artistic competences and horizontal as well as the horizontal and vertical integration of what can be integrated.

Likewise, it becomes essential the existence of teaching-learning experiences suitable to stimulate: primary health care, an active student, individual and team work, comprehensive reading and writing, abductive, inductive, deductive and analogical reasoning, concrete, abstract, critical, parallel and complex thoughts, interdiscipline trained from discipline, correct use of native and technical language, recurring also to etymologies, eponyms and figures of speech and management of ICTs.

Besides, the relevance of basic sciences cannot be underestimated, teaching and learning have to be associated with science procedures (hence, professional teachers become quite important) and simulations must be balanced with real practice.

Finally, quantitative and qualitative evaluations of curriculum, areas, modules or subjects, courses, students and teachers, availability of human, material and financial resources, ethical, bioethical and deontological support, unplanned hidden curriculum influence and adequate time for curricular growth, development and maturation have to be considered.

## HAMPERING BEHAVIORS

During the curricular design and implementation several hampering behaviors, formerly published (D'Ottavio & Bassan, 2014; Mann *et al.*, 2009) may become obstacles to be avoided.

## CONCLUSIONS

To sum up, as utopian as the abovementioned items may seem, it is worth considering:

- Three recommendations from PAHO to be carried out: Institutional Self-assessment of Social Responsibility, Interprofessionality, and Social mission of education in health sciences for health equity
- Hybrid formats combining the best of the past with the most consistent of the present, as well as anticipating future needs (Onyura *et al.*, 2016), and
- These antique and wise guiding questions for correct decisions: *what, when, where, why and what for, who and how*, registered in Aristotle's Nicomachean Ethics and subsequently rescued by Rudyard Kipling in *The elephant's child*, a story included in his book: *Just so stories for children*.

Furthermore, the curricular design, being a project, may be faced employing a scientific procedure suitable to produce a viable, methodical and consistent result. Consequently, when such an enterprise is undertaken this sequence may be followed: current state of knowledge and conditioning framework → Operational objectives → Methodology → Expected results → Tentative schedule → Availability and needs → Implementation → Results obtained → Evaluation of those results → Fulfilment of objectives or corrective adjustments.

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**RESUMEN:** Desde la década del 70 del siglo veinte, el Departamento de Histología y Embriología (Facultad de Ciencias Médicas, Universidad Nacional de Rosario) efectuó publicaciones sobre distintas facetas de la educación médica, que prosiguen en la actualidad. Dado el interés que aún suscita el diseño curricular, estas reflexiones, ampliando publicaciones anteriores relacionadas, pretenden contribuir a este tema, particularmente en países en vías de desarrollo como Argentina, donde constituye un constante desafío y preocupación. Al respecto, son sucesivamente abordados: (a) su marco condicionante y múltiples ítems vinculados con el diseño curricular, (b) conductas obstaculizadoras ya socializadas, y (c) recomendaciones de la Organización Panamericana de la Salud para ser consideradas y algunas sugerencias personales en idéntico sentido.

**PALABRAS CLAVE:** diseño curricular, grado, ciencias de la salud.

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