

Curriculum Vita
DAVID 'TODD' CAMPBELL

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EDUCATION

Ph.D. July 2004

Curriculum and Instruction/Science Education (Environmental Studies), The University of Iowa.
Dissertation: *Analysis of changes in teachers' views on teaching and learning after participation in the Iowa Chautauqua for Reform and the effects these changes have on students.* Dr. Robert E. Yager, Dissertation Advisor.

M.A.T December 1998

Master of Arts in Teaching, The University of Iowa.
State of Iowa Standard Teaching License, 7-12 Chemistry & Physical Science (1996-2009).

B.A. May 1996

Chemistry, The University of Iowa.

EMPLOYMENT HISTORY

Associate Professor, Science Education (2011-present).

College of Education and Human Services, Utah State University, Logan, Utah.

Responsibilities include teaching science education courses in the School of Teacher Education and Leadership, program development in graduate and undergraduate science education, and pursuing a professional agenda of research and service in the field of science education supported by external funding (notified of tenure and promotion decision April, 08, 2011).

Assistant Professor, Science Education (2005-2011).

College of Education and Human Services, Utah State University, Logan, Utah.

Responsibilities include teaching science education courses in the School of Teacher Education and Leadership, program development in graduate and undergraduate science education, and pursuing a professional agenda of research and service in the field of science education supported by external funding.

Assistant Professor, Science Education (2004-2005).

School of Education and Professional Services, New York Institute of Technology, Old Westbury, New York.

Responsibilities included teaching science education courses in the School of Teacher Education and Leadership and pursuing a professional agenda of research and service in the field of science education.

Teaching and Research Assistant, Science Education (2002-2004).

Science Education Teacher Preparation Program, University of Iowa, Iowa City, Iowa.

Responsibilities included teaching science education courses, clinical and student teaching supervision, and project coordinator for Iowa Chautauqua for Promoting Current Reform.

Adjunct Science Instructor (1999-2004)

College of Science, Kirkwood Community College, Cedar Rapids, Iowa.

Responsibilities included teaching chemistry and environmental science courses.

Public School Teaching Experience - 3 years

Southeast Jr. High, Iowa City Community School District, Iowa City, Iowa (2001-2002).

Responsibilities included teaching physical science.

Lone Tree High School, Lone Tree Community School District, Lone Tree, Iowa (1999-2001)

Responsibilities included teaching physics, chemistry, biology, environmental science, earth science, and geology courses.

AWARDS & PROFESSIONAL RECOGNITION

- Researcher/Scholar of the Year Award recipient (2007). Awarded by Utah State University's Regional Campus and Distance Education Association (RCDEA).
- Howard Hughes Teacher Research Grant Recipient (Summer 2000, Summer 2002). Summer internships as laboratory assistant with Dr. Stephen Hendrix at the University of Iowa assisting in field ecology research.

PROFESSIONAL AFFILIATIONS

- National Association of Research in Science Teaching (NARST) (2009-present)
- Association for Science Teacher Education (ASTE) (2007-present)
- Utah Science Teachers Association (USTA) (2005-present)
- National Science Teachers Association (NSTA) (2003-present)
- International Association for Science, Technology, and Society (IASTS) (2006-2009)
- Regional Campuses and Distance Education Association (RCDEA) (2006-2008)

RESEARCH

Research Interests:

Factors influencing reform in science education

- Science teacher professional development (pre-service & in-service)
- Inquiry, Model Based Inquiry, and Science-Technology-Society (STS) instructional strategies
- Technology integration in science instruction

PUBLICATIONS

Journal Articles (Refereed)

Campbell, T. & Neilson, D. (in press). Modeling Electricity: Model-Based Inquiry with Demonstrations and Investigations. *The Physics Teacher*.

***Campbell, T.**, Wolf, P. G., Der, J. P., Packenham, E., & Abd-Hamid, N. (2012). Scientific inquiry in the genetics laboratory: Biologists and university science teacher educators collaborating to increase engagements in science processes. *Journal of College Science Teaching*, 41(3), 82-89.

Zhang, D. & **Campbell, T.** (October, 2011). An Exploration of the Potential Impact of the Integrated Experiential Learning Curriculum in Beijing, China. *International Journal of Science Education*. First published online 27 October 2011. DOI:10.1080/09500693.2011.625057.

Zhang, D. & **Campbell, T.** (2011, November). The psychometric evaluation of a three-dimension elementary science attitude survey. *Journal of Science Teacher Education-Elementary Science Education*. 22(7), 595-612. First published online 14 July 2010. DOI 10.1007/s10972-010-9202-3.

