



VETERINARY TEACHING AT ANIMAL SHELTER: EXPERIENCE IN CLINICAL CASES EMPOWERS STUDENT SKILLS

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UNIVERSIDAD DE LAS PALMAS
DE GRAN CANARIA



Facultad de Veterinaria

A woman with her hair tied back, wearing a pink long-sleeved shirt, is shown in profile from the chest up. She is holding a small, fluffy grey dog in her arms. The background is slightly blurred, showing what appears to be a veterinary or animal care facility with metal cages and shelves. The overall lighting is soft and natural.

INTRODUCTION

(Spindel.ME et al., 2008)

Shelter veterinary protocols strive to improve the health and well-being of homeless animals through non-traditional but **science-based** and practical programs

Many veterinary schools are integrating shelter medicine into their primary curricula.



Shelter experiences offer a unique solution to teaching veterinary through outreach teaching initiatives, particularly in the realm of **hands-on** medical and surgical skills training (*Smeak.DD, 2008*).



(Stevens.BJ, Gruen.ME, 2014) (Smeak.DD,2008)

- Behavioural evaluation and management.
- Primary care.
- Diagnose and treat animals.
- Physical examination skills.
- Practical and cost-effective treatments plans.
- Spay-neuter surgery and general anesthesia.
- Real-world experience without interference from owners.
- The motivation to learn by doing.

In other countries we can find several examples that follow this educational trend

- Auburn university
- Colorado State University
- Cornell University College of veterinary Medicine
- Iowa State
- Lincoln Memorial University
- Michigan State University
- Midwestern University
- Mississippi State University
- North Carolina State University
- Ohio State University
- Oklahoma State University
- Purdue University
- St. George's University
- Texas A&M University
- Tufts University-Cummings School of Veterinary Medicine
- University of California at Davis
- University of Florida
- University of Illinois College of veterinary Medicine-Urbana
- University of Pennsylvania
- University of Tennessee
- Washington State University
- Western University



Teaching Matters blog

Promoting, discussing and celebrating teaching at the University of Edinburgh



THE UNIVERSITY
of EDINBURGH

(“All4Paws: Vet Students at work in the community”, 2018)

In Europe





(Smeak. DD,2008)

The veterinary teaching hospital have cases away from common clinical conditions to become highly specialized.

This condition may preclude a real life veterinary experience and training for students.

