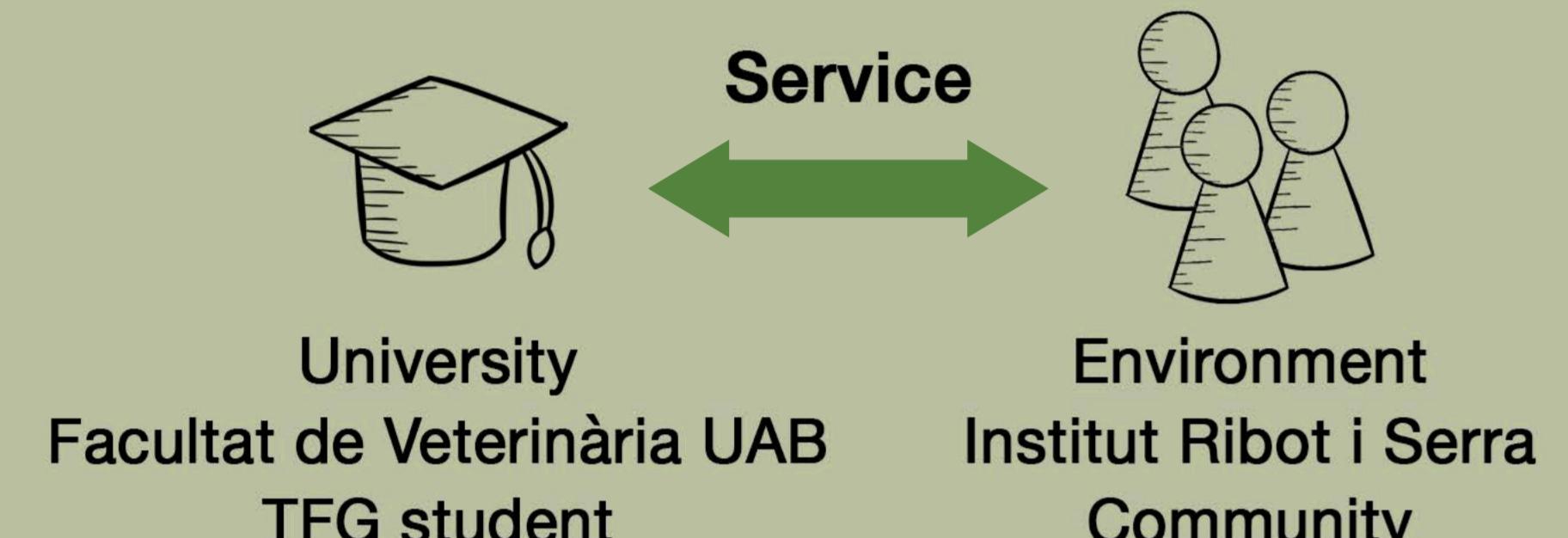


SERVICE-LEARNING PROJECT: Mammal Comparative Anatomy workshops for secondary school students

Xènia Sala Parea - June 2020

INTRODUCTION

Service-learning:



Improve high school image
High-complexity
Old facilities
High immigration rate
Low access to university degrees

Hold on workshops on the use
of morphological differences
as classification criteria and
dichotomous keys
Difficulties in identifying species



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THEORETICAL BASIS

A **dichotomous key** is a serie of statements about a certain group of organisms that is read in couplets and used to identify an unknown specimen (Vollbrecht, 2014). Dichotomous keys used were adapted from Gállego (2003).

Anatomical concepts treated:

- Heterodontia / Homodontia
- Hypodont / Brachydont
- Dental formula
- Plantigrade / Digitigrade / Unguligrade

1st session: Presentation

Objectives:

- Gain the trust of students
- Assess previous knowledge
- Introduce the concept of dichotomous keys

Activities:

- Creation of a dichotomous key with volunteers
- Guess who?

2nd session: Dichotomous keys practice

Objectives:

- Introduce anatomical concepts
- Learn how to use a dichotomous key
- Identify the mysterious skull

Activities:

- Identification of different species using skulls, jaws and tracks

3rd session: Photography practice

Objectives:

- Improve photography skills
- Get a feedback from students

Activities:

- Photography practice
- Poll

SERVICE DESCRIPTION

The service was divided into three sessions scheduled in three different weeks. The activities were based around a "mysterious skull" found on the Ripoll River.

