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Education

Northwestern University, B.A., History and Literature of Religions; Physics; Mathematics, 1965
University of Chicago, Chicago, IL, M.A., Sociology, Statistics, 1972
University of Chicago, Chicago, IL, Ph.D., Sociology, 1980

TERC, Cambridge, MA, 1993- present

Principal Investigator or Project Director on the following funded projects:

Girls Innovate 3, NSF, 2008-2009
Transforming Instructional Design in Earth Science, US Dept. of Education, 2005-present
New England Center for Ocean Science Education Excellence, NSF, 2002-present
GLOBE: Learning Links for Professional Development, NSF, 2002-2007
Earth Science by Design: Visualizing the Big Ideas, NSF, 2002-2006
GLOBE: Building Learning Communities for the 21st Century, NSF, 1998-2002
NASA Earth-to-Orbit Engineering Design Challenges, NASA, 1999-2007
Mapping Our City, NSF, 1995 – 1998

Selected Publications

Penuel, W., McWilliams, H., McAuliffe, C., Benbow, A., Mably, C., Hayden, M. (2008). "Teaching for Understanding in Earth Science: Comparing Impacts on Planning and Instruction in Three Professional Development Designs for Middle School Science Teachers," in *Journal of Science Teacher Education*, published online, Volume 20, Number 5, October, 2009.

Penuel, W., McWilliams, H., McAuliffe, C., Benbow, A., Mably, C., Hayden, M. (2008). "Preparing Teachers to Teach for Deep Understanding: A Curriculum-Based Approach," in *The Earth Scientist*, vol. 27, No. 2.

McWilliams, H. (2004). "Turning Teachers into Designers," in *Geotimes*, vol. 49, No. 9.

McWilliams, H. (2003). "Teachers as Educational Designers," in *Hands On!*, vol. 26, No. 2.

McWilliams, H. (1997). "Designing Visual Earth: Multimedia Geographic Visualization for the Classroom," in *Hands On!*, vol. 21, No. 2.

McWilliams, H., McAuliffe, C., Lockwood, J., et al. *Earth Science by Design Handbook for Professional Developers*. Cambridge, MA: TERC, 2006.

McWilliams, H., Mohr, G., and Wagoner, P. (1999). *NASA Earth-to-Orbit Engineering Design Challenges*. Huntsville, AL: NASA Marshall Space Flight Center.