

Evaluating the Impact of an Intensive Head and Neck Anatomy Workshop on Recently Graduated Dental Practitioners

Vivek Singh Malik ^{*1}, Gargi Soni ², Vaishali Khatri ³.

^{*1}Professor of Anatomy, Pt. BD Sharma PGIMS, Rohtak, India. ORCID: <https://orcid.org/0000-0003-4544-7490>

²Senior Lecturer and Professor in Gross Anatomy, University of Central Lancashire & American University of the Caribbean, UK. ORCID: <https://orcid.org/0009-0007-0853-7813>

³Senior Lecturer and Professor in Physiology, University of Central Lancashire & American University of the Caribbean, UK. ORCID: <https://orcid.org/0000-0002-8498-9842>

ABSTRACT

Background: Knowledge of head and neck anatomy is crucial for dentists to ensure safe and effective clinical practice. Short courses and workshops can aid in the assimilation, retention, and application of anatomical knowledge, providing a strong foundation for clinical advancements. This qualitative study examines the perceived effectiveness of a six-hour intensive head and neck anatomy short course designed as an intensive review for recently graduated dental practitioners preparing for membership of the faculty of dental surgery (MFDS).

Material and Methods: This was a qualitative, questionnaire-based study analysing participant feedback from workshops conducted between 2022 and 2024. A structured feedback questionnaire comprising eight open-ended questions was administered at the end of the course. Responses were received from all participants (N=51). The qualitative data were analysed thematically to identify common insights, challenges, and areas for improvement.

Results: Participants unanimously agreed that revisiting core and clinically relevant anatomy was essential for daily clinical practice. They found the workshop beneficial in reinforcing anatomical knowledge, enhancing their understanding of clinical applications, and preparing for professional licensing exams. However, some participants suggested modifications in pacing and content delivery to optimize learning outcomes.

Conclusion: The analysis revealed that participants valued the comprehensive and interactive nature of the course; content density was felt by some to be challenging. Insights from this evaluation will inform further enhancements to better prepare candidates for postgraduate professional exams such as MFDS part 1.

KEYWORDS: Anatomy, Dental Education, Workshop, Clinical Practice, Professional Development

Corresponding Author: Dr. Vivek Singh Malik, Professor of Anatomy, Pandit BD Sharma University of Health Sciences, Rohtak, India. E-Mail: vivekmalik98@gmail.com

Access this Article online	Journal Information	
Quick Response code  DOI: 10.16965/ijar.2025.146	International Journal of Anatomy and Research ISSN (E) 2321-4287 ISSN (P) 2321-8967 https://www.ijmhr.org/ijar.htm DOI-Prefix: https://dx.doi.org/10.16965/ijar	
		
	Article Information	
Received: 06 Mar 2025		Accepted: 14 May 2025
Peer Review: 10 Mar 2025		Published (O): 05 Jun 2025
Revised: 10 Apr 2025		Published (P): 05 Jun 2025

INTRODUCTION

A thorough understanding of head and neck anatomy is essential for dentists to ensure safe and effective clinical practice [1]. Short courses and workshops have been shown to facilitate the assimilation, retention, and application of

anatomical knowledge, providing a solid foundation for clinical advancements [2,3].

Annually, a six-hour intensive head and neck anatomy workshop is conducted to help recently graduated practicing dentists refresh their knowledge and prepare for professional

licensing exams. Studies suggest that integrating anatomy education with clinical applications enhances understanding and improves patient outcomes [4].

This study aims to assess the benefits of this one-day workshop and identify areas for improvement to maximize participant outcomes.

METHODS

This was a qualitative, questionnaire-based study conducted during a series of intensive one-day head and neck anatomy workshops held from 2022 to 2024. The workshops were organized for dental professionals and students in a workshop organized by a professional association in the United Kingdom, aiming to enhance applied anatomical understanding relevant to clinical dental practice. To ensure educational alignment, the workshop was designed with clearly defined objectives and a structured session-wise flow. The core objectives included:

- 1. Reinforcing applied anatomical knowledge of the head and neck relevant to clinical practice.
- 2. Enhancing participants’ ability to relate anatomical structures to diagnostic and therapeutic decision-making.
- 3. Promoting engagement through interactive tools and clinical correlations.

Each workshop included structured didactic sessions and interactive components such as quizzes, case-based discussions, and digital tools. The physical venue was equipped with a large screen, accessible seating arrangements, and supported by digital quiz applications to enhance learning engagement. The setting was chosen to foster active clinical learning, and the environment allowed for meaningful peer interaction and reflection on clinical applications of head and neck anatomy.

