

1. Project Title

Lawrence at Home and Online: Pivoting the Mission of the Lawrence Hall of Science

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3. Project Summary

Following a temporary closure of its public science center in the wake of the SARS-CoV-2 pandemic, the Lawrence Hall of Science education team quickly pivoted to offering high-quality distance learning resources for youth, families, educators, and school systems.

4. Project Narrative

Several days before California's shelter-in-place order was announced, the Lawrence Hall of Science (The Lawrence) made the decision to close to the public. As UC Berkeley's public science center, The Lawrence has a commitment to not only follow safety practices rooted in scientific evidence, but also provide a window for the public to the University of California's cutting-edge research. Although the public could no longer visit in-person, The Lawrence was eager to find ways to continue to meet their mission of providing access to science learning for all, especially those who traditionally lack access.

The SARS-CoV-2 pandemic has had a profound effect on the education system. The education team quickly identified several key goals that required them to build capacity as rapidly as possible:

- Provide direct educational experiences for individual **youth** and **families** who are responsible for their own distance learning.
- Support **educators'** and **school districts'** transition to distance learning.
- Understand the **research** behind effective distance learning, and translate that to the broader science education practitioner community.

Despite this urgent need, The Lawrence had limited experience in offering distance-learning experiences. The education team first did an audit of existing technological resources. This included the ability to livestream, to create instructional videos in educators' homes, and to curate existing science activities that were posted online. The team also identified partnerships with publishers of The Lawrence's instructional materials (which are used by millions of students in school districts across the country, including all major San Francisco Bay Area school districts). Staff who support professional development for educators identified which of their offerings could be converted to an online convening. Finally, the business contract office began assessing the privacy capabilities of distance learning platforms (like Zoom) to ensure minors' privacy was being preserved. In this way, the effort to transition this work was truly cross-departmental and touched nearly all aspects of the organization.

Over the past three months, The Lawrence has launched several ambitious ways of meeting the goals outlined above:

- **Youth and Families.** Within a month, The Lawrence had launched "The Lawrence at Home," a weekly newsletter with curated science activities and videos, as well as live-streamed sessions that mirrored programs that would normally be done on the museum floor. The education team also set up a new page on The Lawrence website that linked to science activities from trusted sources (including themselves) to ensure that content was valid and high-quality. Initial analytics showed a spike in website visits, reaching over 10,000 users in the first few weeks of launch. Of note, this was done without any web development staff--the previous web designers had recently left the organization, and a new hire had not yet been brought on when the pandemic hit. This created an additional challenge for the team, and The Lawrence's marketing staff stepped up to quickly learn how to set up and disseminate a new web page for this purpose.

Beginning in May, The Lawrence prepared to transition its summer camp program--which provides essential summer learning experiences and childcare to about a thousand Bay Area students each year--to an online format. While this program is still being developed, it will cleverly take advantage of both online resources (like the Zoom platform) and in-person, analogue experiences through kits sent to each participant's home. This hybrid approach would not be possible without the existing technology or The Lawrence staff's ability to pivot quickly to a new camp structure.

- **Educators and School Districts.** As described, The Lawrence designs curriculum that is widely used across the Bay Area and beyond. These curriculum products are produced, marketed, and sold through publishing partners. Curriculum designers and publishing partners have worked together to enhance their offerings for this new reality by offering professional development webinars, and providing access to materials that would normally be behind a paywall. In several cases, this online access has been more successful than the previous status quo--for example, a recent webinar garnered over 100 participants when normally only a quarter of that could be expected for an in-person experience.

The Lawrence also works with educators and school districts directly, such as providing direct experiences for students (like onsite science festivals at schools) and training educators on understanding the Next Generation Science Standards (NGSS). The Lawrence is in the early stages of exploring how to use technology to better support these audiences; for example, the distance learning platform format for professional development provides more opportunities to reach a greater number of educators. Partnering with school districts to provide the science education content will enable teachers to spend more time developing other necessary educational resources for their classrooms.

- **Research.** The Lawrence prides itself on rooting its evidence-based experiences and products in learning research and evaluation. As the educational system becomes embedded in the online learning space, The Lawrence will produce understandings of effective distance learning for the broader field. A cross-departmental team (consisting of both researchers and practitioners) has already produced a framework on what constitutes best practice in distance learning that both draws on existing research and defines research questions to explore going forward. The framework includes understandings of how different technologies can be utilized to support distance learning, as well as what the experiences themselves should consist of. This framework will shape the direction of The Lawrence's distance learning products and be disseminated to do educational institutions to do the same.

Although the SARS-CoV-2 pandemic has presented incredible hurdles for the education community, The Lawrence has stepped up to use technology in a powerful way to support accessible and high-quality education for all.