Erdogan, I., **Campbell, T.**, & Abd-Hamid, N. (2011, June). The student action coding sheet (SACS): An instrument for illuminating the shifts toward student-centered science classrooms. *International Journal of Science Education*. 33(10), 1313 – 1336. First published online 03 August 2010. DOI 10.1080/09500693.2010.490926.

***Campbell, T.**, Zhang, D., & Neilson, D. (2011, June). Model based inquiry in the high school physics classroom: An exploratory study of implementation and outcomes. *Journal of Science Education and Technology*, 20(3), 258-269. First published online 23 August 2010. DOI 10.1007/s10956-010-9251-6.

Campbell, T. (2011, April). Using metaphors to investigate the personal frameworks of pre-service science teachers as they experience a science in society course. *Research in Science & Technological Education*, 29(1), 71–90.

Campbell, T. & Lott, K. (2010, December). Triad dynamics: Investigating the importance of social forces, positions, and storylines. *Teaching Education*. 21(4), 349–366.

*Neilson, D., **Campbell, T.**, & Allred, B. (2010, November). Model-based inquiry in physics: A buoyant force module. *The Science Teacher*, 77(8), 38-43.

***Campbell T.**, Wang, S., Hsu, H., Duffy, A., & Wolf, P. (2010, October). Learning with web tools, simulations, and other technologies in science classrooms. *Journal of Science Education and Technology*. 19(5), 505-511. First published online 13 April 2010. DOI 10.1007/s10956-010-9217-8.

Campbell, T., Oh, P. S., Shin, M. & Zhang, D. (2010 August). Classroom instructions observed from the perspectives of current reform in science education: Comparisons between Korean and U.S. classrooms. *Eurasian Journal of Science Mathematics and Technology Education*, 6(3), 151-162.

Campbell, T., Medina-Jerez, W., Erdogan, I., & Zhang, D. (2010, January). Exploring science teachers' attitudes and knowledge about environmental education in three international teaching communities. *International Journal of Environmental and Science Education*, 5(1), 3-29.

Campbell, T., Abd-Hamid, N., & Chapman, H. (2010, February). Development of instruments to assess teacher and student perceptions of inquiry experiences in science classrooms. *Journal of Science Teacher Education*, 21(1), 13-30. First published online 04 Nov 2009.

***Campbell, T.** & Neilson, D. (2009, March). Student ideas and inquiries: Investigating friction in the physics classroom. *Science Activities*, 46(1), 13-16.

Mack, P., **Campbell, T.**, & Abd-Hamid, N. (2008, October). Issues in survey assessments of STS courses. *Bulletin of Science, Technology, and Society*, 28(5), 408-413.

Campbell, T. & Bohn, C. (2008, April). Science laboratory experiences of high school students across one state in the U.S.: Descriptive research from the classroom. *Science Educator*. 17(1), 36-48.

Campbell, T. (2008, March). A summer test writing workshop: Jumping in. *The Science Teacher*. 75(3), 72-78.

Campbell, T. (2008, February). The capacity of instructional technologists to provide systemic support for science education reform. *Teacher Development*, 12(1), 67-83.

Erdogan, I. & **Campbell, T.** (2008, November). Teacher questioning and interaction patterns in classrooms facilitated with differing levels of constructivist teaching practices. *International Journal of Science Education*. 30(14), 1891-1914. First published online 02 Oct 2007.

Campbell, T. (2007, April/May). Community collaborators: A commentary. *The Science Teacher*, 75(4), 10.

Campbell, T. (2006, October). Evolution and online instruction: Using a grounded metaphor to explore the advantageous and less advantageous characteristics of online instruction. *Bulletin of Science, Technology, and Society*, 26(5), 378-387.

Campbell, T. (2006, January). Reassessing possible naturalized ideology regarding science education and religion. *Science Education Review*, 5(2), 44-50.

Campbell, T. (2006, July/August). The distant exploration of wolves: Using technology to explore student questions about wolves. *Journal of College Science Teaching*, 35(7), 16-21.

Campbell, D. T. (2006, March). A qualitative investigation of the factors influencing the implementation of reform efforts in science education. *Improving Schools*, 9(1), 61-68.

***Campbell, T.** & Worst, B. (2005, January). Forensic science in the elementary classroom. *Networks: An Online Journal for Teacher Research*, 8(1).

Campbell, D. T. & Erdogan, I. (2005, June). A look at student action in the science classroom. *Science Education International*, 16(2), 101-113.

