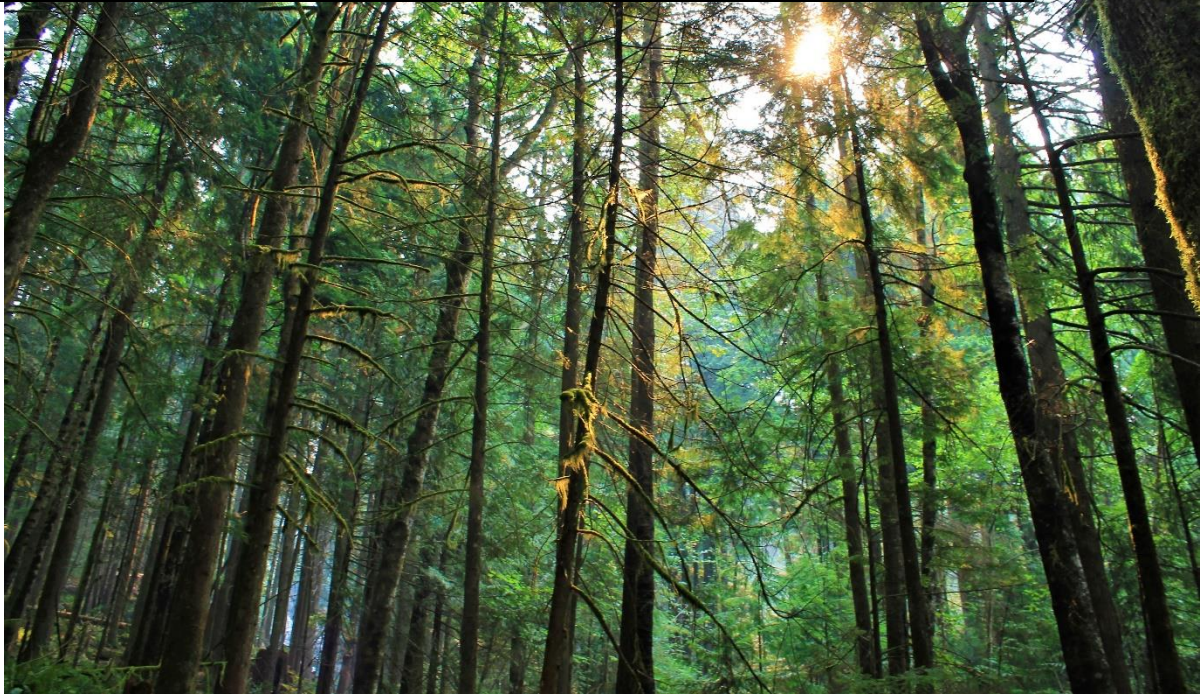


2020

Tackling Field-Based Education During COVID-19



Canadian College and University
Environmental Network

Symposium Proceedings Report

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About CCUEN

The Canadian College and University Environmental Network (CCUEN-RCCUE) is a national organization established to bring together environmental educators at universities, colleges, CEGEPs, technical institutes, and similar organizations that offer educational programs in any environmental field. CCUEN-RCCUE has become the primary voice of Canadian college and university environmental educators.

Membership in CCUEN-RCCUE is through your university or college. For more information, visit: <https://www.ccuen-rccue.ca/en/members/join-ccuen>

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Executive Summary



The Canadian College and University Environmental Network (CCUEN) Symposium on COVID-19 and Environmental Education was held to provide a space for environmental educators to share ideas on adapting to instructing during a pandemic. These proceedings were produced to capture the main ideas, triumphs, and tribulations of COVID-19 instruction in a functional and concise manner. The main intentions were to:

- 1) identify what is working well, currently
- 2) identify what concerns are arising from pandemic learning
- 3) provide a short-list of best-practices to best equip students for graduation from environmental programs

The event drew college and university faculty from more than two dozen post-secondary institutions across Canada. This report captures the main ideas and resources shared by participants.

Symposium Purpose and Structure:

This symposium was designed as a way to share best practices on environmental education during a time of physical distancing. The event was hosted using Zoom, and moderated by CCUEN board members Brandee Diner, MSc, and Dr. Michelle Rhodes. The 2.5-hour symposium was broken into two sessions. The first asked participants to share strategies for adapting environmental education for fully or a primarily online, socially-distanced format. The second session explored what worked less well, and the possible impacts on educational outcomes. The symposium drew educators from more than two dozen Canadian colleges and universities, and from a diversity of environmentally-identified programs. The event was recorded for purposes of keeping accurate notes.

