

# Bryan H. Nichols, PhD

## *Curriculum Vitae*

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Bryan Nichols  
308 E Roseland Ave  
Plant City, FL 33563 USA

813-690-2275  
bryanhnichols@gmail.com  
www.earthsmarts.info/cv/

### Education

#### **PhD Science Education, 2012**

Doctor of Philosophy, Curriculum and Instruction, Teaching & Learning in the Sciences

University of South Florida – Tampa

Dissertation: Defining Earth Smarts: A Construct Analysis for Socioecological Literacy  
Based on Justly Maintaining Quality of Life

Advisor: Dana L. Zeidler

#### **MS Marine Science, 2005**

University of South Florida – St. Petersburg

Thesis: Sound production in nearshore rockfishes (*Sebastes spp.*)

#### **MA Journalism, 2005**

University of South Florida – St. Petersburg

Focus: Science Journalism

#### **BSc. Honors Marine Biology, 1988**

University of Guelph, Canada

### Recent Employment

#### **Project Manager/Instructor ASAP STEM Grant**

University of South Florida Lakeland; March 2012 – present

Science education instructor (4000 level methods courses) and manager for a \$950,000 Accelerated STEM Academic Pipeline grant for inservice middle school teachers, improving and integrating their science/math/literacy content knowledge and pedagogical skills.

#### **Instructor**

University of South Florida (various campuses); 2007 – present

Highly rated instructor of courses including SCE4310 Elementary Science Methods and SCE4863 Science Technology & Society.

#### **Curriculum Editor/Designer**

Various; 2008-present

Edited, formatted, and designed inquiry-based STEM modules for a variety of projects and grants, including the Water Atlas project, the Coalition for Science Literacy, and a Florida PROMISE grant.

See <http://earthsmarts.info/cv/fullresume.html> for more details.

## Academic Publications

My freelance work is highlighted in my resume. The following are academic publications.

Nichols, B. H. (2013). Teaching earth smarts: Equipping our children with the capacity to adapt. In M. Mueller, D. J. Tippins & A. J. Stewart (Eds.) *Assessing Schools for Generation R (Responsibility): A Guide to Legislation and School Policy in Science Education*. New York: Springer.

Nichols, B. H. (2012). Green texts? Using earth smarts as a tool to critically examine textbooks for environmental assumptions, distortions and omissions. In Hickman, H. & Porfilio, B. J. (Eds.), *The New Politics of the Textbook*. Boston: Sense Publishers.

Nichols, B. H. (2010). Introducing essential ecoliteracy, or “earth smarts”: Defining and validating a pragmatic educational construct based on quality of life. *Journal of Sustainability Education*, 1(1).

Dolan, T. J., Nichols, B. H., & Zeidler, D. L. (2009). Using socioscientific issues in primary classrooms. *Journal of Elementary Science Education*, 21(3), 1-12.

Zeidler, D. L., & Nichols, B. H. (2009). Socioscientific issues: Theory and practice. *Journal of Elementary Science Education*, 21(2), 49-58.

## Courses Taught

- SCE4310 Elementary Science Methods (USF, 17+ sections)
- SCE4863 Science, Technology, Society & Environment (USF)
- numerous field courses for grades 4-16 at the Yosemite Institute
- marine science modules in Florida, Belize & British Columbia
- various scuba diving courses (PADI Certified Instructor)
- various sea kayaking courses SKAC Certified Instructor)

My teaching philosophy statement, experience and evidence of successful teaching are included in a separate document; also available at: [www.earthsmarts.info/cv/](http://www.earthsmarts.info/cv/)

## Curriculum Development

I enjoy designing interactive and engaging courses using principles in *Understanding by Design* (Wiggins & McTighe, 2005) and *Creating Significant Learning Experiences* (Fink, 2013).

- Substantially transformed and updated a Science, Technology and Society course (SCE4936) to incorporate socioscientific issues and environmental literacy for teachers.
- Continually developing new activities, presentations and assignments for Elementary Science Methods (SCE4310).
- 2013: Integrating science, math, & literacy graduate courses for STEM education certificate.
- Winter 2010/11: Designed inquiry-based environmental science modules (Wateratlas.org).
- Summer 2010: Edited and formatted multiweek modules in a variety of STEM related subjects for grades 6-12 (Coalition for Science Literacy NASA-Polk Project).
- Fall 2008: Part of expert committees to help validate questions for Florida Teacher Certification Exams (general science 6-9 and biological science 6-12).
- Summer 2008: Worked on teacher materials based on the Next Generation Sunshine State Science Standards (Florida PROMISE grant).
- Developed scientific materials for citizen science marine field surveys.