Another obstacle is that student ratios increase



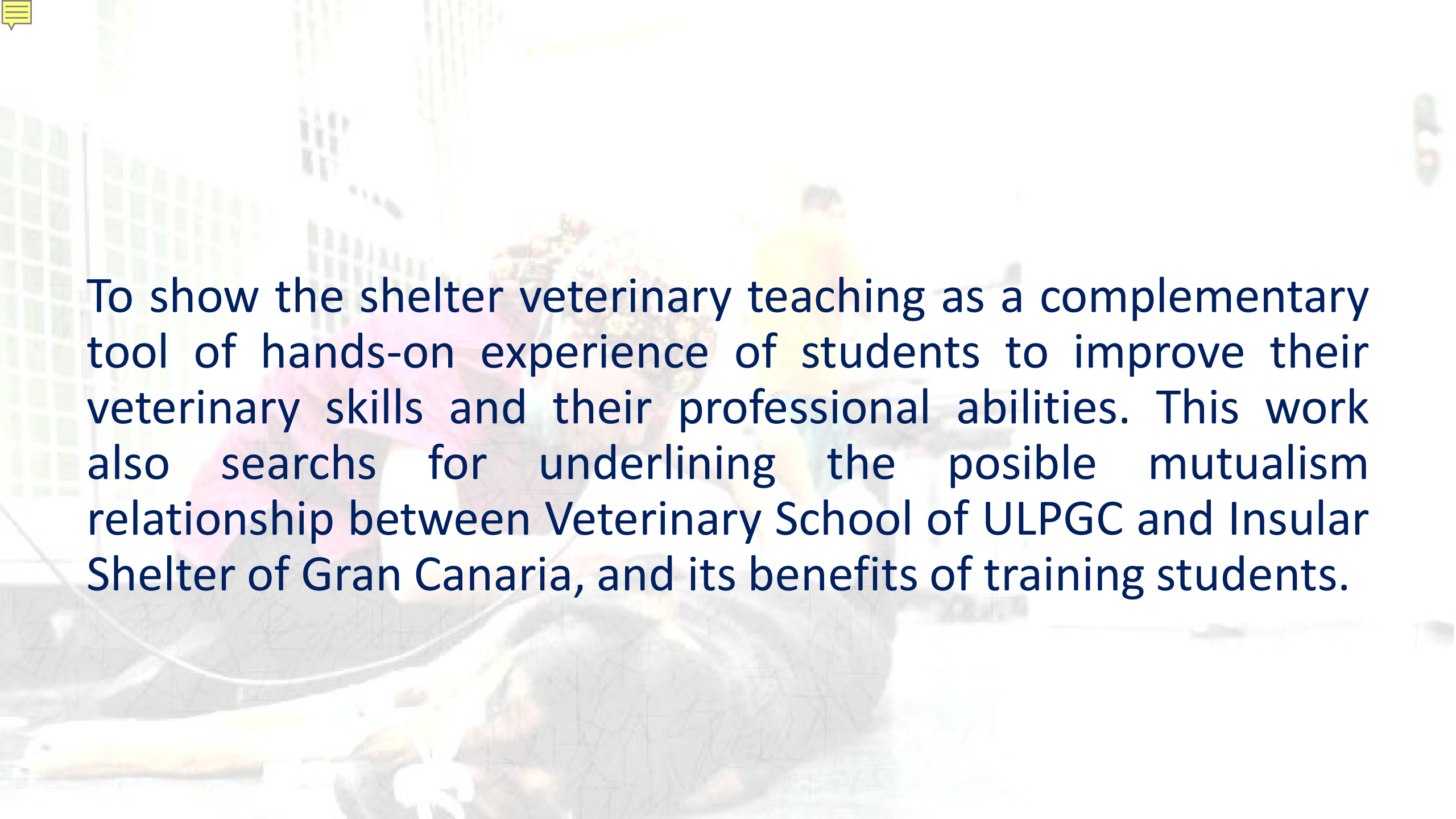
We have participated in a shelter experience using a collaborative relationship model between Veterinary school of ULPGC and The Insular Shelter of Gran Canaria



Collaborative efforts between animal shelter and veterinary schools can provide crucial opportunities for teaching medical and surgical skills

A woman with her hair in a bun, wearing a black lace top and blue jeans, is hugging a large, spotted dog on a sandy beach. The scene is brightly lit, suggesting a sunny day. A semi-transparent blue box with the word "OBJECTIVE" is overlaid on the image.

OBJECTIVE



To show the shelter veterinary teaching as a complementary tool of hands-on experience of students to improve their veterinary skills and their professional abilities. This work also searches for underlining the posible mutualism relationship between Veterinary School of ULPGC and Insular Shelter of Gran Canaria, and its benefits of training students.

A person wearing a blue lab coat is shown from the chest down, holding a clipboard and writing with a pen. The background is a light, slightly blurred indoor setting. A semi-transparent white box with a thin blue border is centered over the image, containing the text "CLINICAL CASES PRESENTATION" in a bold, dark blue, sans-serif font.

