Journal of Dental Sciences 20 (2025) 1298–1299

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.e-jds.com

Letter to the editor

Educational value of dental microphotography: Integration of art and science

We highly commend the exceptional contributions made by Yu and Chiang,[1] and their team in dental education innovation during 2022–2025, particularly their latest research on artistic competitions in dental education. Their work, progressing from comparative studies of virtual versus traditional microscopy to innovative integration of artistic elements into teaching practice, demonstrates significant methodological advances in dental education. The authors' persistent pursuit of educational excellence is reflected in their series of influential studies: Wu and Chiang[2] pioneered virtual microscopy teaching research, establishing foundations for digital education and Yu[3] explored the integration of medical humanities, expanding educational dimensions. Furthermore, Yu and Chiang[4] introduced microphotography competitions, establishing a precedent for incorporating arts into professional education; culminating in their current validation study. This progressive, deepening research methodology not only validates the effectiveness of innovative teaching approaches but also provides scientific evidence for sustainable development.

Based on the authors' groundbreaking research, we propose the following recommendations to further expand and deepen this innovative educational model:

Firstly, we suggest establishing a public-oriented dental microphotography exhibition. Through organizing regional and national specialized exhibitions, this would create platforms for inter-institutional academic exchange and collaboration. Our unpublished research data indicates that dental microphotography exhibits strong public appeal and educational significance. This format demonstrates unique social value not only in professional education but also in public health and life education.

Secondly, we recommend developing an interdisciplinary guidance system. By inviting professional artists from photography, visual design, and painting fields to participate in educational instruction, students can receive systematic artistic training. The artists' unique aesthetic perspectives and professional techniques can help medical students discover the artistic beauty in microscopic worlds, enhancing artistic quality and innovation in their work. This deep cross-disciplinary exchange enriches educational content while stimulating innovative thinking.

Furthermore, we suggest expanding the technical sources of microscopic artistic works. Current microphotography is primarily limited to bright-field optical microscopy observations. We recommend extending this to advanced imaging technologies including scanning electron microscopy, transmission electron microscopy, confocal microscopy, and atomic force microscopy. Different microscopic techniques reveal various dimensions and levels of biological tissue structures, providing richer materials for artistic creation, while enabling students to master advanced microscopic imaging techniques, enhancing their research capabilities.

We sincerely thank Yu CH, Chiang CP, and their team for their pioneering contributions to dental education innovation. This innovative educational model, integrating artistic beauty with scientific spirit, is fostering a new generation of dentists with humanitarian literacy, research capabilities, and innovative thinking.

Declaration of competing interest

The authors have no conflicts of interest relevant to this article.

Acknowledgments

None.

https://doi.org/10.1016/j.jds.2025.02.009

References

1. Yu CH, Chiang CP. From microscope to masterpiece: validating the role of artistic competition in enhancing dental students' engagement in histological study. *J Dent Sci* 2025;20:626–31.
2. Wu YH, Chiang CP. Comparison of virtual microscopy and real microscopy for learning oral histology laboratory course among dental students. *J Dent Sci* 2022;17:1201–5.
3. Yu CH. Integrating medical humanity into dental education: an innovative approach using paleodontology and dental history. *J Dent Sci* 2024;19:1261–2.
4. Yu CH, Chiang CP. Integration of arts into dental education: beauty in the histological photomicrographs. *J Dent Sci* 2024;19:461–5.

Jiahe Li*
State Key Laboratory of Oral Diseases, West China College of Stomatology, Sichuan University, Chengdu, China
National Clinical Research Center for Oral Diseases, West China Hospital of Stomatology, Sichuan University, Chengdu, China
Department of Cariology and Endodontics, West China Hospital of Stomatology, Sichuan University, Chengdu, China

Xian He
Mingxiao Liu
State Key Laboratory of Oral Diseases, West China College of Stomatology, Sichuan University, Chengdu, China
National Clinical Research Center for Oral Diseases, West China Hospital of Stomatology, Sichuan University, Chengdu, China
Department of Orthodontics, West China Hospital of Stomatology, Sichuan University, Chengdu, China

*Corresponding author. State Key Laboratory of Oral Diseases, West China College of Stomatology, Sichuan University, 14 Renmin South Road, Chengdu 610065, China.
E-mail address: dentist.lijiahe@gmail.com (J. Li)

Received 9 February 2025
Final revision received 10 February 2025
Available online 17 February 2025