

# Learning Through Creation: A Lesson in Anatomy Through Sculpture

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**PURPOSE:** Facial anatomy is a complex topic that is often difficult to teach. Multiple interconnected layers of tissue make up the underlying facial components and three-dimensional visualization is essential to understanding the relationships between critical structures. Sculpture allows the student to appreciate these relationships and the typical proportions of various facial features with regards to one another. This technique is grounded in constructionism, a learning theory that states a strong connection exists between design and learning<sup>1,2</sup>. We sought to determine if medical students' knowledge of facial anatomy would be improved through the creation of a portrait sculpture.

**METHODS:** 16 students attended a 4-hour sculpture workshop administered by an instructional team affiliated with Dalhousie University's Division of Plastic and Reconstructive Surgery and the Humanities Department. Attendees were provided with 10lbs of clay and sculpting tools. Students were guided by an experienced facilitator and plastic surgery resident who anchored the sculpting process on anatomical principles. Pre- and post- questionnaires were administered assessing students' confidence in specific facial anatomy principles.

**RESULTS:** Students reported their knowledge of facial surface landmarks, facial proportions, soft tissue layers, muscles, bones, arteries, skin tension lines, the golden ratio, and observational skills were significantly enhanced by the workshop ( $P < 0.05$ ). 81% of participants said they were very satisfied with the sculpture workshop, and 100% would recommend it to other students. Moreover, 100% of students reported that they would like more sculpture workshops offered and 94% believed that there should be other methods of anatomy training than what is currently offered in medical school.

**CONCLUSION:** This study demonstrates that anatomical concepts can be effectively learned through guided sculpture technique facilitated by anatomy instruction. We recommend this form of teaching as an addition to the current methods of practice. In the future we hope to develop further workshops focusing on other anatomical regions.

## REFERENCES:

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