BIOGRAPHICAL SKETCH

NAME: Kim, Paul

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Chief Technology Officer and Assistant Dean

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
Georgia Southwestern College	B.S.	06/1993	Computer Science
University of Southern California	M.S.	06/1995	Educational Technology
University of Southern California	Ph.D.	09/1998	Educational Technology

A. Personal Statement

My primary research interest is in exploring factors contributing to sustainable educational development in underserved communities. From teacher motivation to infrastructure and from intervention effects to human perceptions, I have been examining numerous endogenous and exogenous variables with an ecosystem view while experimenting various methods of interventions integrating technology. As seen in my papers such as “A comparative analysis of a game-based mobile learning model in low-socioeconomic communities of India. International Journal of Educational Development” and “Socioeconomic strata, mobile technology, & education: A comparative analysis. Educational Technology Research & Development,” a substantial portion of my work deals with developing strategies to provide educational access to the learners of marginalized communities in the developing regions including Africa, India, and Latin America.

In addition, my award winning research papers such as “Mobile innovations, executive functions, and educational developments in conflict zones: a case study from Palestine. Educational Technology Research & Development” and “An action research for the development of mobile learning system for the underserved. Educational Technology Research & Development” reveal insights on potential latent variables that are often ignored or overlooked in investigations of educational interventions particularly implemented in the developing regions.

- Kim, P., Alfaro, K., & Miller, L. A. (2015). Ecosystemic Innovation for Indigenous People in Latin America. Indigenous People and Mobile Technologies, 31, 59.
- Buckner, E., & Kim, P. (2012). Mobile innovations, executive functions, and educational developments in conflict zones: a case study from Palestine. Educational Technology Research & Development, 60(1), 175-192. BEST PAPER AWARD 2011
- Kim, P. Higashi, T., Gonzales, I., Carillo, L., Gàrate, A., & Lee, B. (2011).Socioeconomic strata, mobile technology, & Education: A comparative analysis. Educational Technology Research & Development. 59(4), pp. 465-486.
- Kim, P. (2009). An action research for the development of mobile learning system for the underserved. Educational Technology Research & Development. 57(3), pp. 415-435. BEST PAPER AWARD 2009.

By identifying and operationalizing essential variables into prediction models, I was able to come up with a new construct named Program Cohesion Ratio, an indicator of program viability. With PCR, investigators can measure how cohesive an intervention or program is at a given context and condition and how likely such intervention or program may be sustainable in a long term.

As a result of my work, I was able to disseminate my research findings through a MOOC (Massive Open Online Courses) to establish global communities of educational entrepreneurs and researchers who exchange insights on international development projects. In this MOOC named "Designing a New Learning Environment", close to 20,000 participants from 170 countries joined to share insights. Some of these activities are reflected in following publications:

- Kim, P., & Chung, C. (2015). Creating a Temporary Spontaneous Mini-Ecosystem Through a MOOC. MOOCs and Open Education Around the World, 157.
- Kim, P. (Ed.). (2014). Massive Open Online Courses: The MOOC Revolution. Routledge.

With lessons learned from my research and through international collaborations, I began developing a portable cloud server named SMILE (Stanford Mobile Inquiry-based Learning Environment) which is currently used by over 25,000 educators in 22 countries to help over 750,000 students in marginalized communities without electricity or Internet to gain access to open education resources and an inquiry-based learning management system. This work has been funded by NSF (Programmable Open Mobile Internet, $1M, #0832820) and some of its early work is documented in following paper:

- Buckner, E., & Kim, P. (2014). Integrating technology and pedagogy for inquiry-based learning: The Stanford Mobile Inquiry-based Learning Environment (SMILE). Prospects (UNESCO), 44(1), 99-118.

