

Pilot study – survey on 3D models for teaching of anatomy and clinical subjects

ERASMUS+ - Anatomically aCCuratE 3D modEls (ACCEDE)

The purpose of survey

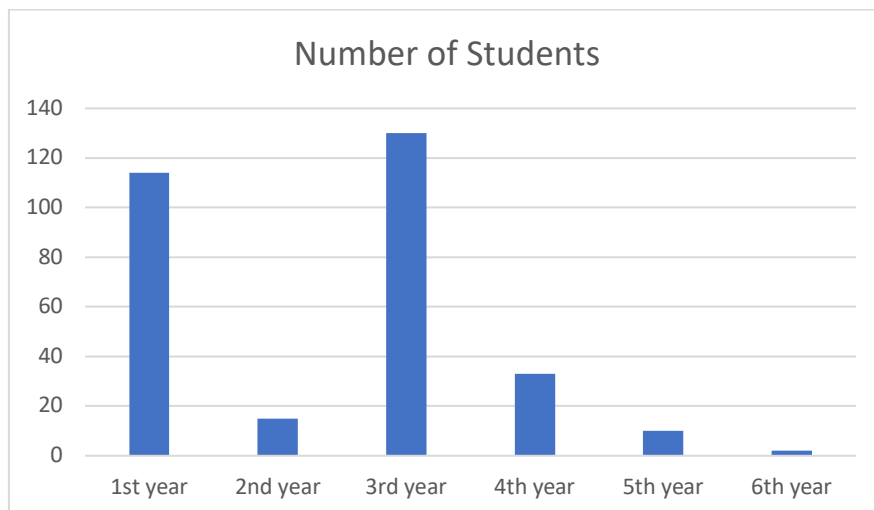
The purpose of the survey among the students of our faculty was to gather feedback on the quality, usability, and effectiveness of the 3D-printed anatomical models used in their practical lessons. This feedback was crucial in evaluating how well the models supported their understanding of complex anatomical structures and enhanced their learning experience. Additionally, the survey aimed to identify areas for improvement, ensuring that future iterations of the models and teaching methodologies could be refined to better meet student needs and learning objectives.

Methodology

The survey methodology was straightforward and efficient, designed to gather input directly from students participating in practical classes at our simulation center. A questionnaire was created using Google Forms, allowing for easy digital distribution and data collection. A QR code linked to the survey was generated and provided to students attending the simulation-based lessons. This ensured quick access to the survey, encouraging participation and facilitating immediate feedback about their experience with the 3D-printed anatomical models. The collected responses were then analyzed to assess the models' impact on their learning and identify areas for further enhancement. All-together, 12 questions were asked regarding the quality of the 3D models (several anatomical structures were provided - scapula, mandibula, skull, heart, kidney, aorta, vertebra and femor bone etc.).

In survey, we focused on the students from the lower study year who are in the process of learning anatomy, or have just freshly passed the anatomy. All together we have gathered information from 304 students, which was far more as we expected (120 students).

The distribution of the students with respect to the year of study is as follows:

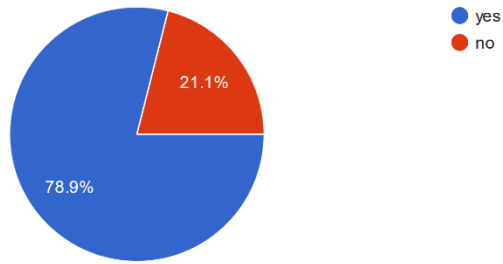


Year of Study	Number of Studets
1st year	114
2nd year	15
3rd year	130
4th year	33
5th year	10
6th year	2

Herein, a visual processing of the answers on 11 questions is presented:

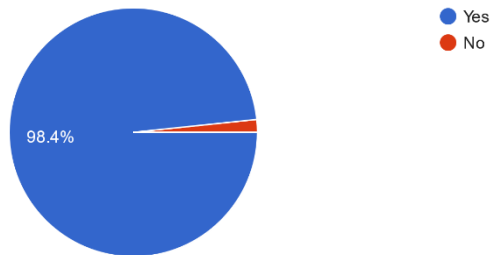
Did you pass an exam in Anatomy?

304 responses



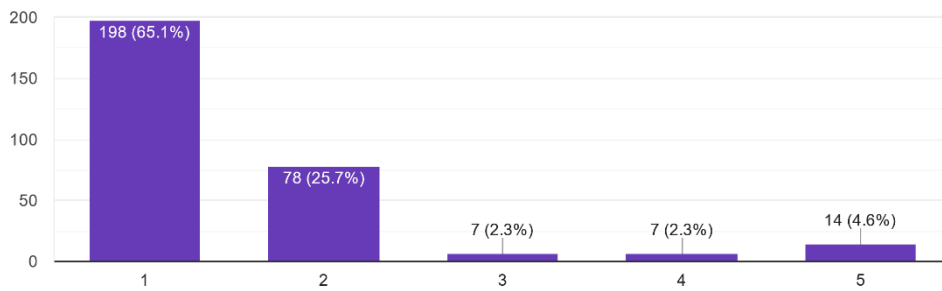
Do you recognize this structure?