- Developed natural history materials for tropical & temperate sea kayak guides.

### National & International Conference Presentations

My conference presentations represent the interdisciplinary nature of my experience and research.

Brame, R., Nichols, B.H., & Pitts Bannister, V. (2013). Accelerated Stem Academic Pipeline (ASAP) builds teacher quality in earth systems science and mathematics. Poster paper presented at the 125th Anniversary Annual Meeting & Exposition of the **Geological Society of America**, Denver, CO.

Nichols, B.H. (2013). Is Science inherently green? Improving preservice teacher attitudes towards science doesn't change their environmental worldview. Paper presented at the annual international conference of the **National Association for Research in Science Teaching**, Puerto Rico.

Nichols, B.H. & Zeidler, D.L. (2012). *Teaching earth smarts: A pragmatic, nonpartisan educational construct for socioecological literacy*. Paper presented at the annual international conference of the **National Association for Research in Science Teaching**, Indianapolis, Indiana.

Nichols, B.H. (2012). *Partners in denial? A link found between ecological worldview and attitudes toward teaching evolution*. Paper presented at the annual international conference of the **National Association for Research in Science Teaching**, Indianapolis, Indiana.

Nichols, B.H. (2012). Green science teachers: Earth smarts as a tool for teacher education. Presented at the annual international conference of the **Association for Science Teacher Education**, Clearwater Beach, FL.

Nichols, B.H. (2011). *Earth smarts: An educational framework linking classrooms to the world*. Presented at the **North American Association for Environmental Education** Annual Conference, October, Raleigh, NC.

Nichols, B.H. (2011). *Evolution in elementary methods: A practical instrument shows affective change is possible (but tricky)*. Presented at the annual international conference of the **National Association for Research in Science Teaching**, Orlando, FL.

Callahan, B.E., Zeidler, D.L., Orasky, J.O., Nichols, B.H. & Burek, K. (2011). Using socioscientific issues to enhance reflective judgement in high school students. Presented at the annual international conference of the **National Association for Research in Science Teaching**, Orlando, FL.

Nichols, B.H. (2010). *Earth Smarts: A theoretically robust, education-friendly framework for essential ecoliteracy*. Presented poster at the **Ecology and Education Summit: Environmental Literacy for a Sustainable World**, October, Washington DC.

Nichols, B.H. (2010). *Evolving attitudes: Can a science methods course change preservice elementary teachers' views on teaching evolution?* Presented at the **Association for Science Teacher Education** Annual Conference, January, Sacramento, CA.

Nichols, B.H., Pinzino, D. & Navratil, G. (2010). *Teaching evolution for all the right reasons: Motivation and support for a controversial subject*. Led a workshop at the **Association for Science Teacher Education** Annual Conference, January, Sacramento, CA.

Nichols, B.H. (2009). *Introducing Essential Ecoliteracy: A transdisciplinary construct based on improving quality of life*. Presented at the **North American Association for Environmental Education** Annual Conference, October, Portland, OR.

Nichols, B.H. (2009). *Introducing essential ecoliteracy: A transdisciplinary construct analysis based on quality of life*. **Ecological Society of America** Annual Conference, August, Albuquerque, NM.

Nichols, B.H. (2008). *A dangerous deficiency: Why journalists are morally required to learn the essentials of ecology*. **Association for Education in Journalism and Mass Communication**, August, Chicago, IL.

Nichols, B.H. (2008). *Sound production in nearshore rockfishes (Sebastes spp.)*. **Western Groundfish Conference**, March, Santa Cruz, CA.

### Regional, Invited & Online Presentations

Nichols, B.H. (2013). *The Seven Qualities of Great Science Teachers*. Presented to a meeting of pre and inservice Project Pride minority and male elementary teachers. February, Lakeland, FL.

Nichols, B.H. (2012). *Environmental education and the earth smarts framework*. Presented at the 32<sup>nd</sup> **League of Environmental Educators in Florida** annual conference. March, Apopka, FL.