CLINICAL CASES PRESENTATION



This work presents a case selection of patients with different clinical problems in a period of time from August in 2017 to May in 2018

All clinical cases that have been undertaken during this study were directly managed by the student and always supervised by trained shelter clinicians and where the strictest regulations on animal welfare have been followed

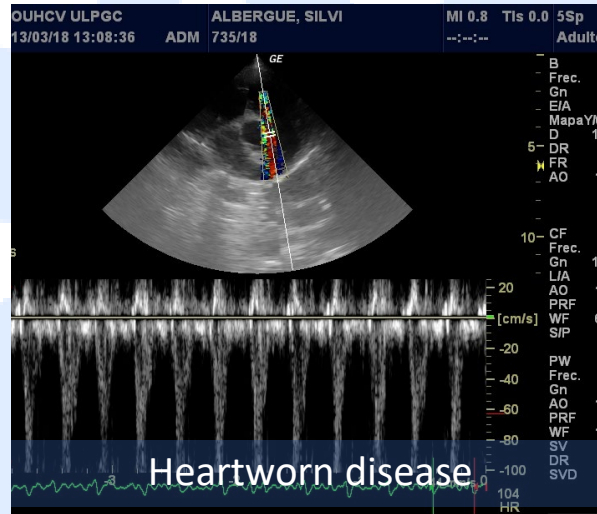
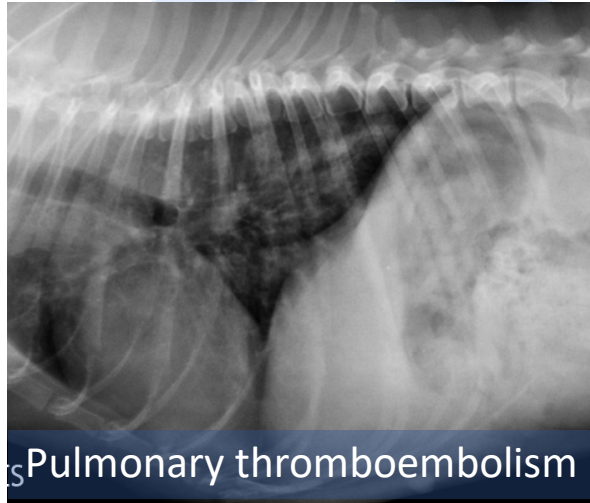
The training program of the student has been based on current protocols that they are subjected to continuous renewal

CARDIOLOGY	BEHAVIORAL CONCERNS	NEUROLOGY	ONCOLOGY
Pulmonary thromboembolism (1)	Stereotyping (3)	Hydrocephalus (1)	Mastocytoma (4)
Heartworm disease (Dirofilaria immitis) (+10)	Aggressiveness (+10)	Seizures (1)	
Hypertension (1)	Barbering (3)	Paralysis of the hind limb (1)	

