

## **ABSTRACT**

This thesis focuses on the vocational education system, practitioners, and tuition of two medical fields of study: dental technician assistant and certified dental technician. The aim is to find out what the profile is of tutors in these fields, how they teach theoretical and applied subjects, and what the possibilities of didactical and content enhancement are.

I conducted research to outline the situation in medical schools with the dental technician field of study. In the Czech Republic, there are 13 schools teaching the subject. The research was carried out as follows: I had sent electronic questionnaires to the schools and received answers from 54 vocational teachers, that's four teachers from each school. The quantitative research was further enriched by qualitative research in the form of interviews with practicing specialists, who commented on core competencies expected from the graduates to succeed as dental technicians. Results of the research pointed out that changes are needed not only in the educational methods that are applied but also in the content that is taught.

The quantitative research shows that most of the teachers are women, who teach for 15 to 20 years. They do not work in the field, or only occasionally, as they teach full time. Most of the technical schools are equipped with some type of modern technology system to manufacture dental implants. The challenge is mainly in the proficiency of using the modern technologies, where most of the tutors claimed to be beginners or responded that they had no experience using them.

The qualitative research shows that the practising specialists require from the graduates of the dental technician field of study primarily the knowledge of the morphology of teeth and the rules that apply to properly made dental prostheses. The graduates should be able to connect the theory with practice more often and be able to do the scanning and virtual modelling. When it comes to orthodontic appliances, practising specialists especially require an understanding of theory and skill when working with the wire.

When we were talking about the fixed dental prosthesis, participant 6 said: "When modelling, the graduates should mainly follow the morphology of the tooth, neck closures and the points of contact, these are things that you simply must never forget and it doesn't matter if a person is doing a modulation by hand or digitally, these are the basics".

In the case of the partial dental prosthesis, they should know the analysis of the model, they should have the knowledge of the types of clasps and their possible placement and the different designs of anchoring and connecting elements as well. In the case of total dental prostheses, graduates should know the general rules for building teeth. At schools, usually, we can see the routine analogue production of prosthetics from the very beginning to the end. More practice would help to connect the theory and the practice, it would also be beneficial to better understand the principles and rules that can be applied when working with the CAD program, especially when it comes to virtual modelling

Considering these findings, the contemporary vocational education system would benefit from taking on more experienced practitioners as external tutors for CAD/CAM technologies. They would not only enhance the lessons with their technical knowledge, but also support current teachers by helping them further their competencies in this area. Another benefit would be to introduce CAD/CAM technologies as a separate, compulsory subject in technical schools.

## **KEYWORDS**

dental technician, vocational teacher, vocational education system, specialisations;