



Game-Based Learning for Low-Stress Dog Handling

Richter H.^{1,2}, Campa A.², Beckmann K.¹, Schläfli R.³, Wilding B.³, Zraggen A.³

¹) Diagnostic Imaging Research Unit (DIRU), Clinic for Diagnostic Imaging, Vetsuisse Faculty Zurich, University of Zurich

²) VSF Stiegenhof, Vetsuisse Faculty Zurich, University of Zurich

³) Team GBL, Department of Finance, University of Zurich

Idea

Establishment of an **engaging and flexible learning environment** that enables **autonomous knowledge acquisition** through web-based tools. This provides **location- and time-independent access** to learning materials, allowing for adaptation to individual learning paces. Collaboration fosters **interdisciplinary exchange** throughout the agile development process. The technical elements are also applicable to other game-based learning topics.

Innovative because...

It revolutionizes the study of **low-stress handling techniques for dogs** through a **gamified, web-based learning environment** (game-based learning) for veterinary medicine students. The game-based learning simulates **clinical and research-oriented scenarios** to promote **knowledge and practical skills** in low-stress dog handling. The integration of an existing video database on these methods enables an **interactive learning experience** that optimally connects theory and practice

Exemplary because...

An **interactive and realistic learning game** promotes flexible, self-directed, and inclusive teaching. The game conveys low-stress methods for the examination and treatment of dogs, **effectively preparing students for practical challenges**. This is the **first implementation of game-based learning** in veterinary medicine aimed at enhancing the quality of education and increasing motivation for the field of behavioral medicine. At the same time, the **3Rs principles** are applied, with students working with animals only once they are optimally prepared.



Beagle Olga, 2024
© Vetsuisse Faculty, UZH / M. A. Oesch

Success factors

Development of practical skills:

Interactive GBL (game-based learning) simulations allow the development of low-stress handling techniques with animals in realistic scenarios (behavioral biology, 3Rs). The practical course then deepens the knowledge gained through direct application on animals.

Web-based flexible learning:

Learning through the game enables time- and location-independent study, leading to interactive and hands-on teaching that specifically fosters student competencies. The ability to revisit and individually study the video database supports repeated learning and inclusion.

Improved learning outcomes:

The combination of theory and practice for applying the 3Rs principles and Fear-Free techniques strengthens knowledge retention while simultaneously improving animal welfare and the quality of human-animal interactions in clinical and research settings. Additionally, the GBL elements increase student motivation (unique in veterinary medicine).

Goals

The goal is to train students in low-stress handling of dogs and improve their practical skills, while promoting animal welfare in both clinical and research settings, in alignment with the 3Rs principles (replace, reduce, refine).

Learning objectives:

Independent learning: Support of autonomous and flexible learning through access to interactive, web-based learning resources (game-based learning).

Practical skills:

The combination of a teaching video database and the learning game enhances students' practical skills in handling dogs in clinical and scientific settings (practical course).

Effective stress management:

Students learn to recognize fear, anxiety, and stress (FAS) in dogs and apply low-stress handling techniques.

Ethics and animal welfare:

Promotion of an ethically responsible approach to handling dogs through the application of the 3Rs principles (Replace, Reduce, Refine).



A project supported by the
funding line open_innovation

Contact:

Dr. Henning Richter
henning.richter@uzh.ch