

Seed Funding Success: Naval School Explosive Ordnance Disposal Develops a SMARTer Way to Educate New Service Members

By DON Innovation

Back in 2015, the leadership and staff at Naval School Explosive Ordnance Disposal (NAVSCOLEOD) envisioned a schoolhouse that could leverage smart devices, employ a cloud environment to host online classrooms, and transit across mesh networks using modernized education techniques. They further imagined online classrooms which hosted individual study apps, virtual laboratories, gaming, and ocular immersion technologies. They envisioned mesh networks which cut the time required of instructors "off the podium" and enabled electronic grade books, programmable data analysis, advanced analytic capabilities, and electronic feedback reporting. They also foresaw tailoring education and technical training methods for a tech-savvy generation accustomed to immediate information access.



Naval School Explosive Ordnance Disposal Seal

Today, thanks in part to seed funding from Task Force Innovation (TFI) and the Office of Strategy and Innovation (S&I), much of NAVSCOLEOD's vision is becoming a reality through the Scalable Mobile Applications and Ready Training (SMART) project. Further, even before the project's completion, many of the anticipated benefits have been realized and, in some cases, have exceeded the original expectations.

To meet the goal of optimizing student academic performance and staff training processes through mobile capabilities and technology, NAVSCOLEOD students were issued e-Tablets throughout the seven divisions. Due to the high demand, the initial project scope was increased and more than 1,500 students were issued e-Tablets for about 100 classes. The result was that NAVSCOLEOD experienced fewer student failures in four out of the seven divisions, higher peak student performances, and positive student and staff feedback. Most dramatically, NAVSCOLEOD saw a drop in academic attrition of over 11 percent.

To achieve these dramatic results, more was involved than just handing out e-Tablets; it took a couple of years of careful planning and preparation, which is where S&I's seed funding was essential. In 2015 S&I gave NAVSCOLEOD \$485,000 to secure e-Tablet prototypes and, with Defense Advanced Research Projects Agency Transformative Apps program support, configure up to 600 e-Tablets. The seed funding also accelerated the e-Tablet operating system design,

application development, and device requirement development, as well as incorporated automated advanced analytics.



161216-N-YW487-001 EGLIN AFB, Florida (Dec 16, 2016) A NAVSCOLEOD Instructor demonstrates a Study Application on a student's tablet. NAVSCOLEOD, located on Eglin Air Force Base, Fla. provides high-risk, specialized, basic and advanced EOD training to U.S. and 97 partner nation military and selected U.S. government personnel each year. (U.S. Navy photo by Billy P. Martin/Released)

Building on this initial seed funding, NAVSCOLEOD created 80 “YouTube-like” videos and five apps, such as the “Individual Study App,” for the e-Tablet. These videos and apps provided rich content, which improved overall performance for students and instructors alike, with students frequently using the videos to review previously taught skills. Students and instructors also favored quiz apps and other digital content, including slides, curricula, and technical publications. NAVSCOLEOD also was able to migrate the school’s digital curricula and evaluate a prototype for an electronic gradebook.

Of course, along with the S&I seed funding, a tremendous amount of talented and motivated people contribute to the SMART project’s success as they worked diligently toward furthering Ready, Relevant Learning; a cloud-based collaborative learning environment; and learning management capabilities.

Incidentally, this was not S&I’s only effort on behalf of the Explosive Ordnance Disposal (EOD) community. This past summer one of S&I’s Innovation Advisors was the project lead at the Defense Innovation Unit-Experimental (DIUx) in Silicon Valley for EOD’s Learning, Talent and Knowledge Management, and Collaboration project. This effort promises a cloud-based enterprise software system for DoD forces operating globally across several networks.

For FY18 and beyond, the SMART team is now working with DIUx and OPNAV N95 on project “Jet Stream – Learning.” The initial phase will conclude in February 2018 with a commercial asymmetric cloud experience prototype. The prototype will demonstrate the potential to (1) synchronize and optimize learning and management tasks within the cloud from mobile devices or desktop, (2) deliver end-to-end workflow functions that create learning management process efficiencies, and (3) increase professional collaboration through a relevant software suite from worldwide spectrums. Among the results of this phase of the SMART project will be that instructors using the “Jet Stream Forms App” will be able to digitally grade from remote areas and then synchronize data to the gradebook/database within the cloud software. This capability will decrease the administrative burdens of past grade recording methods and the length of time it takes instructors to manage the grading process.

The DON Innovation series “Seed Funding Success” highlights some of the successful implementations of seed funding within the Department of the Navy. While care is given to ensure that those projects with a highest probability of success are supported, not every project will have the same outcome. It is our privilege to tell the story of those projects that have had particularly positive results.