



## Alelo and Aptima Team to Develop Adaptive Language Learning Technology

Los Angeles (CA) and Woburn (MA) June 15, 2016

Employees of global organizations — from the U.S. Government to small companies — need to interact at a working level with foreign nationals, ideally in their native languages.

Recognizing the unmet need for effective, relatively inexpensive foreign-language learning, the Office of Naval Research (ONR) has awarded a \$3 million contract to Aptima Inc. and Alelo Inc. to develop ALLEARN, a system to accelerate foreign-language learning using artificial intelligence technologies.

The Office of the Secretary of Defense and ONR funded ALLEARN (Adaptive Language Learning) to bring learners quickly to an intermediate level of language proficiency and ensure they retain their skills over time.

Learning a foreign language with conventional classroom-based instruction is generally expensive, inconvenient and not very effective for most people. Learners come to class with different levels of skill and learn at different rates, making it difficult for teachers to meet the needs of each individual. Moreover, learners have difficulty maintaining their language skills over time, so most who study a foreign language eventually lose the ability to speak it. Self-paced learning solutions, including software-based interactive courses, are even less effective.

The envisioned ALLEARN system will be a self-paced adaptive learning solution that will let learners, whether active duty personnel, civilians or contractors, develop and practice their skills through computer simulations of real-life language use. The system will automatically collect data on learner performance and use machine-learning techniques to optimize each learner's learning trajectory. The system will combine the latest advances in natural language processing, automated speech recognition, and machine learning.

ALLEARN will combine the proven technologies of Alelo's Enskill® platform and Aptima's Higher Adaptive Learning technology (HAL). Enskill uses speech and language technology to deliver virtual role-play simulations that practice and assess communicative competencies, in any HTML5-compliant Web browser. HAL mines learner performance data (from the aggregate of users), identifying the most effective lessons and content, customizing an adaptive training plan for the individual to accelerate learning.

"ALLEARN will bring new efficiency to language learning," said Jared Freeman, Chief Scientist at Aptima. "It will pilot each learner on a unique personalized route through the huge space of training opportunities, and that navigation will improve over time as we apply educational data mining to the data from the first users of ALLEARN. This approach has shown strong, positive effects in research studies. Now it is time to apply it to provide those benefits to DoD in an operational training system."

According to Dr. Lewis Johnson, CEO of Alelo, "ALLEARN technology will help learners master communicative skills more rapidly, while reducing instructor workload. We see broad demand for this capability, from elementary-grade education through adult education and workforce training. It will greatly enhance Alelo's Enskill platform and has huge market potential."

The ALLEARN project is being funded by the Office of Naval Research under Contract #N00014-16-C-1041.



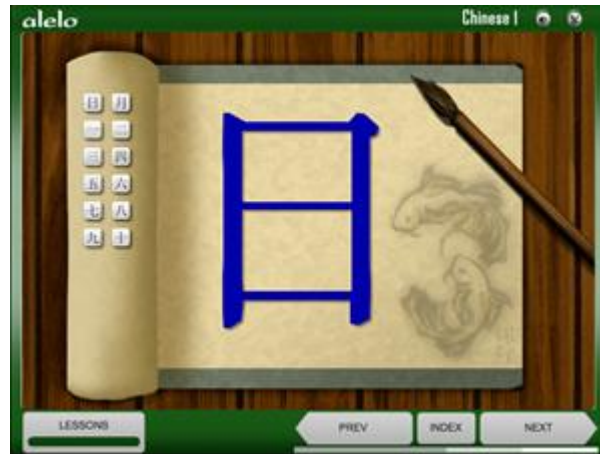
Learners engage in spoken dialog with virtual role-players



Software automatically evaluates learner inputs and adapts instruction



Listening and reading exercises



Interactive writing exercises

#### ABOUT APTIMA INC.

Aptima's mission is to engineer tools and systems that increase human capabilities. The company's scientists study how humans think and learn in today's technology-rich networked environments, and use that knowledge to solve problems and provide solutions in defense, homeland security, healthcare, aviation and cyber security. Aptima's solutions span the human continuum from the micro to the macro – from the neural and individual level, to teams and large groups, to complete societies. <http://www.aptima.com>

#### ABOUT ALELO INC.

Alelo creates learning solutions that help people acquire new skills and apply them when it counts, changing the way people communicate. The company is a technology spinout of the University of Southern California that has been delivering game-based solutions for learning communication skills using virtual role-play technology since 2003. Alelo is now applying virtual role-play to workplace competencies and interpersonal skills. <http://www.alelo.com>

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