Key Themes:

The main theme introduced at the beginning of this symposium was “*What are we doing right... now?*” Educators shared their thoughts on what has, and has not, worked for them during this pandemic.

Box 1: Key Themes Identified During Symposium

- Video content is generally working well for both students and faculty
- A return to independent low-tech learning solutions is effective
- Do-it-yourself field trips, using field journals, podcast-style lectures and citizen science platforms have been used successfully
- Accessibility and fairness to all students is imperative
- Managing mental health by adjusting time-in and modes of instruction is more important than ever
- There are silver linings to this pandemic which will change the modes of instruction post-COVID

Three main concerns included how effectively online software was working, the development of new modes of delivering lecture material (or not providing lecture material), and ensuring mental health and accessibility. Faculty using online software or teaching strategies at times faced technical issues or difficulties in use. In addition, institutions in different provinces face different legal environments around information use and other hurdles. In some classrooms, students are learning in different time zones, and evolving health and physical restrictions have challenged the delivery of place-based modes of instruction.

Teaching a class that is spread across numerous time zones, with varying access to technology and resources essential to environmental education... there is no one-size-fits-all solution.



Expanding on Ideas: Session Breakdowns

Session 1: What is Working... Now? Adapting Current Practices and Developing New Strategies

Software

- Zoom
- Google Earth
- iNaturalist
- Anchor/podcast production
- Labster
- BlueJeans
- Crowdmark
- H5P
- MS Sway
- Nature's Notebook
- Ecological Research as Education Network (EREN)
- Mediasite
- ECamm Live
- Adobe Spark
- Microsoft Stream
- Kaltura (Video production)
- OneDrive and SharePoint
- Zooniverse

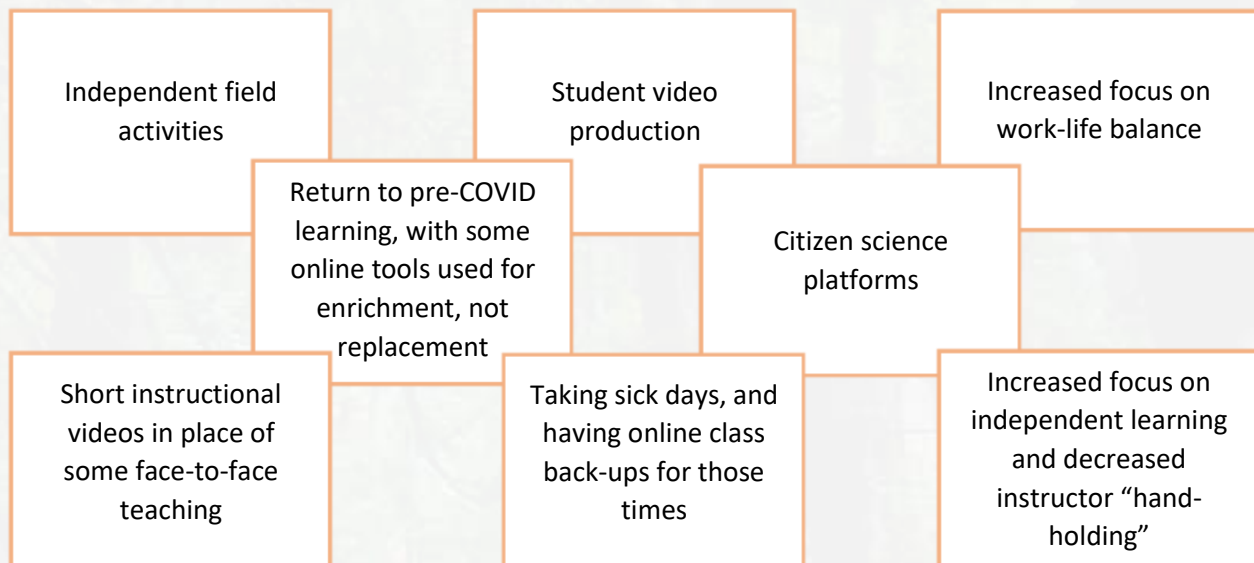
What is Working?

