

Applications

- Development of psychomotor skills
- Dental procedure training
- Student assessment
- Feedback on dental procedures

Advantages

- Standardized feedback
- Low cost
- Easily integrated with current technologies
- Students become familiar with products they can use in professional practices

Inventors

[Kayvan Najarian, Ph.D.](#)

[Riki Gottlieb, Ph.D.](#)

Ashwin Belle, Ph.D.

[Perry Jones, D.D.S.](#)

Contact

Wendy M. Reid, Ph.D.

Licensing Associate

wmreid@vcu.edu

Direct 804-827-2213

Market Need

Successful dental care professionals require highly trained psychomotor skills. In order to train properly, dental students must train on mannequins or live patients in order to develop and fine tune these skills. The student's work is then critiqued visually by a professor. This manual critique is wrought with inconsistency; feedback is often based on the subjective analysis of the student's work as well as influenced by the student-faculty relationship. There is no widely used standard means for assessing student performance. Furthermore, the current training systems cost upwards of \$75,000 plus maintenance fees. Thus, there exists a need for a less cumbersome, low cost and easy to implement system for analyzing the quality of student procedures.

Technology Summary

This technology is a new dental training software system that provides standardized feedback on dental procedures at a fraction of the cost of the current technologies. The system utilizes a software program that is loaded onto each student's own laptop and can be integrated with technologies currently possessed by dental schools. This both increases the students' access to learning tools and dramatically decreases the costs of implementation of a new training system. Students will perform a procedure, such as a cavity preparation, on a dental mannequin and then import either an image taken by an intraoral camera or a digital scan into the program. The program implements a scoring system based on the depth drilled into the tooth as well as the texture of the drilled surface to determine the success of the procedure. The system can then provide scoring and standardized feedback for future improvement to both the student and the instructor. This system calls for the use of imaging products and drilling tools, allowing the students to become acquainted to equipment they can implement later into their own professional practices. This technology allows students to engage in independent learning and practice while still receiving consistent and valuable feedback at a greatly reduced cost.

Technology Status

Patent pending: U.S. and foreign rights are available.

This technology is available for licensing to industry for further development and commercialization.