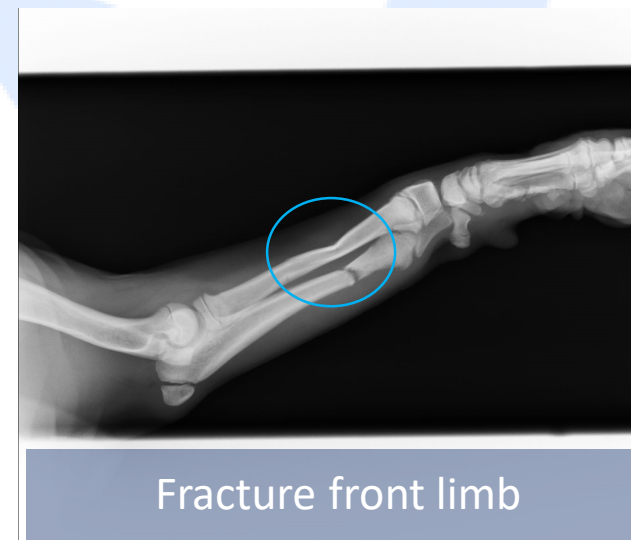
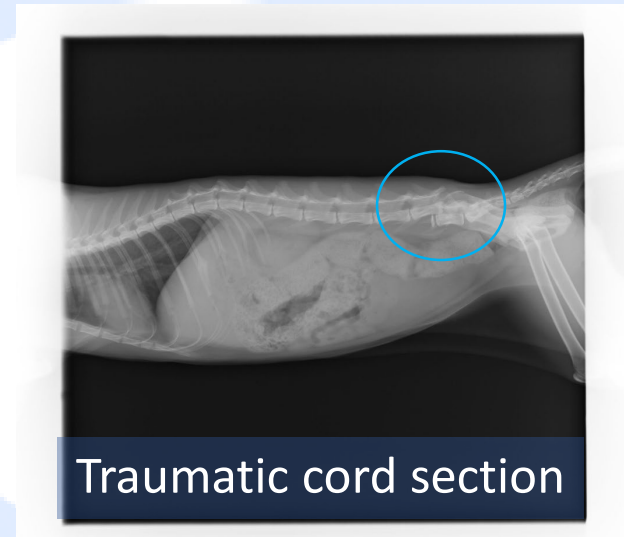
OPHTHALMOLOGY	INFECTIOUS DISEASE	TRAUMATOLOGY	DERMATOLOGY
Primary glaucoma (1)	Canine viral adenovirus(5)	Traumatic cord section (2)	Allergic dermatitis to flea bite (3)
Uveitis (2)	Canine papilloma virus (1)	Fractures (new and old)of forelimbs (4)	Dermatophytosis (+10)
Pteris bulbi (1)	Feline herpesvirus (+50)	Fractures (new and old) of lower limbs(1)	Pyoderma (2)
Crystalline prolapse (1)	Infectious canine tracheobronchitis (+50)	Hip dysplasia (2)	Wounds treatment (+20)
Third eyelid prolapse (3)	Feline Panleukopenia (5)	Hip dislocation (1)	Embedded collar (2)
	Canine parvovirus/coronavirus (+30)		Otitis (2)
	Felv(+30)		
	Filv(+30)		

SURGERY AND ANESTHESIA	GENERAL PRACTICE IN PATIENT MANAGEMENT
Monitor patients both manually and with equipment (+20)	Physical examinations (+100)
Correction of Palatoschisis (1)	Vaccination (+100)
Spay/neuter surgery (+50)	Deworming (+100)
-Cryptorchidism (1)	-Myiasis (3)
-Pyometra (4)	Microchip implantation (+20)
Rectal prolapse (4)	Drug administration (+100)
Dog ear hematoma (2)	Fluid therapy (+50)
Sialocele (1)	Venipuncture for blood screenings (+20)
To drain abscesses (2)	Place intravenous catheters (+20)
Tail amputation (1)	Care of new-borns (7)
	Grounds of euthanasia (5)
	Emergency care (5)

OUR CASES IN IMAGES



OUR CASES IN IMAGES



OUR CASES IN IMAGES



Allergic dermatitis



Cryptorchidism



Embedded collar



IN AVERAGE IN CLINICAL SERVICE

- 10 dogs per day in animal reception.....
- 3 cats per day in animal reception.....
- 5 medical meeting per day (83% dogs and 17% cats).....
- Treatment to 20 canine and 6 feline per day

Physical and behavioural examination, vaccination, deworming and identification.

Physical and behavioural examination, FeLV/FIV testing, vaccination, deworming, identification and, in some males spay/neuter surgery.

Vaccination, faecal and blood testing, deworming, identification with chip, filling out identification cards, registering for the zocan service and relationship with owners.

Recovery, stop treatment or eutanasia by humanitarian endpoint.

IN AVERAGE IN GENERAL SURGERY SERVICE

- 5 Dogs and 1 cats per day.....
- 95% spay/neuters and 5% others procedures

Physical examination skills, pre-surgical preparation, asepsis, anesthetic monitoring, post-surgical recovery...



A woman with blonde hair tied back, wearing a black and white patterned shirt, is examining a dog's mouth. The dog is lying down, and the woman is holding its head. The scene is set in a veterinary clinic, with a metal cage visible in the background. The word "DISCUSSION" is overlaid in a blue box in the center of the image.

