Sautter Award Nomination

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Project Name
Building a Learning Management System to effectively train California's COVID-19 workforce

Summary
In April 2020, the Universities of California San Francisco (UCSF) and Los Angeles (UCLA) partnered with the California Department of Public Health (CDPH) to rapidly mobilize and train over 10,000 COVID-19 case investigators and contact tracers through the "COVID-19 Virtual Training Academy (VTA)". In July 2021, the VTA's cross-functional team of health educators, learning designers, program managers, accessibility advocates, and information technology professionals collaborated to design and launch a learning management system (LMS) and supporting infrastructure. The result has been an agile, scalable, user-friendly, and accessible platform for adult learners working at local health departments across the State.

Project Narrative
To effectively train a large public health workforce of >10,000 remote learners during a public health emergency, the VTA+ needed an online learning management system (LMS) through which it could manage frequent content updates, distribution of materials, registration, communication with learners, and monitoring and evaluation. Initially, the VTA+ operated through multiple learning systems hosted by partners, including UCLA Extension and the California Prevention Training Center, and Google Classroom. These disparate systems presented several challenges. First, due to institutional firewalls, certain LMS were inaccessible to some learners and program staff which limited the program's ability to collaborate across institutions and created bottlenecks in workflows. Speed and cost were also limiting factors, as the VTA+ course content required frequent updating due to the ever-evolving COVID-19 science and guidance. Finally, each system had its own operational specifications, user interface, look and feel, and program management infrastructure. As a result, the user experience was inconsistent and less efficient. To keep pace with the needs of an expanding training program, to the VTA+ recognized the need for a single, centralized LMS.

The main objectives of the VTA's new LMS were to: increase efficiency in registration, automation, communication, and content management; improve accessibility for learners and instructors; allow for custom and consistent branding, layout, and user experience; facilitate rapid revisions to content and "recycling" of stable content for recurring trainings; enhance reporting, monitoring and evaluation; increase interactive content to support diverse, adult learning styles; and, improve cross-institutional programmatic collaboration. We chose a Moodle-based LMS because it is feature-rich and customizable. Moodle has many available plug-ins, is open source, and supported by a global network of developers and "Moodle Service Providers." It is also frequently used outside of the U.S., which would enable us to also leverage the system for possible future global work. However, because we did not have our own

server to host the LMS and IT staff to manage the servers, we choose to use an external Moodle Service Provider to support cloud hosting and the initial build.

Beginning in July 2021 we launched legacy training content on our new LMS. Through October 2021, we developed new e-learning courses with a "blended" format for our trainings, through which learners would complete self-guided online training modules asynchronously in advance of participating in live (remote), interactive trainings with their instructors and classmates. We made this shift in response to consistent feedback from learners that they needed more control and flexibility over how to manage their time and learning experience. We used course authoring software to create engaging, accessible, and impactful eLearning courses formatted for mobile and desktop devices. During this phase we also established an accessibility working group to review and suggest accessibility improvements to the LMS and supporting course materials. In November 2021, we began launching our new blended learning courses on our new LMS. At the same time, we began a pilot evaluation of our new LMS and blended learning courses, which would continue through January 2022.

This process allowed the VTA+ to improve on its existing trainings by incorporating consistent branding throughout the LMS, re-evaluating the training curriculum, improving the accessibility of content, and providing more control and flexibility to learners. Consistent branding and a streamlined user interface improved learners' user experience.

Feedback from learners has been positive. Approximately one-thousand learners (n=966) have participated in VTA+ training programs since the new LMS launched in August 2021. In post-training evaluations captured since August, 80-95% learners responded that the LMS and blended trainings were 1) easy to use, 2) promoted clear communications, 3) easy to navigate, 4) provided effective, convenient, and enjoyable way to learn, 5) provided high-quality content. Additionally, internal workflows have improved as LMS administrators, course leads and trainers are integrated into the LMS. Historic pain points for learners, such as registration, have also improved. The custom LMS has increased our capacity to equip California's public health workforce with professional skills and knowledge to respond to the evolving COVID-19 pandemic.

In less than a year the VTA+ team successfully built a robust online LMS to provide professional education to the public health workforce across the state of California. We leveraged the passion and collaboration skills of our team to achieve our goal. Integration of all trainings into a single LMS has improved workflows and collaboration among the VTA+'s >80 staff consisting of course leads, program managers, subject matter experts, learning designers, LMS administrators, live training production staff, facilitators, and monitoring and evaluation team. It has strengthened the academic-practice partnership between the UC System and the California Department of Public Health and positioned the VTA+ to continue to provide workforce development training to California's public health workforce post-pandemic.

In the year ahead we will continue to improve and simplify the user experience throughout our new LMS including a continuous accessibility review. We will also focus on building our team capacity to apply best practices of adult learning theory in the design and delivery of self-pace and live trainings. We are also exploring opportunities for collaboration in learning design and management with other groups and our vision for the future is to create a community space for the enhancement of the design of programs offered.

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