The U.S. Navy must maintain and expand its anti-submarine warfare (ASW) capabilities. Warfighter readiness is the linchpin of the Navy's ASW strategy, the complexity of the ASW domain necessitates time-consuming training, and practical experiences to transfer skills to the operational environment. An innovative training approach is needed to accelerate mastery and foster transfer of ASW skills. Tier 1 Performance Solutions' Transformation Accelerated through Redesign, Guidance, and Enhanced Training (TARGET) is comprised of two components: (1) a task-centered instructional design strategy for ASW education, and (2) a performance support tool to assist ASW instructors as they apply task-centered instructional design. The tool greatly expands the impact of our solution by allowing instructors to apply the task-centered learning approach to other ASW topics and throughout Navy schoolhouse training.
WHO

SYSCOM: NAVSEA
Sponsoring Program: PEO-IWS 5A Undersea Systems
Transition Target: Fleet ASW Training Center (FLEASWTRCEN), AN/SQQ-89, Advanced Capability Build 23 (ACB-23)
TPOC:

WHEN

Contract Number: N68335-19-C-0157 Ending on: January 15, 2022

Milestone Risk Level Measure of Success Ending TRL Date
Develop courses applying task-centered instructional design to the ASW curriculum Low New sonar operators will be proficient for duty 50% faster TRL-6 January 2022
Develop a performance support tools to assist ASW instructors with the incorporation of innovative methods into courses Low Methodology will be adopted into 70% of ASW courses TRL-6 January 2022

WHAT

Operational Need and Improvement: As submarine threats from adversary countries continue to rise, the U.S. Navy must maintain and expand its anti-submarine warfare (ASW) capabilities. Warfighter readiness is the linchpin of the Navy’s ASW strategy, but the complexity of the ASW domain necessitates time-consuming training, and practical experiences to transfer those skills to the operational environment. An innovative training approach is needed to accelerate mastery and foster transfer of ASW skills.

Specifications Required:
1) Achieve mastery faster in a more engaging way
2) Innovative classroom and learning methods, improved learning spaces, interactive video gamification, training sand boxes, and exploration tools such as gaming social learning, simulation, micro learning and different instructional design methods
3) Create effective learning experiences that also motivate learners to achieve superior levels of performance
4) Focus on determining the ideal training tools or approaches matched to the learning task or goal required of ASW personnel

Technology Developed: Tier1’s TARGET solution provides the Navy with task-centered instructional design and innovative learning activities to improve outcomes and engagement. The TARGET also provides faculty with an innovative performance support tool to apply task-centered instructional design to other ASW topics—and throughout Naval schools training—to achieve high velocity learning and seamless transfer to fleet operations.

Warfighter Value:
- Advanced training approach for fleet ASW personnel on the AN/SQQ-89A(V)15 Surface Ship Undersea Warfare Combat System focused on improved instructional design and learning technologies
- Algorithms to recommend instructional methods based on training task, mission task, learning objectives
- A taxonomy structure for the organization of instructional technologies
- Integration of affective context integrated with task-based training to improve learning outcomes through the increase of meaning and purpose for mission tasks

HOW

Projected Business Model: TIER1’s business model applies science, education, technology, and business knowledge in inventive ways to improve the performance of people. TIER1 has received 40 Phase I, II and III SBIR/STTR awards from the U.S. Air Force, Navy, Army, Missile Defense Agency, Department of Homeland Security, National Science Foundation, and the National Aeronautics and Space Administration. TIER1’s projects include game-mechanics integrated into critical learning; assessment of knowledge and skills aiding prediction of mission readiness; personalized and adaptive training plans targeted to remediate any gaps; intelligence coaching and performance support; and experiential learning.

Company Objectives: TIER1’s mission is to improve organizations through the performance of people to build a better world. TIER1 tackles the big challenges, so that more people can do the amazing work they are meant to do. 100% of TIER1’s government-funded research and development, is leveraged by government clients via a direct Phase III contract, or the technology is leveraged to service TIER1’s extensive commercial contract base.

Potential Commercial Applications: Advanced training concepts developed under TIER1’s TARGET initiative are directly applicable to many Department of Defense (DoD) Combat training programs and to TIER1’s extensive commercial client base, which includes leading manufacturing, retail, financial, marketing, academia, service, and logistics organizations.

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