Feedback was collected using Microsoft Forms through an anonymized survey link shared via email and in-class announcements. The questionnaire contained open-ended questions and Likert-scale items to assess the effectiveness of each session. Participation was

voluntary, with the option to withdraw at any time. The feedback questionnaire remained open for seven days. 51 participants returned filled forms. Responses were analysed using thematic coding for qualitative data and descriptive statistics for Likert-scale ratings. Confidentiality was maintained, with all data anonymized.

Pre-test and post-test assessments were intentionally not included in the study design. The primary objective was not to measure knowledge gain quantitatively, but rather to explore participant perceptions and experiences qualitatively. This approach aligns with the educational and exploratory nature of the study.

Study Design Summary (COREQ-Aligned)

Component	Description
Design	Qualitative study using open-ended questionnaires and Likert-scale items
Setting	In-person one-day workshops in a workshop organized by a professional association in the United Kingdom.
Participants	N = 51 dental students and professionals from workshops (2022–2024)
Recruitment	Via email invitations and class announcements
Consent	Informed consent obtained, participation voluntary
Data Collection Tool	Microsoft Forms (8 open-ended + Likert-scale questions)
Confidentiality	Maintained through anonymized responses
Analysis	Thematic coding for qualitative data; Descriptive statistics for Likert data
Software Used	SPSS added for statistical support (as per reviewer suggestion)

The curriculum was developed to balance theoretical knowledge with clinical applications to enhance participant engagement and retention.

Course Sessions and Objectives

- 1. Cranial Nerves and Clinical Anatomy:** Understanding the functional anatomy of cranial nerves. Recognizing clinical signs of cranial nerve palsy and their implications in dental practice.
- 2. Oral Anatomy:** Reviewing the anatomy of the oral cavity, palate, pharynx, and salivary glands. Discussing the relevance of these structures in routine dental procedures and pathology.
- 3. Muscles of Mastication:** Revisiting the anatomy, attachments, and functions of the muscles of mastication. Exploring clinical

correlations such as TMJ disorders, bruxism, and nerve supply.

4. Surgical Anatomy of the Head and Neck: Identifying key anatomical landmarks relevant to maxillofacial and dental surgeries. Highlighting structures at risk and techniques to minimize surgical complications.

5. Fascial Planes of the Head and Neck: Understanding the fascial layers and their role in infection spread. Discussing clinical cases of odontogenic infections and abscess formation.

6. Development of the Face and Palate: Reviewing embryological development with a focus on congenital anomalies. Discussing cleft lip and palate in relation to orthodontic and surgical management.

RESULTS

Sessions on cranial nerves and surgical anatomy were rated as the most beneficial, particularly in reinforcing clinical decision-making. Sessions on fascial planes and infection spread also received positive feedback due to their direct clinical relevance. While muscles of mastication and oral anatomy were well-received, some participants suggested that the workshop duration be extended to allow for deeper exploration. The session on the development of the face and palate was appreciated but elicited mixed feedback, with requests for more interactive elements.

A thematic overview of participant feedback—including appreciated aspects and areas for improvement—is presented in Table 1.

Theme refers to major components of the workshop for which feedback was collected.

Most Appreciated Aspects highlight the core strengths recognized by participants, including the proportion of respondents expressing positive views.

Suggestions for Improvement summarize recommendations made by participants, with percentages indicating frequency.

A detailed breakdown of participant feedback is provided below, categorizing responses across major workshop components to identify key strengths and opportunities for improvement:

1. Delivery: Participants appreciated the clarity and comprehensiveness of the workshop content. They found the concepts well-explained, interactive, and easy to understand, delivered at an appropriate level. However, some felt that the volume of material covered in a single day was overwhelming, suggesting that the workshop was intensive. This indicates a need to balance thoroughness with digestibility, possibly by extending the workshop duration or focusing on fewer topics to enhance retention [Fig 1].

Table 1: Thematic Overview of Strengths and Suggested Improvements Based on Participant Feedback.

