



UCIrvine FOCUS! Math Science Partnership

Project Successes

Teacher Leader Cadre (TLC)

- Continued use of FOCUS! lessons
- Regional PDPs continue to provide PD in other districts
- Segue to two California Postsecondary Education Commission (CPEC) grants
- Segue to three Noyce grants (Master teacher and undergraduate internships)



Future Teacher Highway (FTH)

- Institutionalized in 2006 as UCI California Teach
- Undergraduate Minor in Educational Studies was revamped to include strands for students interested in math & science teaching
- Two living/learning communities for future teachers were established under the leadership of the MSP staff--the first living/learning communities of their kind in the UC system
- Community college future teachers were supported by the MSP via the UCI TEACH Math & Science summer residential program, and cross-enrollment in introduction to math and science teaching courses.

Faculty Outreach Collaboration (FOC)

- Current research appropriately explained and demonstrated or all grades levels
- Continued demand for FOC visits to school sites
- Nuclear Outreach (now has alternate funding)
- AP Chemistry Program
- FOC's broader impact NSF's
- Models for STEM Faculty Engagement
- Models of Assessment Tools for STEM Faculty
- Saturdays with Scientists



PreK-SMARTS

- The *Science and Math Integrating Literacy in Early Childhood* (SMILE) DVD highlights science, math, and literacy research-to-practice early childhood information and emerged from a four-year NSF-funded PreK/K Leadership Institute.
- Continued PreK PD parallel to CPEC grants



Project Description

UCI FOCUS! is a member of Cohort 1 of the national NSF Mathematics and Science Partnership (MSP) program, one of only seven comprehensive MSPs established in the first cycle of this program.

Teacher Leader Cadre (TLC)

- Strengthen and establish a collective PreK-12 regional team of teacher leaders with the capacity as professional development providers and site teacher leaders
- Identify and address the PD needs of FOCUS teachers
- Collaborate with Partnership School Districts on the development of curriculum guides

Future Teacher Highway (FTH)

- Enhance undergraduate preparation of future teachers through development of academic programs for UCI STEM majors
- Recruit and support Community College transfer students who plan to become future teachers

Faculty Outreach Collaboration (FOC)

- Develop new models of collaboration to strengthen and discover the most effective ways that university faculty and their resources can be engaged to assist PreK-12 in teaching the content standards.

PreK-SMARTS

- Model purposeful math, science and literacy lessons appropriate for Preschool children
- Support change in Preschool classroom practice, climate, and intentionality
- Develop a leadership cadre of Preschool professional development providers



Compton Unified School District
Santa Ana Unified School District
Newport-Mesa School District



Publications & Presentations

- Smecker-Hane, T.A., Mauzy-Melitz, D.K., Hood, M.A. (2009, September) *Expanding the UCI Astronomy Outreach Program to New Heights*. Presentation at the Astronomical Society of the Pacific's Astronomy Education Conference. Millbrae, California. (To be published in ASP Conference Series, Vol. TBD, 2010)
- Shanahan, T., Swigert, S., Kazi, A., Lockhart, Opii, T., Nam, H., & Tran, C. (2009, April). *Connectedness and trust as a feature of effective mathematics and science professional development*. Paper presented at the annual National Association for Research in Science Teaching conference, Anaheim, CA.
- Shanahan, T., & Swigert, S. (2009, January). *What do teacher leaders value about regional STEM professional learning communities?* Presentation at the Learning Network Conference for the National Science Foundation Math and Science Partnership, Washington, DC.
- Soto, R. (2009, January). "Institutional & Environmental Factors Impacting the Decision of Community College Students to Remain in the Future Math & Science Teacher Pipeline: A Study of UCI TEACH Math & Science Participants from 2003-2007". Presentation at the Learning Network Conference for the National Science Foundation Math and Science Partnership, Washington, DC.
- Swigert, S., & Shanahan, T. (2008, December). *Building and sustaining teacher leader professional development networks between multiple school districts*. Presentation at the California Educational Research Association 87th annual Conference, Rancho Mirage, CA.
- Shanahan, T., Hyde, K., Marshall, S., & Soto, R. (2008, January). *Early development of a student-centered perspective in science and math pre-service teachers*. Paper presented at the annual Association for Science Teacher Education conference in St. Louis, MO.
- Shanahan, T., Mann, V., & Manrique, C. (2006, October). *Continued integration of curriculum guides, quarterly benchmark assessments, and professional development to improve student learning in mathematics and science*. Paper presented at the annual National Science Foundation Math and Science Partnership Evaluation Summit, Minneapolis, MN. Website: <http://focus.mspnet.org/index.cfm/14135>
- Shanahan, T., Hyde, K., Mann, V., & Manrique, C. (2005, September). *Integrating curriculum guides, quarterly benchmark assessments, and professional development to improve student learning in mathematics and science*. Paper presented at the annual National Science Foundation Math and Science Partnership Evaluation Summit, Minneapolis, MN. Website: <http://focus.mspnet.org/index.cfm/12684>
- Brant, D. & Soto, R. (2005, March). *Ramping up STEM Teacher Education in the UC Environment: The Future Teacher Highway for Single and Multiple Subject Candidates*. Paper presented at the National Science Foundation SCALE/QED/FOCUS Education Partnership Conference.
- Soto, R. (2003, June) *Creating a Regional Future Teacher Highway*. California Paper presented at the K-16 Partnerships and Student Success Conference.



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