DISCUSSION

(Stone.EA, Conlon.P, Cox.S & Coe.JB, 2012)

The majority of experiential clinical learning occurs during the final year in the clinical rotations that take place in veterinary teaching hospitals. With the expert guidance faculty teachers, student learn problem-solving and case-management skills, integrating what they learned in the classroom into real-life situations



In our opinion and supported by Daniel Smeak work in 2008 Veterinary Teaching Hospitals supposes a difficult resource for undergraduates.



(Smeak.DD,2008)

The veterinary teaching hospitals have cases away from common clinical conditions. Diagnosis and treatment of complex specialty cases may insulate students from real-life veterinary experience and the training necessary to run successful, efficient practices.

These trends negatively affect efforts to prepare students for entry-level veterinary practice, particularly in the area of technical skills.

JAVMA

(Volk.JO, Felsted.KE, Thomas.JG & Siren.CW,2011)

Part of clinical experience learning occurs during the final term in the clinical rotations that take place in private clinics.

In this particularly environment the practitioner may be committed to treating the patient himself, leaving the student in the background, because of the fear of 'a student treating his pet'.

New models are needed for primary health care education



St. George's University
THINK BEYOND



THE OHIO STATE
UNIVERSITY



Colorado
State
University

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

WASHINGTON STATE
UNIVERSITY



Penn
UNIVERSITY of PENNSYLVANIA



THE UNIVERSITY
of EDINBURGH



Our background in Spain is poor and our culture and collaborative programs are far behind from others countries.

To our knowledge there is not a proper teaching program in animal shelters in Spain and there is only a postgraduate collaboration in the University of Cordoba and Madrid

This experience is a **pioneer initiative** that could represent a new collaboration trend for a complementary source of training of our veterinary students

(Smeak.DD,2008)

Shelter rotations are useful for teaching technical and examination skills because the students can focus on learning skills without interference from owners.



4 WEEKS ROTATION

Medical service (2 weeks)

Surgical service (2 weeks)

- These data could mean that one student would be able to examine 620 animals per month on the internship in the shelter.
- 77% dogs cases and 23% cats cases.



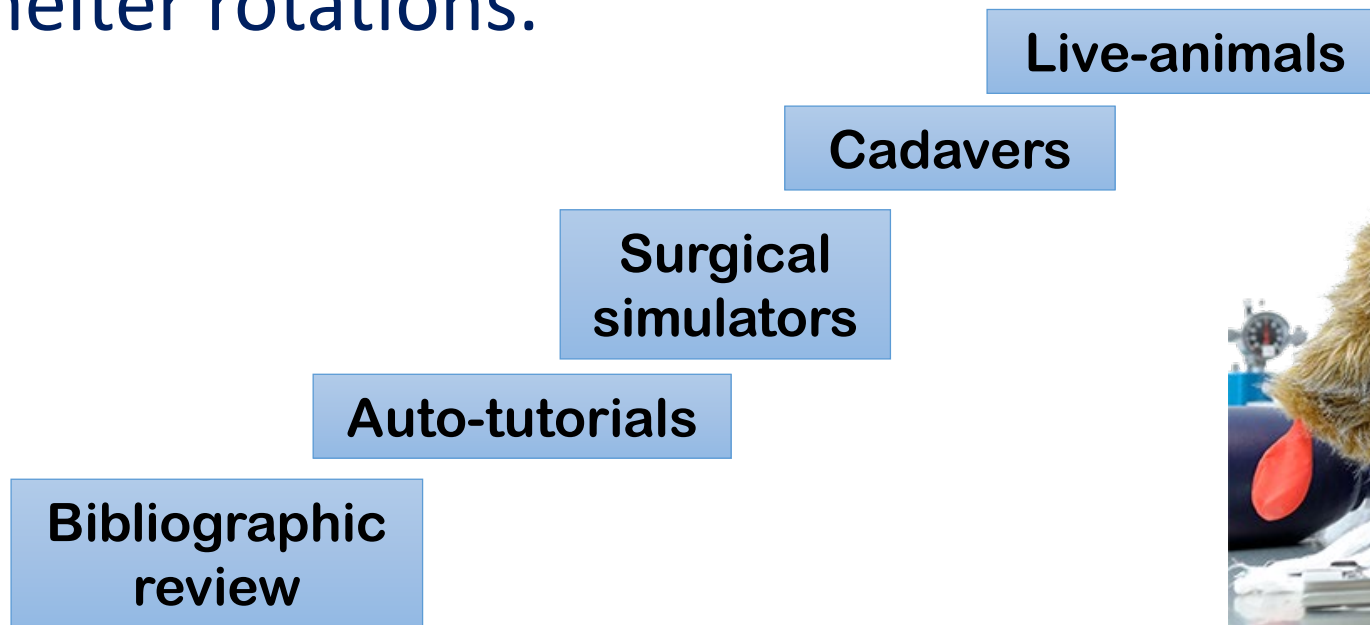
(Smeak.DD,2007)