Books

Campbell, T. (2010, May). *Investigating the impact of science teacher professional development: From views on teaching and learning to influences on teaching practice.* (Monograph) Saarbrücken Germany: LAP Lambert Academic Publishing. ISBN 978-3-8383-6149-9.

Book Chapters

Zhang, D. & **Campbell, T.** (in press). Psychometrics: Concerns and Future Directions in Science and STEM Education Research in *Advances in Psychology Research. Volume 91* and edited book by Nova Science Publishers.

***Campbell, T.** & Smith, E. R. (in press). Envisioning the changes in teaching framed by the national science education standards teaching standards. In Binadja, A, (Eds.), *Improving Science Learning for All Students*.

Wang, S., Hsu, H., & **Campbell, T.** (2009, December). Integrating technology into science instruction: Science learning, literacy, and the development of 21st century digital literacy. In Besnoy, K.D., & Clarke L. (Eds.), *High-Tech Teaching Success! A Step-by-Step Guide to Using Innovative Technology in Your Classroom* (pp. 71-119). Waco, TX: Prufrock Press.

Conference Proceedings (Refereed)

Campbell, T. & Lee, H. (2011, June). *Student motivation and interests as proxies for forming STEM identities*. (2011, June). *Proceedings of the STEAM (Science, Technology, Engineering, Arts, & Mathematics) Education Project Professional International Seminar titled Integrated Education Approach among STEAM K-12 School Subjects*, June 22 & 24, Daegu and Seoul, Republic of Korea.

Campbell, T. (2008). Building Community in Triads involved in Science Teacher Education. *Proceedings of the 2008 U.S-SINO Workshop on Mathematics and Science Education: Common Priorities that Promote Collaborative Research*, June 22-27, Murfreesboro, TN. http://www.mtsu.edu/sino_us/working_groups/US_SinoProceedings.pdf

Other Publications

Campbell, T. (2007). *The Science Laboratory Experiences of Utah's High School Students*. Salt Lake City, Utah: Curriculum and Instruction, Utah State Office of Education (USOE). Accepted by USOE and published as ERIC Document ED497728.

Abstracts included in Conference Proceedings

Campbell, T., Oh, P. S., Shin, M. & Zhang, D. (2010). Reform efforts in science education: Comparisons between Korean and U.S. classrooms. (2010, January). *Proceedings of the 2010 International Conference of the Association for Science Teacher Education (ASTE)*, Jan. 14-16, Sacramento, CA. <http://theaste.org/cgi-bin/2010conference/2010proceedings.pl>

Lott, K., & **Campbell, T.** (2009). Exploring the link between socioeconomic status and differing science laboratory experiences of high school students. *Proceedings of the 2009 International Conference of the Association for Science Teacher Education (ASTE)*, Jan. 8-10, Hartford, CT. <http://theaste.org/cgi-bin/2009conference/2009proceedings.pl>

Campbell, T., Abd-Hamid, N., & Chapman, H. (2009). Development of Instruments to Assess Teacher and Student Perceptions of Inquiry Experiences in Science Classrooms. *Proceedings of the 2009 International Conference of the Association for Science Teacher Education (ASTE)*, Jan. 8-10, Hartford, CT. <http://theaste.org/cgi-bin/2009conference/2009proceedings.pl>

Campbell, T. & Lott, K. (2008). Triad Dynamics in Science Teacher Professional Development: The Influence and Fluidity of Storylines, Positions, and Social forces Found in a Pilot Professional Development Project. *Proceedings of the 2008 International Conference of the Association for Science Teacher Education (ASTE)*, Jan. 9-12, St. Louis, MO. http://theaste.org/publications/proceedings/2008proceedings/2008_ASTE_Proceedings.pdf

Manuscripts Under Review

Campbell, T., Longhurst, M., Duffy, A. M, Wolf, P. G., & Shelton, B. E. *Science Teaching Orientations and Technology-enhanced Tools for Student Learning in Science* (Submitted November 27, 2011 for consideration for the National Technology Leadership Initiative Award supported by the Society for Information Technology in Teacher Education and the Association for Science Teacher Education)

Oh, P. S. & **Campbell, T.** Understanding of Science Classrooms in Different Countries through the Analysis of Discourse Modes for Building 'Classroom Science Knowledge' (CSK). *Science Education*. (Submitted November 16, 2011).