- Online live lectures, allowing students and instructors to connect in real time
- In-person labs with COVID-19 health measures in place (i.e. mask-use, hand washing, distancing) where possible
- DIY fieldwork with student's local natural areas
- Self-directed learning
- Maintaining outdoor components in-person with online components offered via recorded (audio or video) lectures
- Podcast-style lectures
- Video lectures and demonstrations, uploaded early to decrease wait-time
- Loosening of structure/blocked time for online work
- Field book production in independent field work
- Packing less into courses during the pandemic

What Could Work in the Future?

- ✚ Postponing field-based courses until after COVID where in-person teaching is not possible
- ✚ Catch-up "boot camps" for field skill prior to graduation

What practices might be adopted post-COVID, based on their current efficacy?



Expanding on Ideas: Session Breakdowns

Session 2: Impacts on Student Learning and Unexpected Silver Linings



What is Not Working, or Working Well?

- Geographic Information Systems (GIS) at home
 - Asynchronous learning using GIS can be frustrating for both students and instructors, especially with a complicated system such as GIS which commonly malfunctions.
 - GIS use at home is challenging due to the students' access to adequate technology and internet service, and this is a hurdle with no clear solution at this time.
- Understanding of intricate, second-level skills
 - Basic skills taken for granted as being learned in a face-to-face environment are not being translated to an online format where learning is done independently.
 - Minor concepts learned in the field or in lab environments now need to be verbally taught as not to be missed, but first they have to be identified and translated into instruction.
- Students who are not in a mental space to fully engage will be at a disadvantage despite online learning tools that are working.
- Privacy and security issues surrounding online content and usable platforms.

Helpful Advice Shared by Participants

- Post demo videos in segments, and use a lower resolution.
- Upload videos using an external platform (such as YouTube or Google Drive) and provide the link in Blackboard rather than uploading content to Blackboard itself.
- Audio lectures are simple to record and allow some screen-free time for both instructors and students. Students can replay them as desired and increases their flexibility.
- This new format is indeed more work than previous face-to-face formats, especially in this developmental phase. Remembering to manage exhaustion by lessening the amount of activities done in a class is essential for both instructors and students.

Student Wellness and Learning

- Second-level concept learning can be addressed, at least in part, by a variety of instruction methods such as the ones discussed in Session One. Use of videos, lecture content, online platforms and independent learning seems to suit many instructors.

Student Wellness and Learning (Continued)

- Mental health has become a bigger part of the conversation in terms of handling the COVID-19 pandemic. This is the case for instructors as well as students. The ability of individuals to adapt to a largely online format will vary, with some exceeding expectations and, according to discussion, some not meeting expectations. Emphasizing flexibility and mental health check-ins have suited many instructors, and can contribute to overall success in online classrooms.
- Additionally, the course load has evolved according to some instructors – fewer activities than pre-pandemic are expected from students to lessen the burden on both sides. Courses at this time can also be changed to a pass or fail basis for the remainder of the pandemic, which instructors have shared is a way to reduce student stress.

Useful Online Resources Shared by Participants:

- Video conferencing, recording and more: <https://www.ecamm.com/mac/ecammlive/>
- Creating and sharing HTML5 content via internet: <https://h5p.org/>
- Active research with a citizen science/student participation aspect: <https://www.zooniverse.org> and <http://erenweb.org/>
- Field skill workshops, research collaboration and more: <https://thevirtualfield.org/>

COVID's Silver Linings

- ✚ Using more technology in instruction
- ✚ Independent work is resulting in better end products by students with increased preparedness for the future
- ✚ Cell phone use is widely adaptable and accessible
- ✚ Access to guest speakers from around the world
- ✚ Better use of in-person class time in general
- ✚ Lessons are more concise, with more room for enriching discussion
- ✚ Asynchronous teaching/lessons allows for more flexibility
- ✚ Lectures available online for student review
- ✚ Time savings on commutes for all involved
- ✚ Presentations are more professional recorded than delivered face-to-face
- ✚ Idea-sharing is happening more today than it has in a long time, maybe ever
- ✚ A realization of how much students teach each other in a face-to-face format
- ✚ Return to more classic ways of learning (i.e. map-use vs GIS) is being highlighted
- ✚ Increased student interaction during online office hours



CCUEN periodically offers online and in-person events, including its annual conference. Please refer to the organization's website for more details: <https://www.ccuen-rccue.ca/>