The student could undertake a minimum of 30 ovariohysterectomy and 20 males castration.

This experience would provide a good source of hands-on skills on: gentle tissue handling, instrument and suture handling, hemostasis and ligation, and tissue retraction- rather than on the procedure itself.

“A previous training is needed for the success of the rotation”

One of the **goals** should be to increase preclinical year experience so that the student can hopefully perform surgeries more quickly and independently when they are on external shelter rotations.





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Hospital Clínico Veterinario
ULPGC

(Williams.L, Nettifee-Osborne.J, & Johnson.J,2006)

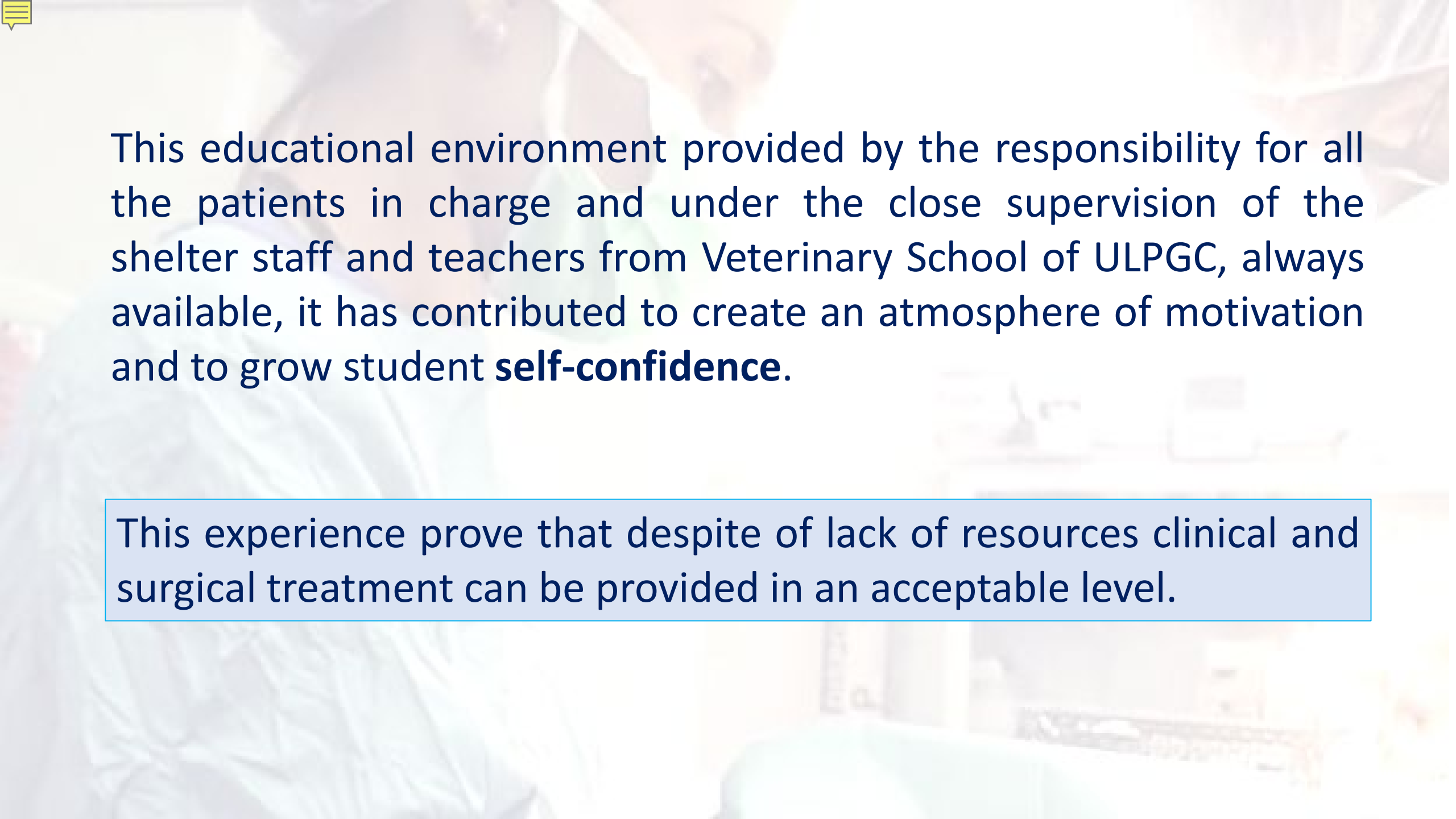
Shelter provides important help to veterinary colleges.

