

# impact

University of Idaho Extension programs that are making a difference in Idaho.

## Water outreach creates nine water education videos, improves H.S. teachers' skills

### AT A GLANCE

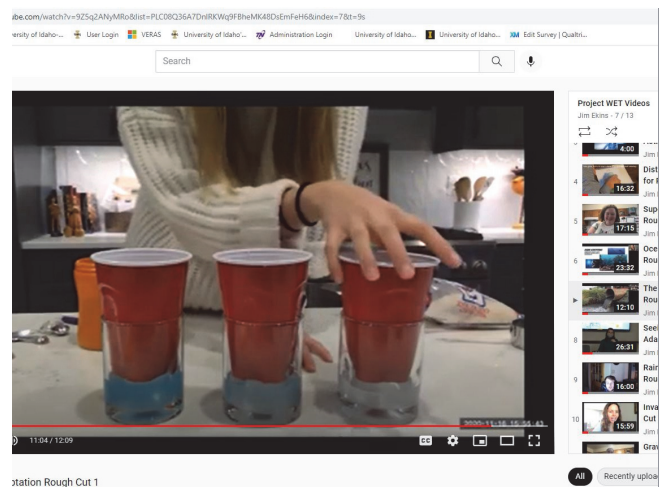
UI Extension Water Outreach provides teachers with distance-learning training. The teachers, in turn, provide content for a series of educational videos produced by UI Extension Water Outreach.

### The Situation

Not yet a teacher but not quite a student anymore, education majors found themselves caught in the middle during the fall 2020 semester with the COVID-19 pandemic. K-12 educators and non-formal educators alike (e.g., Extension educators), struggle with adapting to distance learning due to a lack of preparation for this context. Indeed, a researcher surveyed 1,000 teachers about their school's pandemic response and anticipated actions, and needs, nearly two-thirds of responses indicated a moderate to major need for training to adapt to distance learning. The resulting constraint and sudden increase in demand created a well-timed opportunity for University of Idaho Extension to support teacher education in distance learning.

### Our Response

University of Idaho's College of Education, Health and Human Sciences and UI Extension Water Outreach program integrated the needs of science teacher education and distance science education content. Professor Tonia Dousay, Ph.D., and Extension water educator, Jim Ekins, Ph.D., developed a case study to capture the experiences and outcomes of a Secondary Science Methods course (EDCI 433). This case study included the course activities, a virtual clinical



One preservice teacher demonstrates a simple water test for the reimagined Project WET activity, "The Pucker Effect."

experience, 10 preservice teachers, the course instructor and a partnership formed with Idaho's Project WET (Water Education Today; formerly Water Education for Teachers), administered in north Idaho by UI Extension Water Outreach program. The Project WET partnership brought together three statewide Project WET program facilitators to serve as course mentors. Under the mentors' guidance, the preservice teachers redesigned existing Project WET curricula and delivered virtual NGSS-aligned science workshops. This service-learning experience provided experiential learning opportunities for undergraduate and graduate students seeking secondary science education licensure and supported science learning for fifth through twelfth-grade students.

## Program Outcomes

Each preservice teacher recorded their clinical experience of teaching a reimagined Project WET activity to a distance youth learner. Jim Ekins used his video post-production skills and Adobe Premiere Pro software to edit the hour-long (or longer) recordings into more concise (roughly 15-minute) professional-looking videos. During this process, Ekins blurred-out the youth faces and identifying information. Ekins also replaced copyrighted content that the preservice teachers used with Extension Water Outreach-produced, or other open-sourced, online materials. The finished products are housed in YouTube, as a “Project WET” playlist, at:

<https://youtube.com/playlist?list=PLCo8Q36A7DnlRKWq9FBheMK48DsEmFeH6>. These final videos are intended to be used by Project WET-certified K-12 teachers and non-formal educators, to help them develop and deliver peer-reviewed hands-on learning activities.

Science education often relies on supplies and materials to support inquiry- and lab-based activities. Science distance education poses unique challenges concerning materials, which emerged when looking at the connection points with the virtual science workshops. Project WET activities provide a supplies list for teachers and generally require access to everyday materials, such as labware and crafting supplies. Redesigning the activities for distance delivery, where learners must rely on materials available at home, introduced constraints and barriers. In some cases, the students quickly identified similar resources like cups instead of labware. In others, they found a need to identify completely different materials due to learners being alone and distributed. Interestingly, discussions also involved equity and social justice issues, questioning the

ethics of asking learners to use food items like beans or rice.

## The Future

Developing the partnership between Idaho’s UI Extension Water Outreach/Project WET and the course helped bridge the gap in clinical opportunities, and to enrich UI Extension connections with community school districts. Even when education preparation providers are not responding to a global pandemic, they need quality clinical experiences to support preservice teacher development. They also need curricular support from Extension professionals; this project helped to create new connections with UI Extension professionals around the state. A professional manuscript describing this case study research has been submitted to the Society for Information Technology & Teacher Education, for peer review.

## Cooperators and Co-Sponsors

The current project leveraged an existing partnership between University of Idaho Extension and College of Education, Health and Human Sciences’ Secondary Science Education program, expanding it to include regional Project WET stakeholders. When regional schools cannot support additional clinical experiences for any reason, these kinds of partnerships help bridge the gap and meet the need. Idaho Project WET Coordinators and student mentors include:

- Jim Ekins, area water educator, University of Idaho Extension
- Cindy Busche, education manager, Boise Watershed Education Center
- Chloe Doucette, director of education, Museum of Idaho, Idaho Falls

## FOR MORE INFORMATION

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37-21-jekins-educational-videos • 10/21