Theme	Most Appreciated Aspects	Suggestions for Improvement
Delivery	Clear content (90%), engaging delivery (80%)	Too much content (40%), fast-paced (30%)
Changes in Practice	Improved understanding (90%), useful for treatment (85%)	Need for more practical examples (20%)
Teaching Methods	Interactive methods (78%), quiz use (80%)	More breaks (40%), fast-paced (35%)
Venue	Screen and location (75%)	Better seating (45%), online option (50%)
Quiz App	Focus and engagement (85–88%)	Quizzes could be more challenging (25%)
Overall Review	Good refresher (90%), structured format (85%)	More depth (20%)
Speaker	Engaging delivery (90%), kept interest (88%)	Pace could be slower (15%)

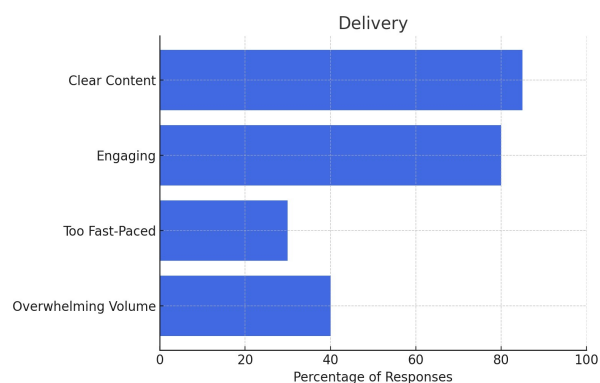


Fig. 1: A bar chart illustrating positive feedback on clarity and engagement, contrasted with concerns about pacing and content overload.

2. Changes in Practice: Attendees reported a heightened understanding of the anatomical locations and relationships of structures pertinent to clinical practice. This improved clarity is expected to inform their treatment decisions and enhance patient care. The feedback underscores the workshop's effectiveness in bridging theoretical knowledge and practical application, a crucial aspect of professional development in clinical settings [Fig 2].

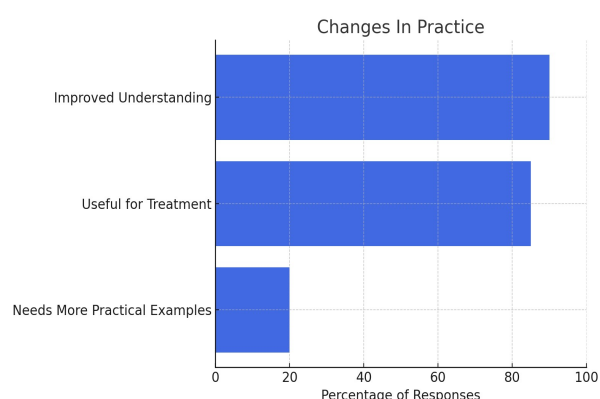


Fig. 2: A bar chart showing the percentage of participants who found the workshop useful in improving their understanding and applying it in practice.

3. Teaching Methods: Interactive elements such as quizzes and PowerPoint presentations were highlighted as informative and engaging. Nonetheless, some participants noted that the pace was brisk, making it challenging to absorb all the information. They suggested segmenting the material into parts, which could involve breaking the workshop into multiple sessions or incorporating more frequent breaks to allow for reflection and assimilation of knowledge [Fig 3].

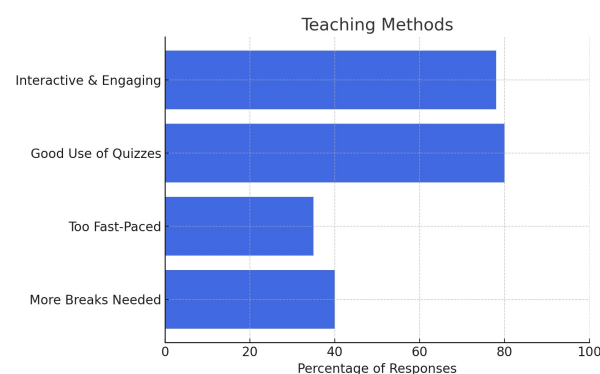


Fig. 3: A bar chart depicting engagement with interactive elements and concerns about pacing and session structure.

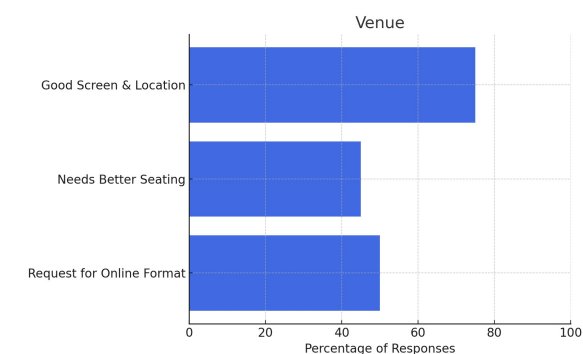


Fig. 4: A bar chart illustrating satisfaction with venue features versus suggested improvements such as better seating and an online option.