304 responses



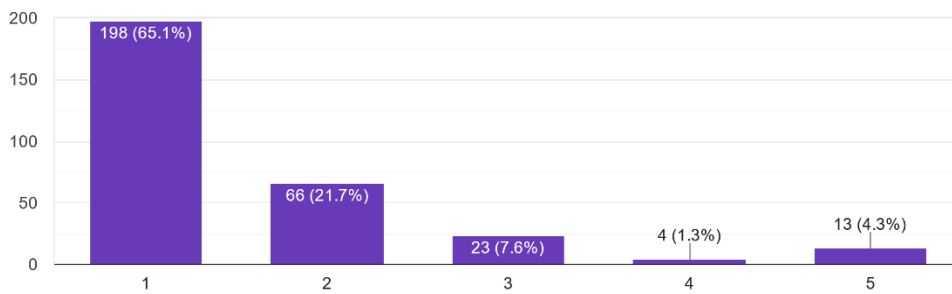
How useful do you find 3D printed anatomical models for understanding complex anatomical structures?

304 responses



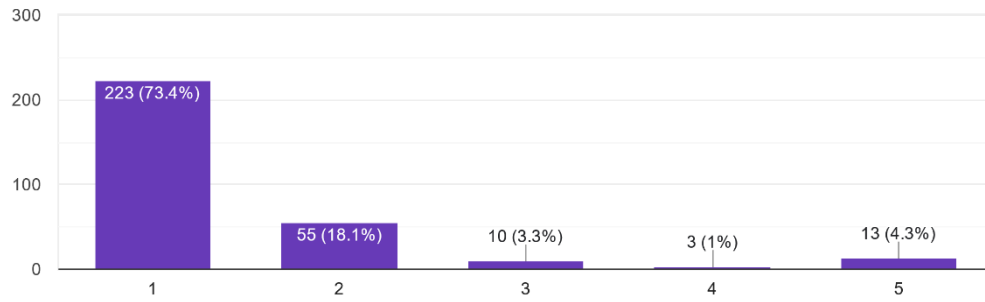
Do you feel that 3D printed anatomical models enhance your learning compared to traditional study methods (e.g., textbooks, 2D images, or videos)?

304 responses



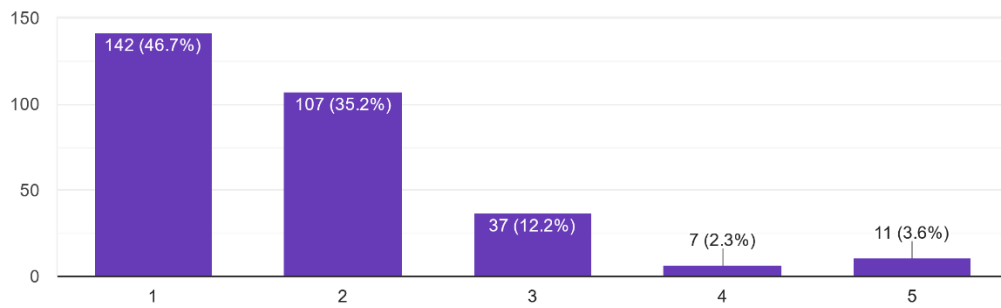
Do you find 3D printed models helpful in improving your spatial understanding of anatomical structures?

304 responses



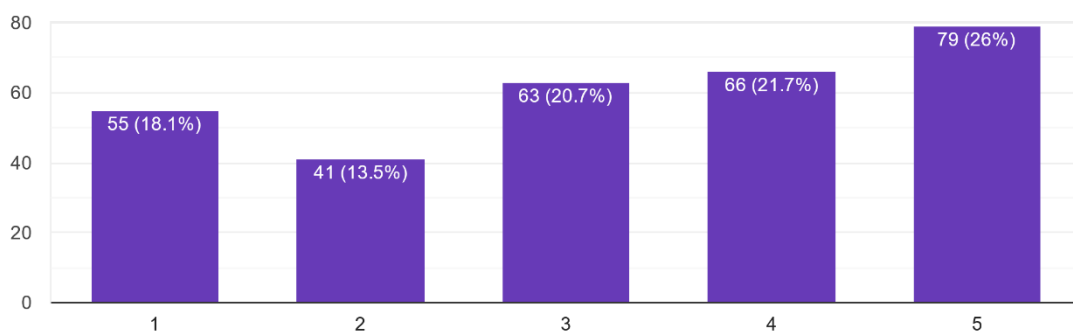
How much more confident do you feel in your ability to identify and understand anatomical structures after using 3D printed models?

