

## Chapter 9

# Technology Associated With Dental Prosthetics and Learning Experiences: Collaborative Initiative, Australian and Norwegian

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### ABSTRACT

Design and manufacturing of dental restorations has evolved to embrace digital technology. So too has the paradigm of learning and teaching dental prosthetics. Once a didactic teacher-driven process, it has become student-focused, reliant on collaboration and directed toward employability. This chapter describes the stages, processes, and experiences of developing a collaborative partnership to “internationalize” dental technologist curricula which led to a model for developing shared digital resources and enhanced work-integrated learning. The discussion is supported by reflection of dental technology student learning experiences from Oslo and Akershus University College and Griffith University. Issues, controversies, and problems are explored through a descriptive analysis of experiences that aim to encourage other academics to rethink curriculum design, delivery, and assessment to create international partnerships. International collaboration in higher education can provide academics with a platform to share digital resources and create flexible, transferable qualifications.

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## **INTRODUCTION**

This chapter takes the reader on a journey through the globalization of dentistry, the evolution of digital prosthetics culminating in an example of how dental technology education can evolve in the digital era. It will highlight the benefits that an international collaboration can create. The primary focus is to establish an understanding for the use of the flipped classroom as a teaching method through an international collaboration. In a flipped classroom, students prepare learning material (both theoretical and practical) before they attend physical classes, thus, enabling enhanced collaboration between students and academics to resolve issues related to prosthetic cases. Developing demonstrations for practical use in dental technology will support the teaching teams and provide flexible learning opportunities. To succeed with this flipped classroom approach as a teaching method, it is helpful to embrace the PICA model, which includes four key elements: presentation, interaction, collaboration and analysis. These will be elaborated on throughout the chapter.

The intent of the international collaboration described in this chapter is to ensure qualifications are relevant, transparent, and transportable. To achieve this, curricula was mapped, assessment moderated and student exchange experienced - all were consistent with contemporary dental technology practices. The stages and experiences of developing a collaborative partnership to 'internationalize' dental technology curricula has raised motivation and a desire to develop and share digital resources, and enhance opportunities for work integrated learning. This is a distinct advantage for the students and teaching team which promotes engagement and continued learning.

To achieve a successful international collaboration, a reliable open, online platform is necessary. One such example is Open EdX using a mobile application, and platform to meet a wide variety of requirements. This enables program designers to collaborate and develop accessible course content. The international program development team, situated in Norway, aims to develop courses collaboratively that can serve students all over the world thus enhancing consistency and transportability of qualifications. The project has been going for a number of years beyond this dental technology venture, and continues to grow.

### **Overview of Internationalization in This Project**

Internationalization in the context of this study refers to the development of a curriculum that spans international boundaries, fosters personal development through international exchanges, cultivates world standards of contemporary standards in dental technology and promotes sharing of knowledge. The purpose is to enable

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