Development of a Prototype for preparing an Online Laboratory Course

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Introduction

Our project aims to

- provide the online learning experience with quality comparable to the traditional lab teaching by producing detailed labelled videos with narration which can be used during ZOOM teaching and also as stand-alone learning materials that students can go through at their own pace;
- serve as a prototype for preparing an online lab course and integrating multimedia-based learning materials into various online learning systems, including Zoom, Panopto, Blackboard and various courseware.

Project implementation

The project mainly supported the distance learning of BIOL3022-Biodiversity Lab II to substitute the specimen tours and dissection demonstrations.

- It also supported the production of 4 subtitled videos about plant identification and one Zoom session for the virtual campus walk activity of BIOL3570.

<table>
<thead>
<tr>
<th>Course</th>
<th>No. of students enrolled</th>
<th>No. of videos</th>
<th>Average no. of views per video</th>
<th>No. of Zoom sessions</th>
<th>Average no. of views per Zoom session</th>
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</thead>
<tbody>
<tr>
<td>BIOL3022</td>
<td>35</td>
<td>4</td>
<td>42</td>
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<td>BIOL3570</td>
<td>58</td>
<td>4</td>
<td>42</td>
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Lab Course:
BIOL3022-Biodiversity Lab II (Lab 10A – Lab 12)

- Watch Panopto videos and textual materials (lab manual, pre-lab PowerPoint).
- Join Zoom meetings for all lab classes. Discussion (writing floral formulae, drawing floral diagram).
- Complete e-worksheets on Blackboard.

Lecture Course:
BIOL3570-Biology of Vascular Plants (Campus walk activity)

- Zoom meeting:
  1. Join the Virtual Campus Walk by watching the videos (Part 1 – Part 3).
  2. Answer the preset questions through pod after each part.
  3. Discussion on plant identification.

- After the Zoom meeting, watch Videos again on Panopto if necessary.
- Write a reflective journal regarding the virtual campus walk on Blackboard.

Conclusion and Future prospective

- A total of 33 videos and 5 Zoom sessions are produced under this project.
- 29 specimen-based videos and 4 Zoom sessions for 4 lab sessions of BIOL3022.
- 4 videos and one Zoom session for the campus walk activity of BIOL3570.
- A e-user guide is being produced to document the integration process and experience in video taking for online lab teaching.
- Expected to be available online to CUHK teachers in August 2020.

- We have received positive responses from a majority of students and graduate teaching assistants of BIOL3022.