304 responses



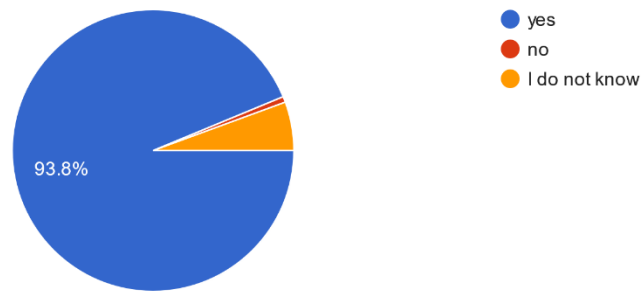
How easy is it for you to access the 3D printed models for your studies?

304 responses



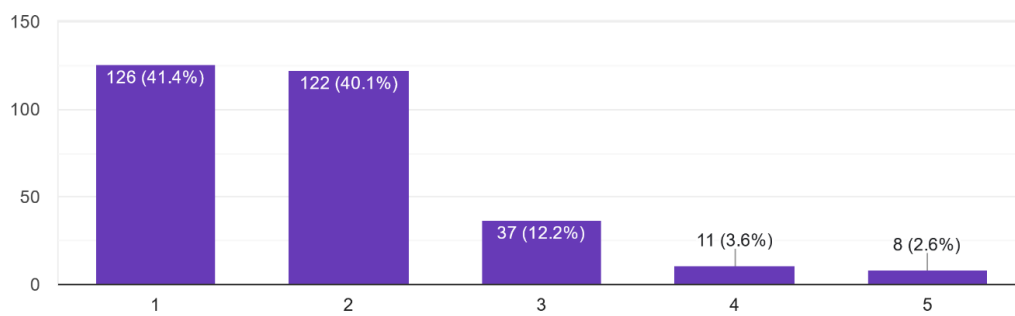
Do you think the availability of 3D printed anatomical models should be expanded to other areas of study or disciplines?

304 responses



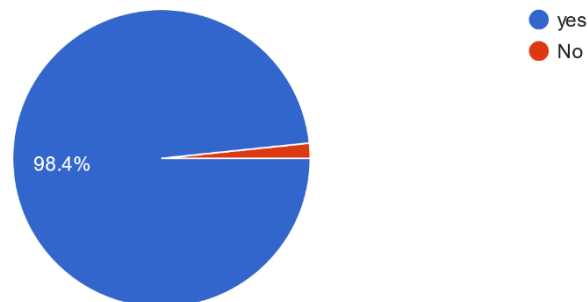
How realistic you consider this model?

304 responses



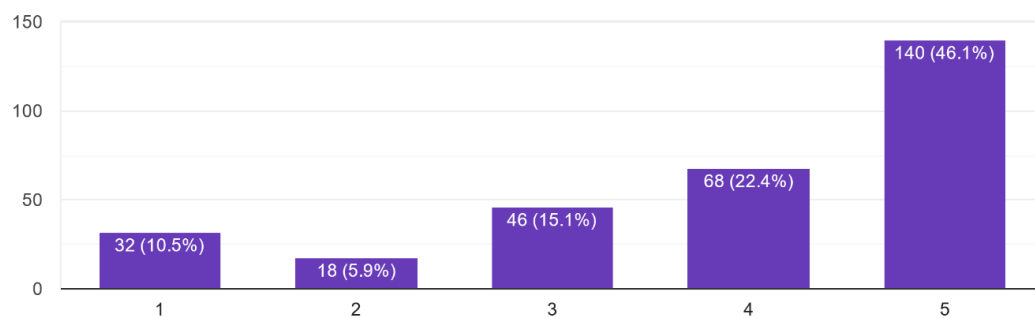
Would you like to use similar model for learning?

304 responses



How often in your studies do you use 3D printed anatomical models in your studies?

304 responses



Conclusion

The survey yielded fantastic results, highlighting the effectiveness of 3D-printed anatomical models in medical education. Students demonstrated remarkable success in recognizing structures and praised this innovative method as far superior to traditional forms of learning. They expressed that using 3D models whenever possible could significantly boost their confidence and understanding. While they recognize the potential of this approach, they noted that access to these models for independent study is still limited and expressed a strong desire to see them integrated into more classes. These findings reaffirm the value of our efforts, motivating us to continue developing and expanding the use of 3D printing in medical education.