Importance of 3-D printing in dentistry

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This article is from an interview with Prof. Wismeijer on understanding 3-D printing in the digital workflow. He spoke to Dental Tribune at the CAD/CAM & Digital Dentistry Conference held on 4 and 5 May in Dubai in the UAE.

We're here at the 13th CAD/CAM conference in Dubai. This is the second time I'm here; the first time I was here was about three years ago at the tenth edition. The CAD/CAM conference is focusing on the digital workflow in dentistry.

And what is interesting about the digital workflow is, it’s showing us how dentistry is going to be changing in the coming years. What we see is that we’re getting away from the analogue and going full digital. Digital diagnostics let us look at our patients from a virtual perspective. We do the CAD, the planning; we go into CAM; we have the milling; we have the 3-D printing. And then we can execute the total treatment, as we go to the patients ourselves. So, looking around here at this conference, we see a lot of industry that understands the change that we are up against in dentistry. They’re here presenting the technologies that they all have in their portfolios.

One of the problems, however, is that these technologies are all in verticals. The technologies are not horizontally connected together. So, what we’re looking for is a horizontal connection between all these vertical technologies to get the digital workflow to really work for dentists.

Questions are directed to me all the time: “How are we going to do this?” “Could you explain how I can integrate this into my workflow?” But, if you don't have the proper software and you haven’t learnt how to use it, then you’re going to get into trouble when you try to implement it. So, the credo here is that you have to learn, unlearn and relearn to understand what’s happening in digital dentistry.

Today, I gave a presentation on 3-D printing in dentistry. Some of the questions that were posed to me after my presentation told me that people do not fully understand yet what 3-D printing actually is; they asked me: “Can I use that printer for printing metals?” No, you can’t. “What can I read to learn more about digital dentistry?” Well, my idea would be to get a book on 3-D printing. This could be a very easy and simple book to help you understand the technologies behind 3-D printing. When you understand the technologies, then you can also find a way of implementing these technologies into the workflow. It’s not just plug-and-play; it’s not “here you have a machine and now you can get to work”. No, you have to understand the role the machine plays in the total digital workflow in dentistry. You have to understand which machines you need to make the digital workflow work for you. So, it’s not just about reading up on the end solutions; it’s also reading up on the basics, the technology itself, and learning about subjects that you need to first understand; that is, what digital dentistry is and what 3-D printing is. If you don’t understand the basics, it’s going to be very difficult to understand the final execution of all these technologies in your workflow.

My advice is: be humble, be prepared to learn, be prepared to unlearn everything that you have learnt in the past and relearn the new technologies to be able to function properly in the new digital workflow.