B. Positions and Honors

Professional experience:

1997–2000 Chief Technology Officer (CTO), University of Phoenix
2001–Present CTO & Assistant Dean, Graduate School of Education, Stanford University

Other Experience and Professional Memberships:

2004–2013 Advisor, MEDRIC (Medical Research Information Service), Ministry of Health, Republic of Korea
2009-2010 Advisor to Ministry of Information & Communications Technology (ICT), Rwanda
2010-2011 Advisor to Ministry of Higher Education, Kingdom of Saudi Arabia
2010–2013 Board member, WestEd
2011–2013 Advisor, Grand Challenges and International Development, National Academy of Sciences
2012–2015 Advisor, Education and Human Resources Directorate, National Science Foundation
2014-2015 Advisor to Ministry of Higher Education, Sultanate of Oman
2015-Present Advisor to Ministry of Higher Education, Mexico
2015-Present Board member, Startford Schools

Honors & Achievements

2009 Best research paper award, for the recognition of the work on literacy education in Mexico, Association for Educational Communication & Technology
2010 WISE Award, World Innovation for Education Summit, Doha, Qatar
2010 Award for scholarly contribution in education, The Omani Society for Educational Technology, Muscat, Oman.
2010 100K Challenge Award for Education Innovation, Marvell, Santa Clara, CA
2011 Best research paper award, for the recognition of the work on academic performance and PTSD in Palestine, Association for Educational Communication & Technology
2014 (Honorary) Doctor of Humane Letters, For the recognition of the work with UNESCO in Peace and Disarmament Education, Holy Family University, Philadelphia, PA.

C. Contribution to Science

Broadening participation of underrepresented groups in all levels of science and math education has been an important research goal of my own. I envision that through Internet and mobile communication technologies, many learners of marginalized communities around the world will be able to learn by leveraging science labs and mobile game applications. Some of these efforts are reflected in following papers:

- Song, D., Karimi, A., & Kim, P. (2015). A Remotely Operated Science Experiment (ROSE) framework for under-resourced schools. Interactive Learning Environments,1-19.
- Kim, P., Buckner, E., Kim, H., Makany, T., Taleja, N., & Parikh, V. (2012). A comparative analysis of a game-based mobile learning model in low-socioeconomic communities of India. International Journal of Educational Development, 32(2), 329-340.

Investigating learning environment designs leading to better team interaction and collective cognition in science education is an important strategy for my research. I personally believe that learners can learn more effectively and expand their knowledge more efficiently in teams. In addition, I believe learning environments can be enhanced by leveraging various features of social media channels, virtual realities, and remote access communication models. By combining multiple aspects of different learning scenarios and experimenting them in diverse education environments, I was able to make design suggestions to the science education community. Some of these efforts are reflected in following publications:

- Kim, P., Suh, E., & Song, D. (2015). Development of a design-based learning curriculum through design-based research for a technology-enabled science classroom. Educational Technology & Development, 63(4), 575-602.
- Kim, P., Lee, D., Lee, Y., Huang, C., Makany, T. (2011). Collective intelligence ratio: Measurement of real-time multimodal interactions in team projects, Team Performance Management, 17(1/2), 41-62.
- Kim, P., Hong, J. S., Bonk, C., & Lim, G. (2011). Effects of group reflection variations in project-based learning integrated in a Web 2.0 learning space. Interactive Learning Environments, 19(4), 333-349.
- Kim, P. & Olaciregui, C. (2008) The effects of electronic portfolio-based learning space on science education. British Journal of Educational Technology. 39(4), 700–714.
- Kim, P. (2006) Effects of 3D virtual reality on students' achievement and attitude toward

learning science. Interactive Learning Environments, 14(1), 25-34.

D. Research Support

Completed

NSF - Award#0832820. 2008-2013
Programmable Open Mobile Internet, Experimental expeditions on future Internet technologies in education

IAUP/UN Commission on Disarmament Education 2012
Conflict Resolution and Peace, Bridging the Technology Gap

The International Foundation 2012
Mobile innovation and educational access in Tanzania