

Chapter 1

Perspectives on Learning and Teaching Science: Influence on Clinical Pharmacy Education

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ABSTRACT

Since birth, humans absorb information from what surrounds them. Kindergartens, schools, and universities work as institutions to insert everyone in a culturally similar environment, giving equal educational opportunities to future citizens. These institutions develop human competencies for a society enabled to feed everyone, to sustain healthcare, and to protect the environment. This effort implies educational performances, whose grounds should rely on theories of learning and different modes of teaching. Pharmacy faculties, apart from teaching, reinforcing, and updating the students' knowledge on pharmaceutical sciences, guide students towards respecting different health professionals, aware of their role as educational supporters of patients and families who use pharmacies as the closest advising and health caring places. This is especially important nowadays, with the complexity of some diseases and the rising costs of healthcare. This chapter gives an overview of pharmacy teaching and learning according to the European Association of Faculties of Pharmacy.

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INTRODUCTION

Learning is simultaneously an intuitive animals' born in aptitude, but also, if considered as an enterprise taken up to its utmost level, learning can be a very complex and multifaceted mental organization based on several attitudes, motivations, and different mental efforts. Since the last decades of the XIX century, psychology has tried to explain how animals learn.

The first scientific learning theories found fundamentals on irrational animals' behavior, mainly developing memorization encouraged by immediate rewards. Studies on human learning started producing learning theories in the second and third decades of the XX century when Dewey, Piaget, Vygotsky, and others wrote about learning theories based on the due rational development of human minds. Pharmacists are educated to work with technological products based on applications of scientific knowledge aiming at the improvement of human health and quality of life. Hence, pharmacists must learn basic Natural and Physical sciences, together with their different pharmacological applications. To fulfill adequately their role in publics' attendance and health care, envisaging a patient-centered pharmaceutical practice, they have also to develop pedagogical knowledge and competences, including communication, planning, forecasting, and digital soft skills.

Pharmacists should acquire the right mixture of abilities to deal with the most probable social, scientific, and technological changes one envisages on health care soon. They must be open and motivated to look for lifelong learning, either provided by health institutions or created by health care professionals participating in communities of practice, where members help colleagues developing inquiries and research projects. Pharmacists must be prepared to participate in helping the development of new models of health care collaborating with teams of physicians and other health professionals.

This work reports on physical sciences general methodologies developed during physics teachers' pre-service and in-service professional education, applied to the education of pharmacists especially in what concerns the advantages of a strong Clinical Pharmacy component for quality enhancement of the society's health care systems.

BACKGROUND

How Human Beings Learn

Since birth, humans start absorbing information from what surrounds them. Babies recognize their mothers and the close family, most especially those who feed them

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