Platform for the creation of dental case studies as a learning tool

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Abstract—**Today, information and communication technologies (ICTs) have marked a significant change in the education and preparation of society. In this sense, several academic fields implement virtual tools that help to simulate real situations, preparing students in a better way. From a dental point of view, future professionals can be trained without compromising the health and safety of others. For this reason, this work proposes the development of a virtual platform for the creation and management of dental cases focused on postgraduate academia. With the help of learning resources such as x-rays, medical records, basic exams and a real patient's background, a specialist can create a case that will be presented to a student, in conjunction with a tutor, for resolution. Among the results obtained, it is possible to show the efficiency of this method of learning, based on the opinions of the students.**

Resumen— **Hoy en día, las tecnologías de la información y la comunicación (TICs) han marcado un cambio significativo en la educación y la preparación de la sociedad. En este sentido, varios campos académicos implementan herramientas virtuales que ayudan a simular situaciones reales, preparando al alumno de una mejor manera. Desde el punto de vista dental, los futuros profesionales pueden formarse sin comprometer la salud y seguridad de los demás. Por ello, este trabajo propone el desarrollo de una plataforma virtual para la creación y gestión de casos dentales enfocados a la academia de postgrado. Con la ayuda de recursos de aprendizaje tales como radiografías, historiales médicos, exámenes básicos y el historial de un paciente real, un especialista puede crear un caso que se presentará a un estudiante, en conjunto con un tutor, para su resolución. Entre los resultados obtenidos, es posible demostrar la eficacia de este método de aprendizaje, basado en las opiniones de los alumnos.**

I. Introduction

In recent years, a large part of society has undergone a change in its daily habits due to the constant technological evolution, as a result from the deployment of information and communication technologies (ICTs) [1]. The acceptance and importance of this new social trend was so great that many governments sustain it as an important way to ensure the sustainability, intellectual development and growth of their people [2]. From a general point of view, ICTs can be described as a way of integrating telecommunications with computing to create devices and techniques that help users to access, store, transmit and manipulate information [3]. They are intervening in how citizenship lives, supporting the birth of a new economic structure, in which knowledge has replaced work, raw materials and capital as the most important source of productivity. This new economy is based on services, marked by the preference of technically qualified professionals and theoretical knowledge as main source of innovation [4].

As can be seen, education is one of the fields that has been most influenced by this reality [5]. The academy is witnessing the changes that occur in the learning and teaching processes giving way to the concept of blended learning, where formal education models centralized in a classroom are supported by informal models centralized in the students, granting the possibility of knowledge exchange without spatio-temporal limitations [6]. Thus, the development of the skills necessary for students to "*learn to learn*" is encouraged, projecting an archetype of self-teaching, that will help them to defend themselves professionally throughout their lives [7]. However, it should be kept in mind that the implementation of ICT-based structures does not reflect efficient educational innovation, which requires