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Activities:

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2nd session: Dichotomous keys practice

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3rd session: Photography practice

Objectives:

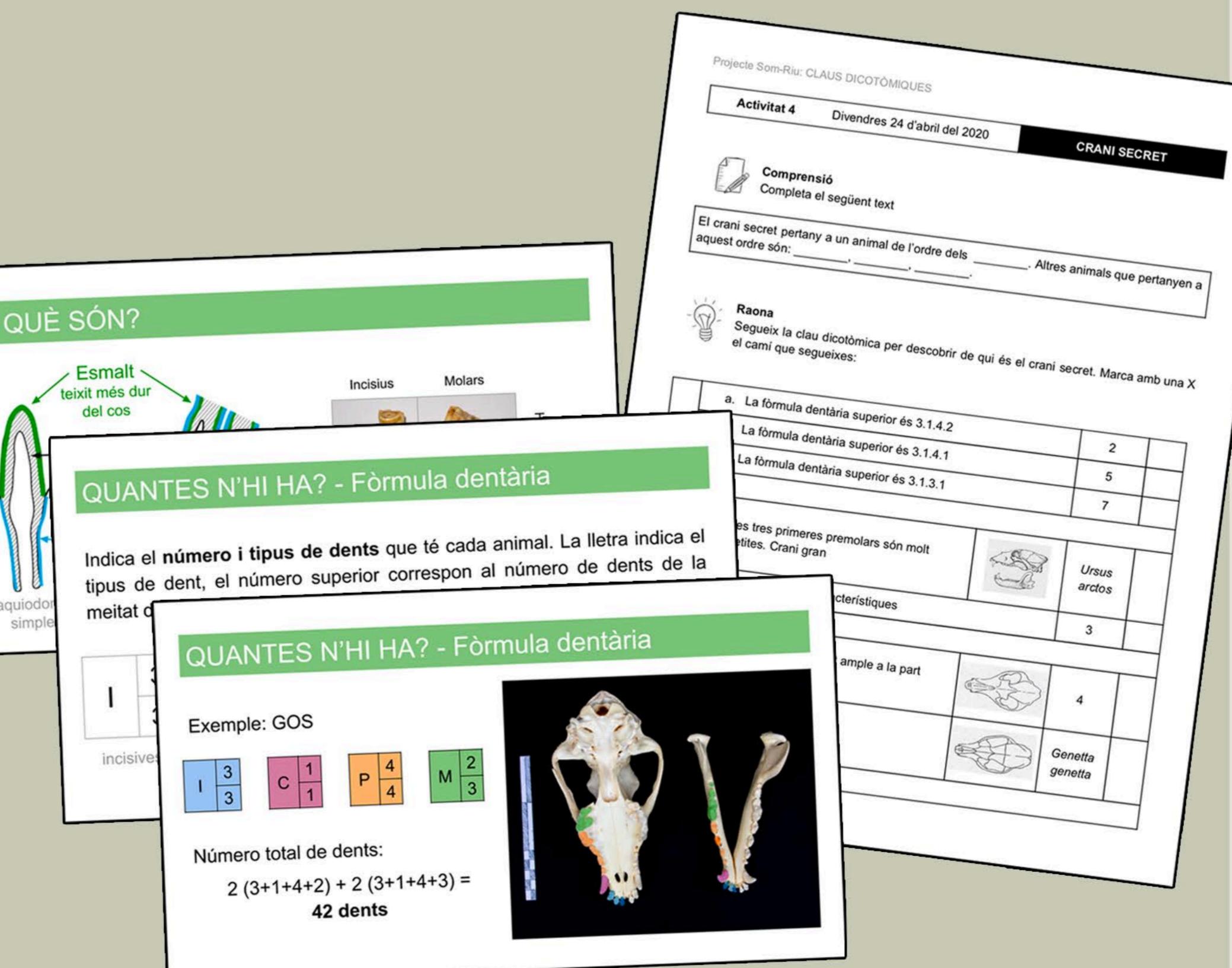
- Improve photography skills
- Get a feedback from students

Activities:

- Photography practice
- Poll

COVID-19 ADAPTATIONS

Second and third sessions had to be cancelled due to the sanitary crisis caused by COVID-19 pandemic (RD 463/2020). They were replanned to be done online via Google Classroom. During four days in a week, the students had to see a short video and do some exercises. They had presentation slides as support.



RESULTS

65,45%

Of the students handed in at least one task

6,25%

Of the activities were done. Only 5 out of 55 students handed in all the activities

50,91%

Of the students answered the final questionnaire with an score of $6,78 \pm 1,82$ out of 10

Low participation was expected due to a high rate of absenteeism before COVID-19 and also to the digital divide.

CONCLUSIONS

- **Learning by Teaching:** find information and prepare docent materials is a good way to learn about any issue.
- COVID-19 highlighted an important **digital divide** (specially in high-complexity centers) and the importance of the **digital skills**. Adapting the lessons is a challenge for both children and teachers.
- Learning-service approaches are an excellent opportunity for the **vet students to be closer to their community**, as veterinary medicine is a profession at the service of animals and people. It should be encouraged and could be a good approach if routinely integrated into the degree.

REFERENCES

Gállego Castejón L, Universidad de las Islas Baleares. 2003. Vertebrados ibéricos: mamíferos. Palma: Universitat de les Illes Balears, Servei de Publicacions i Intercanvi Científic. 338 p.

Vollbrecht L, Rush MT, Cottenie K. 2014. Improving dichotomous keys for undergraduate teaching. SURG J. 7(1):23-32. doi:10.21083/surg.v7i1.2750.