Head and Neck Anatomy Online Educational Resources

Tiffany Hoang[1], DDS 2026; Kaitlyn Nguyen-Ngo[1], DDS 2026; Tyler Villar[1], DDS 2026; Arya Mofidi[1], DDS 2026; Cassio Almeida-da-Silva[2], PhD; Homer Asadi[2], DDS; Aline Moreira-Souza[2],MS, PhD

[1] Doctor of Dental Surgery; [2] Department of Biomedical Sciences, University of the Pacific, Arthur A. Dugoni School of Dentistry, San Francisco, California, USA.

INTRODUCTION

- The Head and Neck Anatomy Online Educational Resource was developed as a supplemental learning tool for first-year dental students enrolled in the Applied Orofacial Anatomy course at the University of the Pacific (UOP)
- Given the highly accelerated nature of the course and the high volume of material, students must quickly grasp complex anatomical structures
- By providing organized study material on a digital learning platform for an accelerated course where physical models lack instructional labeling, this resource aims to enhance student comprehension, independent learning, and academic success.

OBJECTIVE

- This project aims to improve the efficiency of the active learning process and give students autonomy by providing a structured, organized, and accessible digital resource for dental students

METHODS

- The resource consists of high-resolution photographs of Von Hagens; plastinated models and skulls, with relevant anatomical structures clearly labeled
- These images are available on Anatomy lab computers in an interactive interface, allowing students to practice active learning and reinforce their knowledge outside of lab hours
- The cadavers used in class are unlabeled and require instructors' guidance, making independent study challenging

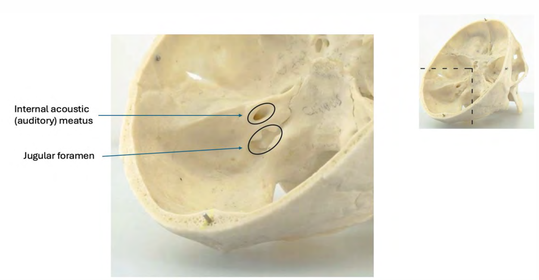

Figure 1. Example of osteology module labeling the anatomical landmarks of the interior of a skull

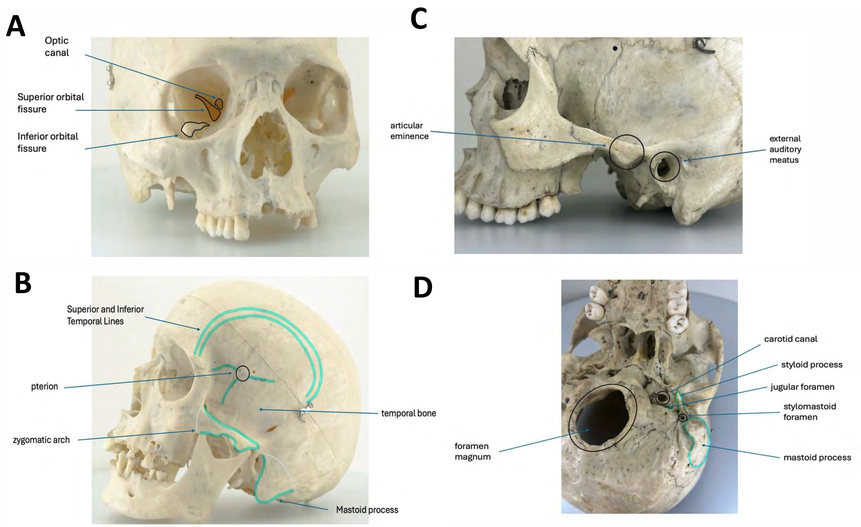

Figure 2. Example of osteology module labeling the anatomical landmarks in the orbit (A), the lateral surface of the skull (B), lateral view of the skull (C), inferior view of the skull (D).

EXPECTED RESULTS

- This project will promote student autonomy, allow the active learning process, and enhance student comprehension, spatial awareness, and retention of anatomical relationships by providing a digital reference with clearly marked anatomical structures
- Upon completion of the module, we plan to distribute a survey to assess student feedback and overall satisfaction. The survey will measure how much students feel they have learned, as well as gather additional insights through open-ended questions
- We anticipate that students who engage with the resource will report high levels of satisfaction and a noticeable improvement in their understanding of the material
- Although results are not yet available, we expect students who used the resource to perform better academically compared to those who did not, as reflected in overall grades. Through survey responses and grade comparisons, we aim to demonstrate the module's positive impact on both learning outcomes and student satisfaction

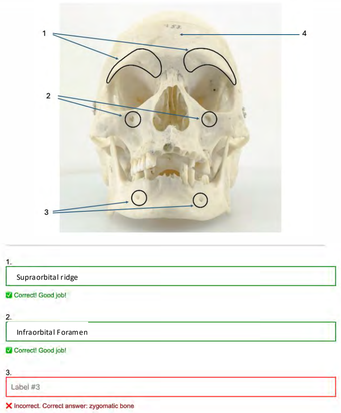

Figure 3. Trial testing software to be used for student self-assessment

Figure 4. Student authors after video recording of the introductory video.

CONCLUSION

- By offering a user-friendly, structured, and visually guided educational tool, this project supports student success in understanding head and neck anatomy, a critical component of their dental education
- Future research may assess the impact of this resource on student engagement and academic performance, helping to refine digital learning tools in dental education
- We are currently presenting only the osteology module, with plans to expand and develop additional modules to further support student learning in head and neck anatomy

ACKNOWLEDGEMENTS

- This initiative would not have been possible without the valuable contributions of Dr. Aline Souza, Dr. Cassio Silva, Dr. Sinky Zheng, James Reynov, and Dr. Homer Asadi, whose expertise and support were instrumental in developing this resource. Their dedication has been crucial in ensuring UOP dental students access high-quality, well-organized study material.

OKU Sutro Excellence Day Project Cover Sheet

Project Title

Head and Neck Anatomy Online Educational Resources

Full name(s) and class year(s) of all project collaborators

Example: Jane Smith, DDS 2022; John Smith, DDS 2022

Tiffany Hoang, DDS 2026; Kaitlyn Nguyen-Ngo, DDS 2026; Tyler Villar, DDS 2026; Arya Mofidi, DDS 2026; Cassio Almeida-da-Silva, PhD; Homer Asadi, DDS; Aline Moreira-Souza, MS, PhD

Project Category

DDS/IDS/DH - PIP Awards: Teaching Material Creation

Enter your abstract text here (max 300 words)

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Methods: The resource consists of high-resolution photographs of Von Hagens' plastinated models and skulls, with relevant anatomical structures clearly labeled. These images are available on Anatomy lab computers in an interactive interface, allowing students to practice active learning and reinforce their knowledge outside of lab hours. The cadavers used in class are unlabeled and require instructors ’ guidance, making independent study challenging.

Result: This project promotes student autonomy, allows the active learning process, and enhances student comprehension, spatial awareness, and retention of anatomical relationships by providing a digital reference with clearly marked anatomical structures. Conclusion: By offering a user-friendly, structured, and visually guided educational tool, this project supports student success in understanding head and neck anatomy, a critical component of their dental education. Future research may assess the impact of this resource on student engagement and academic performance, helping to refine digital learning tools in dental education.

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