PHYS ORG

Learning in the lab can continue at a distance



February 18 2022, by Katie Cowart

Student-identified strengths and areas for improvement in remote REU Sites. This figure provides an overview of the strengths and areas for improvement for 21 programs in this study, which are numbered across the top. Programs 20 and 21 are not included here, because students in these programs did not participate in focus groups. Programs 22 and 23 are separated, because they included substantive in-person components. Blue indicates the areas of strength (three most common in the top three rows); red indicates areas in need of improvement (next two rows); purple indicates a mixture within a program, with some students emphasizing this as a strength and others as an area in need of improvement (next two rows): white indicates that no evidence related to that theme was observed during the focus groups for that program. The bottom three rows feature themes that were mentioned by students in fewer programs. The four columns on the right are sums of how many programs had students reporting the theme as a strength, a concern, or a mix, with the total indicating how many programs had students commenting on the theme regardless of whether it was a strength or concern. Credit: DOI: 10.1187/cbe.21-05-0125



As most of the world came to a halt at the onset of the COVID-19 pandemic, researchers were trying to find a way to engage students through research at a distance. University of Georgia professor of biochemistry and molecular biology Erin Dolan and her research team carried out a study to appraise the remote programs that grew from this challenge.

The study evaluated 23 programs at colleges, universities, and <u>research</u> <u>institutions</u> across the country. Most of these programs were eight- to 10-week internships.

"We wanted to get a sense of how the programs worked so we could make recommendations as the programs were ongoing as well as see ways we could make them stronger and better for remote research going forward," said Dolan, Georgia Athletic Association Professor of Innovative Science Education. "We wanted to know what happened and was it good from a <u>student</u> perspective because these programs are developed to serve students and help them grow."

The researchers conducted a descriptive evaluative study where they asked participants to describe the novel approaches used to execute the remote research. Participants also reported on the strengths and weaknesses of their programs and made suggestions for improvements. Undergraduate researcher Olivia Erickson, a senior majoring in biology, and others on the research team compiled the feedback and analyzed overarching themes.

What worked and didn't work remotely

"One of the strong points the students noted was the quality of the mentorship, which is great because many faculty have little mentorship training, especially on how to mentor remotely," said Dolan. "Being able to pivot and provide that needed support from a distance is crucial."



The students also felt they learned a great deal and studied topics they might not have if the internship was in person. Most of the programs changed their projects to computational work, and the students developed skills they wouldn't have otherwise used.

While the students felt the programs did a good job of fostering connections, students felt they missed out on the informal interactions that happen during in-person programs.

"Students also had concerns about the lack of structure. Doing research involves a lot of uncertainty. You don't know what is going to happen day to day, it depends on the results," said Dolan. "When you work from a distance, there is further uncertainty because you don't have the structure of the workday, you wonder, am I working enough, am I working too little, when should I stop working?"

Despite that, the institutions were able to take advantage of remote research to schedule lectures and network opportunities with contacts from across the country. The students were able to engage with a much broader group of scientists.

Research at a distance opens two avenues. First, for students who are geographically limited, whether by other responsibilities or financially, being able to do research at a <u>distance</u> allows institutions to reach more students. Second, there is also a <u>cost savings</u> for the institutions. If the institutions are not providing housing, food and other necessities for participants, it's possible they could use those savings to offer more internship spots.

"The evidence from our study suggests it would be worthwhile to pursue these kinds of programs in the future," said Dolan. "It gives me some faith that there is value in remote research for engaging a broader group of students."



More information: Olivia A. Erickson et al, "How Do We Do This at a Distance?!" A Descriptive Study of Remote Undergraduate Research Programs during COVID-19, *CBE—Life Sciences Education* (2022). DOI: 10.1187/cbe.21-05-0125

Provided by University of Georgia

Citation: Learning in the lab can continue at a distance (2022, February 18) retrieved 10 May 2024 from <u>https://phys.org/news/2022-02-lab-distance.html</u>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.