Campbell, T., Oh, P.S., & Neilson, D. Reification of Five Types of Modeling Pedagogies with Model-Based Inquiry (MBI) Modules for High School Science Classrooms. (Chapter abstract accepted July 29, 2011 as contract for chapter development and publication in *Next Generation Learning Science: Reform, Research and Results* an edited book by Sense Publishers-Chapter submitted November 15, 2011).

***Campbell, T.**, Longhurst, M., Duffy, A., & Wolf, P. Investigating Human Impact on the Environment with Backwards Faded Scaffolding Inquiry supported by Cyber-Enabled Technologies. *Science Activities*. (Submitted October 27, 2011).

Campbell T. & Abd-Hamid, N. Technology Use in the Science Instruction (TUSI): Aligning the Integrating of Technology in Science Instruction in Ways Supportive of Science Education Reform. *International Journal of Science Education*. (Submitted October 21, 2011).

Melville, W., **Campbell, T.** & Bartley, A. Re-imagining the role of the subject department chair. *School Science Review*. (Submitted October 20, 2011).

Lee, H., **Campbell, T.**, Kwon, H., & Park, K. Student motivation and interests as proxies for forming STEM identities. *Journal of Science Education and Technology*. (Submitted September 19, 2011).

Campbell, T. Building Community in Triads Involved in Science Teacher Education: An Innovative Professional Development Model. *Brock Education Journal*. (Submitted September 14, 2011).

Campbell, T., Melville, W., & Bartley, A. Teachers, Science Chairs and Science Departments: Supporting Best Practices in Science Instruction. *The Science Teacher*. (Submitted January 12, 2011-Major revision requested July 7, 2011-Resubmitted July 15, 2011).

Melville, W., **Campbell, T.**, Fazio, X. & Bartley, A. The departmental script as an ongoing conversation into the phronesis of teaching science as inquiry. *Research in Science Education* (Submitted February 22, 2011).

Manuscripts in Progress (Data Collected, Analyses Completed and Various Stages of Manuscript Development)

Campbell, T., Oh, P.S., & Neilson, D. *Discursive Modes and Their Pedagogical Functions in Model-Based Science Inquiry Classrooms*. (Winter 2012 expected completion date).

Melville, W., **Campbell, T.**, Bartley, A., Fazio, X., Tkaczyk, N. and Stefanile, A. *Creating RTOP profiles to investigate pre-service science teachers and the teaching of science as inquiry*. (Winter 2012 expected completion date)

*Robertshaw, M. B. & **Campbell, T.** *Talking Science in the Wild: A Study to Investigate Pre-service Science Educators' Argumentation Skills in a Socio-Scientific Context* (Spring 2012 expected completion date)

Shelton, B, Olsen, J. & **Campbell, T.** Coster, D. *Investigating Cyber-Enabled Learning Usage, Access, Achievement, and Beliefs* (Spring 2012 expected completion date).

Research in Progress (Various stages of Data Collection)

***Campbell, T.** & Robertshaw M.B. *Understanding how developing an understanding of nature of science and scientific argumentation concurrently impacts per-service teachers' greater understanding of these two areas of science knowledge*. (Fall 2011 expected completion date)

*Signifies work completed with students.

GRANTS FUNDED

(Approximately \$3,000,000 Dollars in Total Grant Funding)

Principal Investigator (\$2,500,000). *Cyber-enabled learning: Digital Natives in Integrated Scientific Inquiry Classrooms* (Funded September 1, 2010-August 31, 2015). National Science Foundation Discovery Research K-12 (Number 6985958). Collaborative proposal submitted with Drs. Paul Wolf and Dan Coster from the USU College of Science, Dr. Brett Shelton from the USU College of Education, and Drs. Shiangkwei Wang & Hui-Yin Hsu from the New York Institute of Technology. Role: Principal Investigator and Primary Writer. (\$2,500,000 USU/\$1,000,000 NYIT)
Project Website: <http://cadrek12.org/projects/cyber-enabled-learning-digital-natives-integrated-scientific-inquiry-classrooms-collaborati>

Principal Investigator (\$305,000). *Northern Utah Science Teaching and Laboratory Initiative.* (2009-2012). Mathematics and Science Partnership Program with oversight from the Utah State Office of Education. Collaborative proposal submitted with Co-PI Dr. J.R. Dennison, Professor of Physics at USU, Cache, Logan, and Box Elder School Districts and InTech Collegiate High School. Role: Principal Investigator and Primary Writer.
Project Website: <http://sites.google.com/site/usurtop/home>

Principal Investigator (\$5,000). *A Science Education Initiative for High School Science Teachers in Utah.* (2007-2008). Utah State Office of Education. Project goal: Create a state-wide initiative to offer science teacher professional development focused on science laboratory experiences. Role: Principal Investigator and Primary Writer.

