ORAL PRESENTATION ABSTRACT

2.4. "Interactive Atlas of the Canine Brain and Kidney created from Plastinated Samples". "Atlas Interactivo del Encéfalo y Riñón Canino creado a partir de Muestras Plastinadas".

Toaquiza, AB1; Alvear, VE1; Velasco, B2; Guanoluisa, CA1; Morales, C2; Revelo MC1.

1 Laboratorio de Anatomía Animal, Facultad de Medicina Veterinaria y Zootecnia, Universidad Central del Ecuador – UCE, Quito, Ecuador.
2 Carrera de Ingeniería en Computación Gráfica, Facultad de Ingeniería y Ciencias Aplicadas, Universidad Central del Ecuador – UCE, Quito, Ecuador.

Introduction: Currently, training in the field of anatomy requires the implementation of information and communication technologies (ICT). Therefore, the objective of the work was to use digital images taken of plastinated canine brains and kidneys to create an interactive atlas that facilitates the teaching-learning of the anatomy of these organs. **Material and Method:** It was carried out in 3 phases. In the first, canine brains and kidneys were obtained using the silicone plastination technique. In the second stage, photographs were taken, the images were edited with Adobe Photoshop and converted to SVG format using Adobe Illustrator. During the last phase, the 2D atlas was created using MongoDB and Node.js for the backend and Vue.js as the framework for the frontend. In addition, it was used to render the 3D models of the brain. **Results:** Publication of the "Interactive Atlas of the Canine Brain and Kidney". The atlas has interactive sheets (fourteen of the brain and three of the kidney) and 3D models of the brain and kidney. **Discussion:** The teaching of anatomy supported by ICT allows students to be motivated and improve their ability to solve problems (García et al., 2014; Leiva & Mora, 2014). For this reason, several universities have developed their own applications (Betancur & Monroy, 2021). The developed atlas constitutes the first digital tool created in Ecuador that includes the 3D format since, as García et.al. (2014) point out the use of three-dimensional visualization technologies as a useful resource for teaching anatomical structures, especially the nervous system. In addition, the incorporation of the atlas in the teaching of veterinary anatomy would be in accordance with education 3.0 (Argonza, 2011; Cerrillo, 2019). **Conclusion:** The designed interactive atlas constitutes material for anatomical learning of canine organs in an innovative way and will allow students to achieve significant learning.

Grant: Proyecto Senior DI-CONV-2019-026 from Dirección de Investigación de la UCE.

References:
Argonza, J. S. (2011). Estado actual de la Web 3.0 o Web semántica. Revista Digital Universitaria, 12(11), 1–16.
Betancur, W., & Monroy, J. (2021). Implementar la realidad virtual en la enseñanza de anatomía una necesidad en la formación de profesionales de la salud. Morfolia, 13(3), 11–18.
Cerrillo, S. R. (2019). Enseñanza de la anatomía y la fisiología a través de las realidades aumentada y virtual. Innovación Educativa, 19(79), 55–76.
García, J., Avendaño, R., & Martínez, J. (2014). El uso de la tecnología en la enseñanza de la anatomía en México y su comparación con la enseñanza internacional. Revista de La Facultad de Medicina de La UNAM, 57(3), 31–39.
Leiva, V., & Mora, E. (2014). Aplicación de la Tecnología de la Información y Comunicación en la enseñanza de anatomía para estudiantes de enfermería. Revista Electrónica Enfermería Actual En Costa Rica, 26, 1–13.