Location-based Language Learning: Bridging Theory and Practice

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Abstract: This poster will present the potentials of location-based learning to successfully bridge formal and informal content, enhance the participatory and interdisciplinary aspects of second language acquisition (SLA), and facilitate the cohesion of the theoretical and the practical tenets behind SLA. Present research will also discuss the design and piloting of a location-based language-learning application for smartphones and propose how such a tool can promote collaboration among learners.

Introduction

The most meaningful foreign language experiences occur when students use their linguistic skills in specific, relevant situations, often called contextualized or situational learning. Mobile devices with locative capacities hold potential for language learning to occur in specific social contexts. Specifically, GPS-equipped mobile devices know where they are at a given time and place, and can thus convey time- and place-relevant information to its users. The 2009 Horizon white paper states that location-based learning gives students pertinent content "just-in-time" and turns: "learning-in-an-authentic-context into a personal experience, and [enables learners] to share this experience with others" (3). Smart phones provide Internet access through wireless and 3G networks, locative capacities, in addition to the more traditional SMS and calling abilities. Pedagogically speaking, such devices are suitable for various learning styles and encourage "conversational learning" since they help to create an atmosphere where learners "can converse with each other, by interrogating and sharing their descriptions of the world" (Naismith et al., 2004, p. 2).

There are several "real-world" location-based language learning applications that embody these theories and involve the completion of specific tasks. Such studies utilize RFID technology, semacodes, or computer programs that simulate situational experiences (Huang, Yang, & Hwang, 2010; Ogata & Yano, 2004; Wong & Looi, 2010). I term these context-aware tasks, technology-assisted location-based activities "TALBA".

Lingualocus: Potentials of Technology-assisted Location-based Activities (TALBA) within Language Learning

One project that contributes to incorporating TALBA into language learning is lingualocus, a multiplatform application designed for the web and smartphone which features user-generated language learning activities associated with place and utilizes GPS. Conceived out of a desire to bring contextualized and collaborative language activities to students as they traverse the city in realistic situations, the application was developed according to four principles that pull from CSCL, situational, and location-based learning theories. The application seeks to: Contain material which relates to the three Ls—specific languages, learning levels, and locations; Provide a meaningful, user-friendly learning experience centered around location through the web and the phone; Be suitable for informal learning environments but incorporate content from formal learning environments; and Promote collaboration, community, and self-directed learning.

The main questions posed at the outset of the project were the following: How can GPS technology create and/or facilitate situational language learning?; What role does location play in encouraging the use of language skills in informal learning environments?; Do place-based encounters promote collaboration and cultural understanding?; and Can a location-based learning tool create community? If so, how? These questions still remain unanswered, but initial findings are encouraging. As part of the prototype phase, lingualocus is currently limited to Spanish, selected language teachers and their students, and locations in New York City. lingualocus takes advantage of the city's rich cases for language use--opportunities to practice speaking, improve pronunciation and boost vocabulary in specific and relevant situations, such as shopping for groceries, ordering a meal or learning about art,--and provides scaffolding and encouragement for the student.

The system works as following: Selected students register online and enter their language, level, instructor, and interests (ex. food, music, etc.). Teachers register and may create, upload, and manage searchable multimedia activities related to specific places, languages, learning levels, and students. Places are stored in the system as coordinates. Students may access pertinent activities on the web, or they may choose to use the locative feature on their smartphones (currently Android only). The online component functions with the student going to the site and completing an assigned activity or searching for activities. Since the system is aware of the user's language and level, pertinent activities are suggested, but students can also access activities of varying levels. The locative feature of the application utilizes the phone's GPS. Users turn on the application and log on. As they go about their day, students will be pinged with activities that match language and levels; activities are ranked depending on user interests. The GPS compares the user's current location with data stored in the system. When matches are made, the system alerts the user.

In the initial prototyping phase, one intermediate-level high school Spanish class of ten students participated. Five students were in the control group and did not participate in TALBA, but did receive location-based activities, and five students did participate in TALBA. The technology of choice was an Android mobile phone, which allowed for phone-based, web-based, and GPS-based activities. Both groups were exposed to identical in-class assignments and drill exercises related to similar themes and grammar topics. The experimental group had additional technology-assisted activities that required going to specific places in order to complete assigned tasks. Initial outcomes have indicated a qualitatively higher level of enthusiasm, a bridging between the formal and informal learning environments, increased collaboration, and better recall on vocabulary. In addition to indicating improved feedback and content retention, results demonstrate that students receive more opportunities to speak and hear, are more motivated to use difficult grammatical concepts, and are more likely to use these concepts correctly.

Though in a nascent stage, lingualocus holds promise for exposing learners to authentic and situational language use by bringing the experience out of the classroom. Scaffolding and feedback are provided so that students will feel supported but also motivated and emboldened to practice. One ultimate goal of the project is to add a more social element so that learners will form language-based communities spontaneously. Initial findings encourage more experimentation around the notion that adding the element of place to language use will contextualize the act even more, increase the learner's enthusiasm for speaking, and provide opportunities for speaking.

References

Huang, A.F.M., Yang, S.J.H., & Hwang, G.J. (2010). Situational Language Teaching in Ubiquitous Learning Environments. *Knowledge Management & E-Learning: An International Journal*, *2,* 312-327.

Johnson, L.F., Smith, R., Lomas, C.P., Oblinger, D.G., & Levine, A. (2008). *The 2008 Horizon Report*. Austin, TX: The New Media Consortium / Boulder, CO: The EDUCAUSE Learning Initiative.

Kadyte, V. (2004). Learning can happen anywhere: A mobile system for language learning. In J. Attewell & C. Savill-Smith (Eds.), *Learning with mobile devices* (pp. 73-78). London: Learning and Skills Development Agency. Retrieved from http://www.lsda.org.uk/pubs/

Naismith, L., Lonsdale P., Vavoula, G., & Sharples, M. (2004). *Literature Review in Mobile Technologies and Learning*. London: Futurelab.

Norbrook, H. & Scott, P. (2003). Motivation in mobile modern foreign language learning. In J. Attewell, G. Da Bormida, M. Sharples, & C. Savill-Smith (Eds.), *MLEARN 2003:Learning with mobile devices* (pp.50-51). London: Learning and Skills Development Agency. Retrieved from http://www.lsda.org.uk/files/pdf/1421.pdf

Ogata, H. & Yano Y. (2004). CLUE: Computer Supported Ubiquitous Learning Environment for Language Learning, *IPSJ*, *45*, 2354-2363.

Thornton, P. & Houser, C. (2005). Using mobile phones in English education in Japan. *Journal of Computer Assisted Learning, 21*, 217–228. Retrieved from http://www3.interscience.wiley.com/cgi-bin/fulltext/118652060/PDFSTART

Wong, L.-H. and Looi, C.-K. (2010), Vocabulary learning by mobile-assisted authentic content creation & social meaning-making: two case studies. *Journal of Computer Assisted Learning*, *26*: 421–433.

Zhao, Y. (2005). The future of research in technology and second language education. In Y. Zhao (Ed.), *Research in technology and second language learning: Developments and directions* (pp. 445-457). Greenwich, CT: Information Age Publishing, Inc.