4. Venue: The physical aspects of the venue, including the large screen and accessible location, were well-received. However, suggestions for improvement included offering an online format to accommodate remote participants and arranging seating with tables to facilitate notetaking and comfort. These recommendations point towards enhancing accessibility and participant comfort to improve the overall learning experience [Fig 4].

5. Quiz App: The utilization of a quiz application was deemed beneficial for maintaining focus, fostering interaction, and increasing

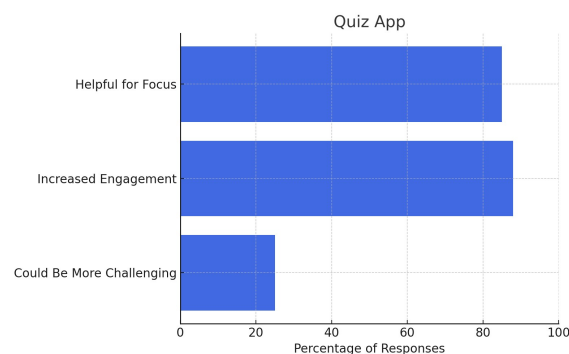


Fig. 5: A bar chart displaying participant engagement levels and suggestions for making quizzes more challenging.

engagement among participants. This positive feedback suggests that integrating technology can effectively enhance learning experiences by promoting active participation and immediate feedback [Fig 5].

6. Overall Review: Participants viewed the workshop as a valuable refresher on head and neck anatomy, appreciating the clear explanations, clinical applications, and well-structured lectures. The comprehensive coverage of topics and effective delivery reinforced their anatomical knowledge and its application in practice. This holistic positive reception indicates that the workshop met its educational objectives and addressed the participants' learning needs [Fig 6].

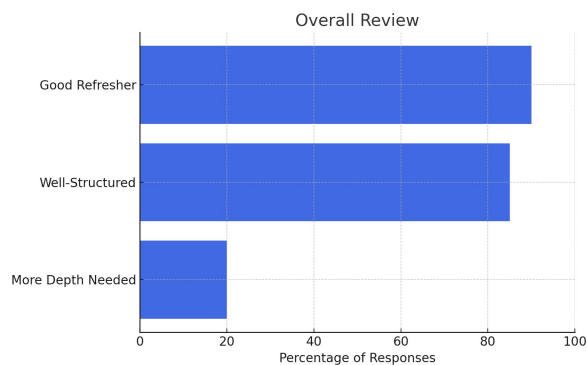


Fig. 6: A bar chart highlighting overall satisfaction, structured learning, and suggestions for adding more in-depth content.

7. Speaker: The speaker received commendations for effective content delivery and the ability to keep the class engaged. This highlights the importance of an engaging and knowledgeable facilitator in enhancing the learning experience and maintaining participant interest throughout the workshop [Fig 7].

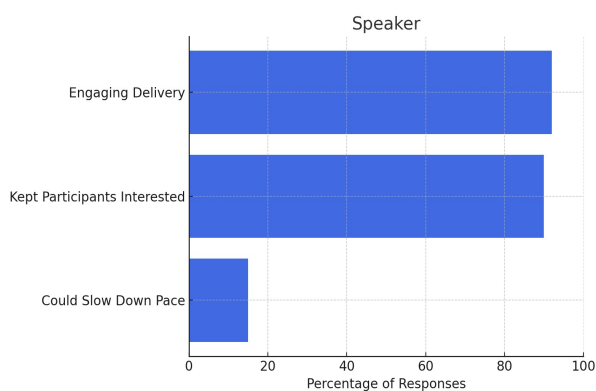


Fig. 7: A bar chart showing high engagement and positive feedback for the speaker, with minimal suggestions for improvement.

DISCUSSION

The findings highlight the significance of an intensive head and neck anatomy workshop in reinforcing anatomical knowledge among recently graduated dental practitioners. A strong understanding of head and neck anatomy is crucial for safe and effective clinical practice, particularly in dentistry, where precise anatomical knowledge directly influences patient care and treatment outcomes [1]. The positive feedback from participants suggests that such workshops effectively bridge the gap between theoretical knowledge and clinical application, aligning with previous research that supports integrating anatomy teaching with clinical practice [4].

One key takeaway was the effectiveness of interactive teaching methods, such as quizzes and structured PowerPoint presentations. These findings align with studies that emphasize the benefits of active learning strategies in anatomy education [3].

