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Special issue on teaching in Anatomy

Thinking anatomical science education in the future, beyond the limits

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The study of anatomy holds a pivotal role in the early stages of our country's medicine course degrees. The exploration of standard human body structure is now intricately linked to the study of microscopic anatomy, embryology, and molecular interactions. Anatomy serves as a bridge to physiology, pathology, and a multitude of clinical disciplines, applying knowledge of both normal and abnormal structures.

Considering the continuous and unceasing evolution affecting medical course degrees, nowadays increasingly "problem-based" and where anatomy curricula must necessarily have a more integrated approach, the anatomy teaching must require increasing attention both to curricular parts that need new forms of integration and to the study of new teaching methodologies that, together with what is classical must always be present, must be able to be cutting-edge, integrating with the latest experimental technologies proper to the diagnostic and clinical sciences.

Teaching methodologies also need to be tested, much more today than in the past, to show their validity in each student's educational process. Based on current trends and research findings, the future of anatomical science education is undergoing significant evolution.

Anatomical education is evolving in tandem with the changing landscape of medical education. It integrates anatomical science with clinical implications, such as in minimally invasive surgery, to enrich students' comprehension and preparedness for future medical practice (McCumber et al., 2022). The international development of core syllabuses for anatomical sciences signifies a global commitment to standardizing anatomical education (Moxham et al., 2014). As the field advances, there is an increasing demand for enhanced support for anatomical educators. This collective effort is crucial in upholding the quality of anatomy training in medical and health sciences institutions (Wilson et al., 2020). Integrating new educational technologies, adapting teaching styles, and revising anatomy courses are critical drivers of the evolution of anatomical science education (Pawlina & Drake, 2010).

Cadaveric dissection has been a cornerstone of anatomical education for centuries, providing students with a hands-on experience to observe and understand the complexities of human anatomy. This classical method of learning anatomy through dissection allows students to appreciate the vari-

ability of anatomical structures and develop a comprehensive understanding of the human body. By dissecting cadavers, medical students learn to accept anatomical details as they appear in the human body, fostering a holistic perspective on anatomy (Ghosh, 2016). The dissecting room remains a cornerstone of anatomical science education, offering students a unique and invaluable learning environment. Through cadaveric dissection, students acquire essential anatomical knowledge and skills and develop professionalism, empathy, and respect for the human body. The dissecting room remains a vital space where future healthcare professionals establish the foundation for their medical careers through immersive and experiential learning.

Today, digital technologies have significantly impacted anatomical science education by revolutionizing teaching methods and enhancing students' learning experiences. Integrating digital resources, such as virtual dissection tables, anatomical software applications, and three-dimensional models, has transformed anatomy education (Harmon et al., 2021). These technologies have enabled educators to create interactive and engaging learning environments that cater to diverse learning styles and preferences, ultimately improving students' understanding and retention of anatomical concepts (Xiao & Adnan, 2022). By incorporating multimodal digital resources, educators can enhance contextual learning, promote active engagement, and provide students with a more comprehensive understanding of anatomical structures (Xiao, 2023). Since the COVID-19 pandemic, educators have effectively used online tools and digital platforms to deliver anatomy classes, showcasing the versatility and adaptability of digital technologies in anatomy education (Attardi et al., 2022). In addition, digital technologies, such as augmented and virtual reality, have provided immersive and interactive learning experiences in anatomy education (Jiang, 2024).

Furthermore, combining art and science in anatomy education has been recognized as a valuable tool for developing scientific imagination and engaging students from diverse backgrounds. By incorporating visual arts into the science curriculum, educators can stimulate creativity, critical thinking, and interdisciplinary learning, ultimately enriching the educational experience for students (Okwara & Pretorius, 2023).

Finally, the importance of inclusivity in anatomical science education cannot be overlooked. An inclusive approach ensures that all students, regardless of their background, gender identity, or abilities, have equal access to learning opportunities and resources. By fostering inclusivity, educators create a supportive and welcoming environment that values diversity and promotes equity in education (Longhurst, 2024). This inclusive approach helps students develop a deeper understanding of anatomical variations and fosters a more inclusive and respectful attitude towards diverse patient populations in their future medical practice (Štrkalj & Pather, 2020).

In conclusion, the future of anatomical science education is moving towards a more integrated, inclusive, and technologically advanced approach that complements established practices such as cadaver dissection or prosection. By adapting to changing educational needs, embracing diversity, and providing adequate support for educators, anatomical science education is well-positioned to meet the demands of modern medical practice and ensure a high standard of anatomical training for future healthcare professionals.

The articles devoted to anatomical education published in this issue and the next issue represent evidence of Italian anatomists' attention to these issues.

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