Tech Center News

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Fostering opportunities to use technology for learning on the go and in the wild

The Tech Center had a very busy and productive summer. Our activities focused on continuing the development of our community by:

1. Exploring potential collaborations with the Defense Language Institute;
2. Formalizing a new partnership with ACTFL to organize the LaunchPad, a new event co-sponsored by ACTFL and the Tech Center that will take place on November 17 at the 2017 ACTFL Convention;
3. Providing orientation to our Fall 2017 Green Ideas simulation cohort (five Language Flagship institutions participating); and
4. Working with SRI to pilot PERLS, a mobile app that has the potential to improve the Flagship experience. This last activity is the focus of this issue of Tech Center News.

In the **second issue of Tech Center News**, we presented the Guiding Principles that emerged from the Flagship community to ground the work of the Tech Center in areas of common interest. In this issue, we focus on Guiding Principle 3: *Fostering opportunities to use technology for learning on the go and in the wild*. Our work with SRI to pilot PERLS exemplifies how the discovery of smart partnerships through Tech Center events can lead to meaningful collaborations that leverage funding to achieve common goals.

Research on the shoulders of a giant

In July and August, the Tech Center completed a successful pilot study in collaboration with the Artificial Intelligence Center at SRI International.* The famed research institute in Menlo Park, California, is originator of key technologies in robotics, voice recognition, ultra high-speed printing, and many other areas, and a world leader in the successful application of research and development toward the invention of consumer products. Its current work includes the development of a platform for adaptive microlearning called the PERvasive Learning System (PERLS).

Tech Center News online at: http://mailchi.mp/73f895935283/tech-center-news-4-fostering-opportunities-to-use-technology?e=b780bea6ec

Over a two-week period this summer, 11 pre-Capstone students from 9 Chinese Flagship Programs used the PERLS app on their mobile devices to access and work on microlearning content. All students were then interviewed about their experience. The data, which included 11 hours of learner interviews, revealed that PERLS has considerable potential as a language learning and maintenance tool. The study report states, "Participants showed unanimous support for the use of micro-content in PERLS and described it as 'awesome' and 'fabulous'... The lessons were described as interesting, short enough to maintain learners' attention, and relevant for Flagship students (e.g., the app is "a mini Flagship in your pocket")."

The Tech Center is assisting in the application of this platform to the domain of world language education. "Adaptive microlearning" refers to learning experiences that require only a few minutes and that are tailored to the learner's needs or learning preferences. The purpose of this first pilot study was to better understand how well an adaptive learning tool like PERLS might enhance language learning throughout the Language Flagship. The study also investigated the usability of PERLS and its potential for microlearning by exploring the nature of Flagship students' engagement with the app and identifying the strengths and weaknesses of its content and technological features.

Fitting into spaces in the learner's day
The PERLS app runs on Apple's iOS and can be installed on iPhones, iPods, or iPads. Users can engage in microlearning in spaces during the day that might otherwise be spent using social media or browsing online content. PERLS's intelligent "recommender" suggests the "best next step" based on a complex calculation involving users whose profiles match, the recommender's detection of past usage patterns (including right and wrong answers given on quiz items), and user responses to choice prompts. The recommender can potentially also be programmed to make recommendations based on the user's location or their habits at a given time of day. The latent power of the artificial intelligence (AI) underlying the recommender points to the tremendous potential of PERLS as a platform for customized, just-in-time language learning and maintenance.

PERLS and the Language Flagships
Flagship participants in the study enjoyed using the app and praised its ease of access, navigation, and use. They found the difficulty level of the custom-developed content challenging, but not so challenging as to discourage them. According to one participant, "It's easy enough that I want to read it, but it's difficult enough that I'll still look up a few words." Micro-content made their learning less intimidating and stressful because shorter texts were more manageable, required less cognitive effort to concentrate, and made it easy to digest and remember information. Some participants found micro-content conducive to skimming, whereas others thought it was more conducive to close reading. The use of micro-content encouraged participants to read more and promoted language

learning "on the go" in informal settings (e.g., while waiting in line, eating, commuting by bus or metro, before going to bed, or after waking up). As highly motivated learners, Flagship PERLS users opined that they wished there were more quiz items attached to each learning object, as they wanted more opportunities to test their mastery of just-consumed content.

