impact

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

Virtual field trips improve youth perceptions of insects and spiders

AT A GLANCE

Amidst a pandemic restricting traditional events, University of Idaho Extension expands bug education for youth reaching larger audiences and changing perceptions.

The Situation

Only a small percentage of spiders and insects are directly harmful to humans. Most of the general public believes that these organisms are harmful to humans, which leads to unintended harm to the environment and increased costs as pesticide usage goes up. To change youth perception of these organisms, multiple face to face educational events were planned, but plans quickly changed as the COVID-19 pandemic arrived. Due to these circumstances, most in person events were canceled, affecting youth across the nation and their ability to go on field trips focused on natural sciences. The inability to go on field trips has affected youth and teachers struggling to find more engaging ways to learn and teach while still protecting communities' health.

Our Response

Soon after Idaho began entering quarantine Extension Educator Jason Thomas focused on innovative ways to engage youth and teach them about insects and spiders. He reached out to the Tech Trep Academy, a public school in multiple states, to discuss offering three virtual field trips about the following topics: Insects, Spiders and Traps and Collection Methods.

Jason Thomas answering questions about spiders and insects submitted by youth watching live via YouTube.

To produce a high quality stream, Thomas utilized equipment provided by the University of Idaho, including a 4k video camera, an iPad, Apple Pencil, Black Magic Atem Mini and a Yeti Blue Microphone.

To engage youth more, Thomas gathered and prepared live insect specimens to show to youth live and created a system using Qualtrics for youth to submit live questions to get them answered in real time. To improve security and allow a larger number of users, Thomas created the stream on YouTube live using the Insect Hunter YouTube channel. Lesson plans, activities and quiz questions were developed for youth of various age groups to engage parents.

Multiple camera shots, graphics and other means were used on the stream to keep things engaging, including

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drawings, sculpting models with clay, demonstrations of techniques, handling of live specimens and showing previously recorded videos created by Thomas and answering questions. Each virtual field trip lasted 40 minutes and 20 minutes was spent answering questions submitted by youth.

Before and after the virtual field trip, participants were asked to fill out a survey that asked youth to decide how they would react to three different specimens shown to them in an image. Those shown were a wolf spider, a mantisfly and a lacewing larva. After viewing the image, participants answered how they would react to the specimen if they saw it in their backyard. Responses available were kill it, run away, leave it alone or capture it to study.

Program Outcomes

With the help of Tech Trep Academy in carrying out marketing 1,447 students registered for the virtual field trips with, the majority viewing from Idaho. Using YouTube Analytics, over 1,104 hours' worth of content was viewed. Each stream had between 270 and 370 viewers. This does not consider that most families had multiple youth registered and viewed from one machine. We had 648 questions submitted via Qualtrics, thus helping engage youth in the topic. Five hundred and sixty-five (565) participants filled out the initial survey.

In a follow up, 108 parents rated aspects of the program on a scale of one to five. One being very low quality and five being very high quality. In terms of educational value the average rating from parents was 4.8. In terms of being engaging for their kids, parents rated the program at an average of 4.5.

Our results suggest that the virtual field trips reduced the percentage of negative responses (i.e. running away or killing specimen) to insects and spiders in terms of changes in behavior, as shown in the table below.

Specimen	Negative Response (Pre)	Negative Response (Post)
Wolf Spider	46.5%	30.0%
Mantisfly	8.5%	6.0%
Lacewing Larva	39.0%	23.9%

Thus, providing virtual field trips like these can be both engaging and impact youth behavior to make choices that are more supportive of the environment and based on scientific evidence. Continued efforts should be made to utilize virtual technologies to provide meaningful programs for youth.

Cooperators and Co-Sponsors

This effort would not have been possible without the assistance of the Tech Trep Academy for donating their time and resources to help us carry this out.

FOR MORE INFORMATION

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