

How does radiology education change over time?

When one is an educator, and possibly every person is one in some facet of his or her life, one of the questions that arises is how best to achieve this.

In medicine, professionals become educators of those who are training as physicians, as specialists or subspecialists, and also of learners in related careers, such as nurses and technologists in paramedical areas.

In the last century, pedagogy in medicine was not a common professorship in universities. This function of educating was carried out with few tools, through what was learned, to educate in their own careers, following the parameters that the institutions dictated and based on their own precepts and philosophies. Today, universities often offer education courses for teachers, in which experts in the field of education provide useful tools to perform this function, including topics as varied as classroom management and students in the classroom, the appropriate language to educate, the most appropriate ways to make an assessment; in addition, the guidelines and rules that each university or educational institution has are shown. Currently, teachers are required to take courses on research rules, such as good clinical practices, which undoubtedly strengthen their role as educators.

The transmission of knowledge is, of course, one of the main functions of the educator; it consists of transmitting knowledge, which —particularly in medicine— advances, evolves and changes day by day, with the probability that some of them may have substantial modifications due to recent discoveries in their pathophysiology or etiology in the light of new concepts in genetics, to give an example. Nowadays it becomes a challenge for the teacher to keep up to date. It is there when not only transmitting a concept, a subject or a topic, but educating on how to acquire it, how to keep up to date on it and how to analyze the literature, is a valuable point when educating. Although access to publications through the Internet is very easy and up to date, the learner and educators can find themselves overwhelmed by the large amount of publications that are produced worldwide on a specific topic, against the time they have to update themselves efficiently.

At this point, teacher-student interaction is undoubtedly valuable, in which there are mutual gains, as young learners have skills and tools that allow them to more easily access sources of bibliographic update, such as virtual libraries, specialized medical organizations and virtual education sites.

The learner then, to acquire knowledge of a specific area has, without a doubt, to study, understand and learn concepts about specific topics in their area, some that endure over time without much variation, for example, anatomy, the formation of X-rays and their interaction with the components of the human body, to properly interpret an X-ray or a CT scan.

They must also acquire the tools to continue learning and updating themselves in those areas that are rapidly advancing, such as MRI sequences, World Health Organization classifications for brain tumors, or updated criteria for diagnosing multiple sclerosis based on MRI.

How to carry out the process of reading an image in radiology is something that radiology students learn every day from their professors. How a reading of a radiological study implies the responsibility of giving an answer to the question of the person who requests it and for which it is not only important to know what is white, black or gray in a certain image, and to describe it, but also the correlation with the patient's history, clinical findings and evolution over time according to previous imaging studies that today are relatively easy to have at hand and that can diametrically modify the meaning of the image being interpreted.

Learning to communicate properly is, perhaps, an enduring value in radiology education. Teaching to do so using precise and clear language for users, which today is facilitated by the existence of structured radiology reports.

In summary, past times were not better than today in education, they were different. Although today it is easier and faster to acquire knowledge, the challenges are also greater: scientific concepts, equipment and techniques in radiology and diagnostic imaging are rapidly updated; some become obsolete in a short time.

What remains to be taught? Many basic and universal concepts. In radiology it will always be useful to teach how to analyze images, how to transmit in a clear, correct way and with appropriate language a written document, the radiology report, which is one of the final products of the radiologists' daily work.

Sonia Bermúdez Muñoz
Editor