

## Digital Learning, Can We Throw Away the Typodont?

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Dental students have generally positive attitudes towards e-learning. This was one of the conclusions Brumini wrote in her 2013 article [1]. Almost 10 years later and after the COVID-19 pandemic and its response by worldwide dental schools, it's no longer a question of positive attitudes but a reality. The COVID-19 disruption has driven change and brought a new confidence in our abilities [2].

Dental education consists of theoretical and practical courses. While the goals of these courses can be summarized as teaching the anatomical characteristics of teeth or the development of treating techniques to students, they also aid in developing visual and manual dexterity through repetition.

The main goal of dental education should be to train independent and self-reliant dentists who can treat patients safely and effectively [3]. Digital teaching concepts encompass advantages but also disadvantages. Flexible access is reported as the most frequently advantage of distance education [4]. Other reported advantages included creativity in learning, increased student responsibility and enhanced critical thinking skills [5].

The high risk of exposure of dental operators closed dental schools and clinics during the Covid-19 outbreak. There are multiple reports of how schools coped and responded to the pandemic [3,6-9]. Many schools went full remote with online scheduled lectures (synchronous teaching). This clashed with one of the students preferences that Goob et al pointed out [10]. Students preferred an asynchronous approach even though student interaction decreases significantly in this modality [10].

Asynchronous teaching is an on demand possibility of learning, where interactive online teaching material or lecture recordings are available 24 hours a day 7 days a week. We are all spending so much time online on social media that it can be viewed as an asynchronous activity. We all very familiar with it and one can speculate this is why students prefer it.

The adaptation of dental schools curricula to an asynchronous teaching, with an online availability, will drive learning in the future. Designing learning materials and applications for mobile devices may increase students' performances [11]. Moreover social media is full of different educational players that are not restricted by academic walls and who have found "teaching" opportunities online. Clinical photographs and videos detailing precise dental protocols are no longer confine to books, articles, meetings, or classes. They thrive on social media and attract new and senior dentists that can easily learn and ask questions without embarrassment. Social media are an effective open access knowledge center that can be used to strengthen the conventional educational model and improvise clinical practice [12].

However, there is always a question of the quality of the information disseminated on social media that leads to a risk of misinformation. This can affect the learning abilities of the student due to inaccurate, insufficient, and misleading content.

Encouraging results from haptic virtual reality dental simulators indicated that they can possibly be an adjunct for early attainment of the initial psychomotor skills required for dental operative procedures but we still need typodonts in the curricula.

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