Furthermore, research indicates that flipped classroom models and interactive learning approaches improve student engagement and learning efficiency, making such methods valuable in postgraduate dental education [6]. However, participants also noted that the workshop was intensive, suggesting that future iterations could be spread over multiple days or include more breaks to improve retention and engagement. This aligns with research advocating for curriculum modifications that enhance comprehension while minimizing cognitive overload [2].

The results also underscore the role of refresher courses in improving clinicians' ability to apply anatomical knowledge in diagnosing and treating patients. Previous studies have shown that continued exposure to anatomy beyond medical school significantly improves clinical confidence and decision-making skills [5]. Moreover, spatial ability has been identified as a crucial factor in anatomical learning performance, particularly among dental students, suggesting that incorporating spatial visualization exercises could further enhance workshop effectiveness [7].

Integrating clinically relevant anatomy within continuing dental education has been shown to enhance long-term retention and application in practice [1].

Although this study provides valuable insights, some limitations must be acknowledged. The small sample size (N=51) may limit the generalizability of the findings. Additionally, the study relied on self-reported feedback, which may be subject to response bias. Future studies could explore objective measures of knowledge retention and application through pre- and post-course assessments, which have been shown to be effective in other anatomy education programs [6]. Overall, this study supports the importance of structured anatomy workshops for dental practitioners. Future improvements, such as extending the duration of sessions and incorporating online learning components, may enhance learning outcomes [4]. Given the consensus among participants on the relevance of revisiting anatomical concepts, such workshops should remain an integral part of professional development in dentistry.

CONCLUSION

The workshop effectively reinforced core anatomical knowledge and its clinical applications among participants. The feedback provides valuable insights for refining future iterations, particularly concerning the pacing and structure of the content delivery. Ongoing evaluation and adaptation of such educational interventions are crucial to meet the evolving needs of dental practitioners and to ensure the highest.

Ethical Consideration: Ethical approval was not required for this study. The students enrolled for the workshop sign a declaration that the feedback obtained can be used for research purpose and published.

No funding was obtained for this study.

Author Contributions

All three authors have contributed equally to the conception, design, analysis, and writing of this study. Each author has read and approved the final manuscript and agrees to be accountable for all aspects of the work.

Conflicts of Interests: The authors declare no conflict of interest. standards of patient care.

REFERENCES

- [1]. McBride J M, Drake RL, Pawlina W. Flipped classroom model for dental anatomy education: Enhancing student engagement and learning efficiency. *Anat Sci Educ.* 2018;11(5):465-72. <https://doi.org/10.1002/ase.1778>
- [2]. Rafai N, Lemos M, Kennes LN, Hawari A, Gerhardt-Szép S, Classen-Linke I. Anatomy meets dentistry! Linking anatomy and clinical practice in the preclinical dental curriculum. *BMC Med Educ.* 2016;16(1):305. <https://doi.org/10.1186/s12909-016-0825-8> PMID:27887620 PMCID:PMC5123369
- [3]. Chotvorarak K, Arayapisit T, Matthayomnan L. Exploring the ambiguity in anatomical terminology among dental professionals. *BMC Med Educ.* 2024; 24:904. <https://doi.org/10.1186/s12909-024-05878-1> PMID:39174952 PMCID:PMC11342683
- [4]. Iwanaga J, Tanaka T, Ohyama H, Tubbs RS. Online remote interactive lecture for postgraduate dental education in clinical anatomy. *J Dent Educ.* 2020. <https://doi.org/10.1002/jdd.12335> PMID:32686147 PMCID:PMC7405063
- [5]. Guttman G. Making gross anatomy relevant to dental students. *J Dent Educ.* 2003;67(5):523-8. <https://doi.org/10.1002/j.0022-0337.2003.67.3.tb03635.x>
- [6]. Sefton AJ. The effectiveness of introductory anatomy workshops on self-directed learning in dental education. *Adv Physiol Educ.* 2019;43(3):285-90. <https://doi.org/10.1152/advan.00048.2019> PMID:31855453
- [7]. Sarilita E, Lita YA, Firman DR, Wilkinson T, Susilawati S, Saptarini R, Aripin D, Sjamsudin E. Spatial ability and anatomy learning performance among dental students. *Korean J Med Educ.* 2022 Dec;34(4):309-318. <https://doi.org/10.3946/kjme.2022.239> PMID: 36464901; PMCID: PMC9726233.

How to cite this article: Vivek Singh Malik, Gargi Soni, Vaishali Khatri. Evaluating the Impact of an Intensive Head and Neck Anatomy Workshop on Recently Graduated Dental Practitioners. *Int J Anat Res* 2025;13(2):9232-9237. DOI: 10.16965/ijar.2025.146