Nichols, B.H. (2011). *Learn about earth smarts: A freely available educational construct for socioecological literacy*. Presented online at the 2011 **Global Educational Conference**. Nov., <http://globaleducation.ning.com/page/2011-conference>.

Nichols, B.H. (2009). *Functional ecoliteracy: A transdisciplinary construct analysis based on quality of life*. Presented at the **University of South Florida Emerging Paradigms Conference**. April, Tampa, FL.

Nichols, B.H. (2005). *Media convergence and science journalism for researchers*. Spoke for the University of South Florida **College of Marine Science Seminar Series**. February, St. Petersburg, FL.

Gore, J., Hastings, D., Nichols, B.H., & Ogden, J. (2004). *Scientific integrity in policymaking?* One of four panelists for **A Roundtable Discussion of the Use and Abuse of Science in Policy**, hosted by the University of South Florida, October, St. Petersburg, FL.

Nichols, B.H. (2003). *Bioterrorism & the media: Lessons of the anthrax scare*. Presented content analysis results as part of the Hidden Curriculum luncheon series of the **Program for Ethics in Education and Community** (PEEC), April, University of South Florida St. Petersburg.

Nichols, B.H. (2002). *Developing a marine species list for identification by volunteers: Experiences of the Georgia Strait Alliance intertidal quadrat studies*. Presented at the **North American Practitioners Workshop on Research and Monitoring of Marine Reefs using Volunteer Divers**, Institute of Ocean Sciences, June, Sidney, British Columbia, Canada.

### Grants & Fellowships

In addition to my own grants, I have worked directly with a number of educational research and curriculum development grants including Florida PROMiSE and the Coalition for Science Literacy.

#### **ASAP Helios Grant – University of South Florida in Lakeland**

2012-2014 Project Manager for this \$950,000 STEM education grant, including co-writing a resubmission and preparing ongoing reports.

#### **Institute for the Study of Latin America and the Caribbean**

2009 PI: Bryan H. Nichols Awarded: \$1,000

Investigating the environmental attitudes of pre and inservice teachers in Dominica: How does education contribute to the Caribbean's most natural island?

**University Graduate Fellowship – College of Education**

2006 Bryan Nichols Awarded: \$10,000

**First Year Fellowship – College of Marine Science**

2003 Bryan Nichols Awarded: \$14,000

Service	
<b>NARST Publications Advisory Committee</b>	<b>2012 - 2014</b>
An appointment that includes recommending policy concerning the Association's publications as well as developing/disseminating additional specifically targeted publications for media, policy-makers, education officials, teachers, and other professional organizations.	
<b>Faculty Mentor</b>	<b>2012-2013</b>
Mentor for Project Pride minority and male preservice elementary teachers in Polk County, FL.	
<b>Journal Of Sustainability Education Reviewer</b>	<b>2010 - ongoing</b>
Reviewer for open-access journal.	
<b>NARST Reviewer</b>	<b>2008 - ongoing</b>
Reviewer for the National Research in Science Teaching (NARST) Annual Conference.	
<b>NAAEE Reviewer</b>	<b>2009 - ongoing</b>
Reviewed papers for the North American Association of Environmental Educators Annual Conference.	
<b>Committee Member</b>	<b>2008</b>
Worked on question and test validation for the Florida middle school science and high school biology teacher examination tests.	
<b>Editor &amp; Manager</b>	<b>2005 July</b>
Managed a team of reporters, edited and produced The Daily DLESE , a newsletter for the Digital Library for Earth Systems Educators conference.	
<b>Contributor</b>	<b>2004 Spring</b>
Working with law students and one of the 12 Commissioners, provided fisheries-related comments and input to the U.S. Commission on Ocean Policy.	
<b>Assistant Coordinator</b>	<b>2003 April</b>
Helped organize Talking to the Media: A Workshop for Researchers , a three-panel workshop for about 60 researchers.	
<b>Assistant Coordinator</b>	<b>2003 Spring</b>
Helped organize the Science Communication Initiative (SCI) Series for the Science Journalism Center, USF St. Petersburg. Lecture topics included: science literacy, media framing of social sciences, science vs. journalism methods.	

More Information
For more information, please see the following documents: Research Interests, Teaching Philosophy, Experience & Evidence of Successful Teaching, Full Resume
If print copies are not available, the online versions are at: <a href="http://www.earthsmarts.info/cv/">www.earthsmarts.info/cv/</a>