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Short Communication

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The Secret Is... It's Not Only the Educator's Knowledge that Matters, is the Way How it is Shared

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Dental Educators shape young minds with both knowledge and skills, creating a lasting impact on the next generation and VR-Haptics helps. We all use devices and high-end technologies in dental education that help us to do things better than ever before—many of which date to the Millennium. Why are VR-Haptics not so well adopted around the world, although it is more than 10 years around the corner?

The COVID-19 pandemic has considerably affected dental education and training both at academic and research level. Moreover, the strict restriction on face-to-face contact disrupted conventional interactions with dental students at supporting the mentoring and evolution of undergraduates. There is no doubt that traditional phantom head simulation and in-person clinical training remain the most effective tools available to us dental educators in dental education, while also building a trustworthy work environment with VR-Haptics is also crucial.

Manual Dexterity is one of the chief weapons of dentistry, we, dental educators have to train them how to develop from earliest phase of dental education. With the supportive VR-Haptics is not the speed, or manual skill the only great things, which can be achieved easier, but the students' reflection, satisfaction, less stressful training environment and objective judgment matters the most. For sure, it won't replace/should not! replace conventional dental simulations and far not the clinical training but courses which don't use it might be less useful. Although the moment of genuine transformation for dental education started in ACTA, Amsterdam, the Netherland,

only about 15 years ago with the implementation of the first ever prototype of a VR-Haptic dental trainer called SIMODONT but there are only less than 300 Dental Institution around the world using it. Here, at Institute of Dentistry, University of Eastern Finland, we are one of those. In early 2023, over a cup of coffee one late afternoon at the Institute of Dentistry, University of Eastern Finland (UEF), Kuopio, we found ourselves deep in conversation about the role of VR-haptic technologies in dental education and our future. This marked the beginning of the VR-Haptic Thinkers at UEF, here in the Middle of (K)nowhere. Here, in the Middle of (K)nowhere, we envisioned a world where the associations behind us would not only survive but thrive amidst the rapid changes in VR-haptic technological space. It wasn't long before we realized that this vision could only be realized through collaboration with all the VR-Haptic Thinkers around the world! Members of ADEA, ADEE, and other respected national and international associations of dental educators and researchers can all provide their unique expertise! Thus, the international VR-Haptic Thinkers were born.

We started contacting our peers around the world, and with these small initial steps, the interest in collaboration within likeminded educators in the Americas, Australia, Europe, and Japan began to significantly accelerate. Partner institutions of educational institutions and industrial companies from around the world were quick to follow suit. The VR-HT community started to explore ways to organize efforts to help further networking. It was clear incredibly early on that a broader and more coordinated effort was needed to leverage existing efforts and relationships to create



a unique global VR-HT educational and research collaboration. It was recognized that communication and the expedient creation of a “true” VR-HT community around a Consortium would be key. While intense scientific discussions began almost immediately between more than 15 VR-haptics-utilizing groups from around the world and the Consortium website (vr-hapticthinkers.com/) was launched in November 2023, the VR-Haptic Thinkers Consortium became a reality during a virtual assembly hosted by the Institute of Dentistry, UEF, on 8th of February 2024. A VR-HT Consortium Executive Board and six working committees were formed to lay the groundwork for the operations of the Consortium and to organize efforts to help further action. When the press release by UEF (UEF News - Dental educators launch a global VR-Haptic Thinkers consortium) went live the next week, followed by additional press releases, the consortium had truly been born. The Consortium was initially formed by nine VR-HT groups around Europe and one in the USA. Within less than two months, the Consortium grew to 28 Institutional members around the world in an independent and ad hoc manner (the complete list of the individual members can be found at vr-hapticthinkers.com/VRH_thinkers/). In addition to educational and partner institutions, the consortium has several hundreds of followers and industrial collaborators from various VR-haptic and dental product companies. With members from the American Dental Education Association (ADEA), Association of Dental Education in Europe (ADEE), and other respected national and international associations of dental educators and researchers, we were able to start sharing our unique expertise with each other. The prospect of cooperative projects was a big topic from the start. Eventually, the VR-Haptic Thinkers decided to focus on five major areas: performing cross-border cutting-edge educational research; providing support for developing VR-haptic niches; promoting VR-haptics-supported curriculum development; disseminating data via free, hybrid meetups; and deepening the discussion between the members of the academics and industry. From its humble beginnings over a coffee to a global group of VR-Haptic Thinkers, the journey has been nothing short of remarkable. The Thinkers are only just getting started! We will continue to dream and do cross-border research, while working towards holding more free-to-join hybrid meetups!