As the Tech Center plans for the extension of PERLS to other Flagship languages and to levels other than pre-Capstone, we are exploring the possibility of leveraging other technologies, such as RSS feeds customized by topic and language level, to further automate the creation of content and to diversify content across a wide range of subject matter areas. With the powerful inventive energies made available through our partnership with SRI International's Artificial Intelligence Center, we expect even more favorable results from future development in PERLS.

The Tech Center in the Broader Community

The Tech Center has been active in the broader community of language technology innovators by presenting its work at several professional events. Below is a selected list of past and future events that showcase Tech Center activities.

Second Annual Science & Technology Symposium
October 18-19, 2016
Washington, D.C.

The Second Annual Science & Technology Symposium brought together experts from a wide range of disciplines such as Artificial Intelligence, Computer Science, Education, Instructional Technology, and Linguistics. The **Summary Report** has just been released.

CALICO
May 16-19, 2017
Flagstaff, Arizona

Multi-Institution Language Simulation Learning Experiences
This presentation described a multi-institution simulation project developed by the Language Flagship Technology Innovation Center at the University of Hawai`i at Mānoa. The goal of this project is to immerse language learners in community-of-practice project-based business situations. The project was launched in Spring 2017 with a group of intermediate- to advanced-level Chinese language students in six Chinese Flagship programs at peer institutions. We demonstrated and

discussed the development of the Green Ideas, Inc. website and the simulation process, and shared the evaluation report, including best practices that contribute to satisfactory outcomes.

Session Presenters

Stephen L. Tschudi, University of Hawai`i at Mānoa

Madeline K. Spring, University of Hawai`i at Mānoa

Hui-Ya Chuang, University of Hawai`i at Mānoa

Using Digital Badges in Professional Development of Language Instructors
In this presentation, we discussed how digital badging can be utilized to recognize and certify professional development of language instructors, and showed examples demonstrating three approaches to using badges in such contexts. Also presented were some considerations related to the selection of a badging system, development of the badge metadata, creation of badge criteria, and assignment and distribution of badges. The presentation concluded with recommendations for implementing a badging system to promote professional development of language educators for distinct and specific purposes.

Session Presenters

Stephen L. Tschudi, University of Hawai`i at Mānoa

Ruslan Suvorov, University of Hawai`i at Mānoa

Hui-Ya Chuang, University of Hawai`i at Mānoa

ACTFL 2017 Annual Convention and World Languages Expo

LaunchPad
Friday, November 17
12:30 to 1:20 pm
Exhibitor Workshop Room #2

This competitive event features entrepreneurs who have created a technology product intended to fill a need in world language education. A panel of experienced professionals and attendees will provide input and decide on a winner based on the pedagogical merits of the product. Be a part of the early dialogs between entrepreneurs who have created a technology product for world language

education and language education professionals who have the knowledge to help maximize the pedagogical usefulness and potential of such products.

Experiencing Language Learning Through Simulations

Friday, November 17

2:30 to 3:30 pm

Room 207D

Learn how to design engaging language learning experiences based on simulations that include compelling scenarios that suit learners' interests and professional goals. Simulations can help learners build a repertoire of strategies to overcome complex situations that require a sophisticated use of language and understanding of the culture.

Session Presenter

Julio Rodriguez, University of Hawai`i at Mānoa

Co-Presenter(s)

Der-lin Chao, Hunter College

Madeline Spring, University of Hawai`i at Mānoa

Stephen Tschudi, University of Hawai`i at Mānoa

The Tech Center will be at Booth #1237, located directly opposite the Social Media Lounge and next to The Language Flagship booth. Please stop by and say hello!

Acknowledgements

References

Freed, M., Yarnall, L., Dinger, J., Gervasio, M., Overholtzer, A., Pérez-Sanagustin, M., Roschelle, J., & Spaulding, A. (2014). PERLS: An approach to pervasive personal assistance in adult learning. Paper presented at the Interservice/Industry Training, Simulation, and Education Conference (I/ITSEC). Menlo Park, California.

Suvorov, R. (2017). __PERLS Pilot Study Report__. Research Notes. Honolulu, HI: Language Flagship Technology Innovation Center. doi:10125/48511.