



TLEF Project – Final Report

Report Completion Date: (2020/03/31)

1. PROJECT OVERVIEW

1.1. General Information

Project Title:	Visual imagery teaching resources for vertebrate identification		
Principal Investigator:	Suzie Lavallee		
Report Submitted By:	Suzie Lavallee		
Project Initiation Date:	May 2019	Project Completion Date:	April 2020
Project Type:	<input type="checkbox"/> Large Transformation <input checked="" type="checkbox"/> Small Innovation <input type="checkbox"/> Flexible Learning <input type="checkbox"/> Other: [please specify]		

1.2. Project Focus Areas – Please select all the areas that describe your project.

- Resource development (e.g. learning materials, media)
- Infrastructure development (e.g. management tools, repositories, learning spaces)
- Pedagogies for student learning and/or engagement (e.g. active learning)
- Innovative assessments (e.g. two-stage exams, student peer-assessment)
- Teaching roles and training (e.g. teaching practice development, TA roles)
- Curriculum (e.g. program development/implementation, learning communities)
- Student experience outside the classroom (e.g. wellbeing, social inclusion)
- Experiential and work-integrated learning (e.g. co-op, community service learning)
- Indigenous-focused curricula and ways of knowing
- Diversity and inclusion in teaching and learning contexts
- Open educational resources
- Other: [please specify]



1.3. Final Project Summary

Through this project, a total of 32 videos were created by the team for use in FRST 395, to help students learn terminology and features of vertebrate identification using real specimens from the teaching collections of UBC Forestry and the Beaty Museum. These videos are publicly available on YouTube and provide professional-level audio and video in a consistent format of 2 – 3 minutes in length. Graduate students from the Faculty of Forestry who had taught in the course were employed to write the scripts for the videos, act as voice talent for the video narration audio recordings, and provide filming support in handling specimens and arranging for specimen transfers.

In addition to the video production, proof of concept work on production of 3D virtual objects (stuffed mouse and bear skull) was completed. These specimens provided critical information on the process and achievable objectives for photogrammetry. With some test runs and discussion, we discovered some of the technology limitations, e.g. feathers on bird specimen too difficult for object composition.

1.4. Team Members – Please fill in the following table and include **students**, undergraduate and/or graduate, who participated in your project.

Name	Title/Affiliation	Responsibilities/Roles
Suzie Lavallee	Associate Professor of Teaching, Faculty of Forestry	Project coordination, communications, specimen procurement, handling, and location access
Cole Burton	Assistant Professor, Faculty of Forestry	Project supervision and materials approval
Aisha Uduman	Graduate student, Faculty of Forestry	Specimen handler, script writer, voiceover, production and post production technical advisor
Devin da Zwaan	Graduate student, Faculty of Forestry	Specimen handler, script writer
UBC Studios	n/a	Video production; 3D model R&D, scanning and production

1.5. Courses Reached

Course	Section	Academic Year	Term
FRST 395	101	2020	Fall
BIOL 427	201	2021	Winter
BIOL 204	201	2021	Winter



2. OUTPUTS AND/OR PRODUCTS

2.1. Produced under this grant

Product(s) / Achievement(s):	Location:
Vertebrate identification videos (32 in total)	https://www.youtube.com/playlist?list=PL7B0bV4x eoFemcBcOAO DG2vFZf hRsb2A7
3D models	Bear skull https://sketchfab.com/3d-models/bearskull-20190919-a8252cfd733c404480f189a2b2334aff Rat https://sketchfab.com/3d-models/rat-sept202019-e65b0e1b667e49869cf678c86594cb43

2.2. Item(s) Not Met

Item(s) Not Met:	Reason:
n/a	

3. PROJECT IMPACT

3.1. Project Impact Areas – Please select all the areas where your project made an impact.

- Student learning and knowledge
- Student engagement and attitudes
- Instructional team-teaching practice and satisfaction
- Student wellbeing, social inclusion
- Awareness and capacity around strategic areas (indigenous, equity and diversity)
- Unit operations and processes
- Other: [Open educational resources]

3.2. What were you hoping to change or where were you hoping to see an impact with this project?

This project provided students with resources that would help prepare them for upcoming labs by giving them an overview of some of the features and terminology they would need to learn. By providing students with key features for identification, along with pronunciations and spelling of terminology, we are enabling a greater diversity of students to access the course information at their own speed and in their own space. Our hope is that these identification videos will be of use to vertebrate identification courses at other institutions, as well as at UBC, since this is a standard part of curriculum for any biology program and particularly one with a focus on natural resources management. For instructors, these videos provide an engaging introduction to materials for their labs, saving time for more hands-on and



interactive activities. As a part of the public sphere, the videos for this project will also enable public learning outside the university environment, giving access to high-level and engaging materials. Remote and casual learners will be able to search and watch videos from anywhere in the world.

The proof-of-concept materials were used as examples of the potential for virtual object creation in a large TLEF grant application, and was successful at illustrating to our collaborators the limitations and opportunities provided by virtual objects.

3.3. Were these changes/impacts achieved? How do you know they occurred?

The number of views on the videos in YouTube is still fairly low, but this is likely because they weren't fully employed in the course structure in Fall 2020. We have received some feedback from students, teaching assistants, and faculty on the videos, which suggest that they will be useful with a more intentional instructional design (e.g. flipped classroom approach to the labs). Note that the roll-out of these materials for FRST 395 in Fall 2020 was made more challenging with the pandemic, as the instructor worked to renew course content and labs simultaneously.

3.4. Dissemination

Proof-of-concept materials (e.g. bear skull) will be used as an example of virtual object creation from a basic setup (e.g. SLR camera and tripod) in the upcoming Canadian Network for Innovation in Education (CNIE) conference (April 2021).

4. TEACHING PRACTICES

Teaching in FRST 395 can take a different approach in future years, using these resources ahead of labs to introduce materials to students and/or refresh their knowledge (e.g. more flipping of content). The videos and virtual resources also make the barriers to remote learning much lower and may enable the offering of a distance education section of this required course. Students at our partner universities can also use these videos in their lectures and labs. These changes are sustainable in the long term, barring any changes to the taxonomy of vertebrates at the Order and Family levels.

5. PROJECT SUSTAINMENT

While the content of the videos is not likely to require editing for the foreseeable future, editing the video tags in YouTube will enable them to be found more easily by users. Permanent copies of the videos are retained by UBC Studios and may be uploaded to other channels as they become available. There will also be some additional work to promote the videos to other institutions and instructors, using communications channels at UBC and via Twitter. The virtual objects created by this TLEF are stored in file formats that are versatile and can be used online, in virtual reality, and with 3D printing.