WHY?

Because most of the dental educators are still considering adapting the VR-Haptics, although it'll all be worth it, just like the high-speed handpiece and digital radiography were worth it... Think of all the time-saving advances that have made educators' life and students training easier but which faced initial resistance from many corners. Even some respectful professor complained it was strictly for the lazy educators and would make us all replaceable if Artificial Intelligence (AI) will fuse with VR-Haptic...I do not believe in but imagine going back to using a map! In a plane, in a car navigation or here over Kallavesi in a small boat, in the Middle of nowhere, Lakeland, Finland? Yes, only very few braves, and locals can blindly follow their inner maps flying, driving or boating, but the other 99.9 percent of people does use GPS these days and GPS helps us focusing on the road ahead, enjoy the journey and even learn more about the surroundings, like VR-Haptics also does. If we

boil it down, VR-Haptics really does allow educators and students to see things that aren't easily identifiable with the naked eye during conventional training. It makes things objective, on time, students friendly, stressless and gives us educators back a several minutes during each case. Those extra minutes add up quickly in dental education, where time equals better knowledge transfer and more accurate training. Besides, dental simulation courses are challenging enough as they are. Why work harder with Phantom heads or in the clinical training than you need to, if you can support your courses with VR-Haptics??? From what we've seen, on courses that use VR-Haptics to increase manual skills, students satisfaction, see an overall boost at University of Eastern Finland (UEF). And we are not along with this, have a look on the review written by Yudong Huang by at al.

Taking all what I wrote above aside, let's get down to the real make-or-break for any dental training: students' acceptance. We educators can talk ad nauseam about action and dental treatment guidelines, showcase and supervise, but some students will always be resistant, or we will not have enough time for their individual and objective supervision and evaluation. VR-Haptics won't replace all of these important roles of us, but it'll help by providing clear visual and numerical on time evidence to back it up and analysis. It's the very old “a picture is worth a thousand words” cliché, except close-up, colorized and on time quantified. From what we've seen and published since we are using VR-Haptic here in Institute of Dentistry, UEF practices that use VR-Haptics to speed up learning curve and increase quality see a 20 percent to 25 percent and overall boost of students satisfaction and lowers stress. That's a big number in the big picture. The best part is, VR-haptic isn't any harder to adopt than high tech we're already using in dental education. It is, by nature, designed to be intuitive, user-friendly and trustworthy. Although it is still a rather expensive device, it pays for itself.

I wish I'd had it when I was a learning dentistry or even before 2010 when I was a young dental educator, and it's why I've broadened my recent career path to advocate for its adoption and try to put my free energy to manage the VR-Haptic Thinkers Consortium, as Secretary General. I am deeply convinced that there's nothing fake about VR-Haptics' potential. It is a no-brainer, I believe soon to be indispensable, and most importantly, it's a serious competitive advantage for early adopters (dental educators) and students right now.

ADEA also started to follow our VR-Haptic Consortium on their Social Media: INSTAGRAM! Thank You dr. Gül Gülsün (Chief, Innovation, Clinical Education and Public Health, ADEA), dr. Rebecca Stolberg (Vice President, Allied Dental Education and Faculty Development) for their support from the beginning of our Mission and Mr. Tom Quash (Chief Communications and Marketing Officer) and the entire ADEA Media Team for board casting our Mission!

As Secretary General of VR-Haptic Thinkers, it is my honor to serve with an outstanding group of colleagues on the Executive Committee and members of our global network, who all are devoted to promoting better dental education and VR-Haptic

reinforced training worldwide through cross border evidence based educational research. I would like to extend my deepest gratitude to Professor David Morton University of Utah, Utah and to those officers who will be cycling off at the close of the free, hybrid meeting in Salt Lake City meeting at University of Utah 7 June 2024.

I look forward to seeing you all at the free, hybrid VR-Haptic Thinkers meeting in Sal Lake City, June 2024. Thank you for all our

followers being a part of VR-Haptic Thinkers Mission!

Acknowledgement

None.

Conflict of Interest

No conflict of interest.