- A source of cadavers for practices.
- Enough animals for a good student-patient.
- Scientific publications with a well-founded epidemiological base.
- A source of animals for blood transfusions in emergency cases.

(Smeak.DD,2008)

An important conflict necessary to address is euthanasia and animal welfare regulations.

It is especially important to establish an early dialogue with the student to understand the existence and necessity of euthanasia



This educational environment provided by the responsibility for all the patients in charge and under the close supervision of the shelter staff and teachers from Veterinary School of ULPGC, always available, it has contributed to create an atmosphere of motivation and to grow student **self-confidence**.

This experience prove that despite of lack of resources clinical and surgical treatment can be provided in an acceptable level.

A background image showing a surgical team in an operating room. Several surgeons in blue scrubs and masks are huddled around a patient, performing a procedure. The scene is brightly lit, and the focus is on the collaborative work of the medical team.

CONCLUSIONS

1. This work presents an important empowering experience in the hands-on clinical and surgical skills. This experience has represented a very useful tool for training students for an entry-level veterinary practice and can provide the necessary management skills for graduate and postgraduate students.

2. The importance of mutualism relationship between Vet School of ULPGC-Insular Shelter of Gran Canaria to produce a veterinary well-trained entry-level would be supported by our own experience, which is based on what other authors and universities are already applying.

3. Collaborative relationship between Vet Schools and Shelter has a very poor background in Spain and this work means a pioneer initiative. And this initiative could indicate a future trend for others to follow.

4. This Shelter rotation requires a previous educational training in order to take a real advantage of this learning opportunity. Thus it should be included a planning and initial start-up, basic procedure protocols, and faculty time investment and a well-defined list of learning competences, but the benefits for the students in terms of exposure and hands-on learning makes this rewarding process well worth the effort.



5. A minimum of two weeks rotation on medical service and two weeks rotation on surgical service should be necessary in order to gain a proper level in clinical training.

A background image showing a close-up of a dog's face, likely a greyhound, with its eyes looking towards the camera. In the foreground, a person's hands are visible, gently holding the dog's head. The scene is set indoors, with a window and some indoor plants visible in the background.

Acknowledgments

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THANK YOU