

The Impact of Contemporary Educational Technologies in Anatomy Education

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DESCRIPTION

Beginning with the chalkboard approach, anatomy education and instruction have progressed to include overhead projectors, PowerPoint presentations, 3D models, virtual dissections, and, most recently, online remote learning with 3D virtual dissection. The study of human anatomy is the cornerstone of medicine, and it is the responsibility of anatomy teachers to ensure that students have a solid understanding of the intricate workings of the human body. Modern teachers use a variety of cutting-edge tools to help their students learn in addition to actually teaching them. The introduction of these contemporary educational technologies is not entirely new; these modalities are already in use, but in the current environment, their significance has expanded dramatically. Therefore, anatomy teachers need to keep updated with developing technology in medical education.

The way that students learn has also changed significantly throughout time; they no longer only rely on textbooks to do so. They are quite computer aware and comfortable using a variety of devices to learn anatomy. They are currently updating their dissection skills by watching YouTube videos, utilizing different learning tools, and going to online workshops. New additions to help students understand anatomy include an anatomy studio, a virtual dissector, simulation labs, a radiography machine, etc. The most recent development in anatomy education is endoscopic anatomy, which offers students a completely different perspective on the human body. We have discussed several educational tools and their use in the delivery of anatomy training in the post-COVID era in light of these more recent advances.

Anatomy education is undergoing significant changes, and online web-based remote learning and portable network devices are increasingly important parts of the learning environment. These developments are also changing the anatomy curriculum and having an impact on design. In the current environment, students have access to a great amount of web-based information that can be used as a source for self-directed learning in the form of interactive programmes or automated learning systems. Nowadays, everything is available online, including the lecture

calendar, presentations that are ready to view, the exam schedule, and assessment results, all with a single click. The majority of courses are given online using tools like Google Classroom, Microsoft Teams, and Zoom Meetings.

Although formal lectures are still the main method of instruction for anatomy, new communication and information technologies can improve the environment for teaching and learning. They have the potential to improve the integration of learning and problem-solving strategies by disseminating vast volumes of factual information in an ordered manner in a digitalized form, which adds interest to traditional didactic presentations. Despite the fact that web-based platforms are common among students, they must exercise caution.

Wikipedia is a well-known online resource that offers incomplete, incorrect, and missing information. Additionally, a sizable percentage of references cited in entries come from ill-defined sources. Although Wikipedia is a resource that many people can quickly access and much of the anatomical information is accurate, it cannot be compared to anatomic texts as a reliable source.

Limitations

It is crucial to note that despite the significant advantages provided by the use of technology and the modifications that allowed for continuous instruction with the best outcomes during the COVID-19 lockdown, there were a number of restrictions that we found.

- While virtual cadavers offer a realistic image of 3D anatomical details, cadaveric dissection gives students a hands-on learning experience and aids in the early development of surgical abilities. It is unrealistic to learn anatomy through virtual dissection. It is impossible to fully imitate the sensation of touching a cadaver, cutting into the skin, and peering inside the natural complexity of the body. In order to strengthen fine motor skills in a stress-free environment, these newer technologies can be utilized as a supplement to view the anatomy of complicated structures like the middle ear cavity or ethmoidal air sinuses.

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- Although cadaveric simulation has been shown to be effective in delivering content, its ability to enhance surgical skills among postgraduate trainees honing their skills on cadavers is unmatched.
- All of these more modern modalities have excessively high costs (both to purchase and to maintain), which not all medical schools can afford.

CONCLUSION

A global agreement on what is best for students and communities in the post-COVID age is now extremely impractical. Each nation must create its own system in the

meantime to maintain high standards for anatomical training and instruction. It might ask students to priorities, manage their time, and show empathy in order to restructure the anatomy curriculum without altering its core principles. It has been established that the first-ever use of online pedagogy is efficient as an interim solution to finish ongoing course content and lectures, but the long-term results may remain uncertain. To quickly improve anatomy education, policymakers must carefully consider how to combine offline and online modalities.

Last but not least, Estai and Bunt stated that the ideal way to teach current anatomy is by combining several educational tools that work in harmony with one another. Integrating multimodal and system-based approaches seems to improve student learning.