Principal Investigator (\$32,294). *The Science Laboratory Experiences of Utah's High School Students.* (2006-2007). Utah State Office of Education. Project goal: Investigate the science laboratory experiences of Utah's high school students. Role: Principal Investigator and Primary Writer.

Principal Investigator (\$15,000). *Joint Professional Development for Pre-Service and In-Service Science Teachers in Rural Settings.* (2005-2007). Utah State University New Faculty Research Grant Program. Project goal: Implement and research the effectiveness of a joint professional development project for pre- and in-service science teachers. Role: Principal Investigator and Primary Writer.

Co-Principal Investigator (90,000). *Iowa Chautauqua for Promoting Current Reform in Science Education.* Iowa State Office of Education Math Science Partnership Grant (2003-2004). Project goal: Implement and research the effectiveness of a Chautauqua professional development program for K-12 science teachers (with Lead PI – Robert Yager). Role: Co-Principal Investigator, Secondary Writer, and Project Coordinator.

GRANTS/WHITE PAPERS SUBMITTED

(Awaiting Feedback)

Principal Investigator (\$1,500,000). *Employing Permeating Technologies for Learning in STEM and STEM Related Careers* (White Paper submitted 8-24-2011). Office of Naval Research STEM Grand Challenge—Adaptive, Generalizable Intelligent Tutors for STEM and Naval Training and Education. Collaborative proposal submitted with J.R. Dennison from the USU College of Science, Eric Packenham from the USU College of Education, and Gayle Bowen from the Space Dynamics Laboratory at USU.

Co-PI (\$3,00,000). *Teaching at the Extreme: Sustainability in a world of climate variability* (White Paper submitted 10-20-2011). National Science Foundation—Partnership for International Research and Education (PIRE). Collaborative proposal submitted with Ronald C. Sims from the USU College of Engineering and Daniel Coster from the USU College of Science.

FELLOWSHIP FUNDED

Gardner Junior Faculty Travel Fellowship Award (\$2,000). (2010). This Utah State University Fellowship provides funding for junior faculty for international travel supportive of international research and collaborations. A proposal was funded to support travel to King's College London from June 7th-18th, 2010 to collaborate with the Science Technology and Education Group (STEG). Professor Justin Dillon, Head of the STEG research group, Editor of the *International Journal of Science Education* and President of the European Science Education Research Association, provided a letter of support for this proposal and hosted the visit which included a seminar presentation and participation in several one day conferences.

PRESENTATIONS

International Presentations – Scholarship

Campbell, T. *Student motivation and interests as proxies for forming STEM identities.* (2011, June). Invited Keynote Speaker for Integrated Education Approach among STEAM K-12 School Subjects. Kyungpook National University, Daegu & Ehwa Womans University, Seoul, Republic of Korea.

Oh, P. S., & **Campbell, T.** *Developing a Framework for Analyzing Science Classroom Discourse: Knowledge-Sharing (KS) Modes.* (2010 June) Invited Seminar, Kings College London, London, England, United Kingdom.

Campbell, T. *International Classroom Instructions Observed from the Perspectives of Current Reform in Science Education.* (2009 December) Invited Seminar, Lakehead University, Thunder Bay, Ontario, Canada.

National Presentations – Scholarship

***Duffy, A., Campbell, T., & Wolf, P.** *The Virtual Populations Genetics (VPG) Simulation System: An Example of Learning 'With' Cyber-Enabled Technologies in Science Classrooms.* (2011, March). Presentation at the 2011 National Science Teachers Association Research Dissemination Conference. San Francisco, California.

***Campbell, T., Duffy, A., & Wolf, P.** *OpenSim as an example of Cyber-enabled Technologies for facilitating Science as Inquiry.* (2011, March). Presentation at the 2011 Cyberlearning Tools for STEM Education (CyTSE) conference. Berkeley, California.

Campbell, T., Zhang, D., & Neilson, D. *Model Based Inquiry in High School Physics: Examples and Outcomes of Enactment.* (2011, January). Presentation at the Association for Science Teacher Education (ASTE) 2011 International Conference. Minneapolis, Minnesota.

***Campbell T., Wang, S., & Hsu, H.,** *Cyber-enabled learning: Digital Natives in Integrated Scientific Inquiry Classrooms.* (2010, December) Presentation at the Annual 2010 National Science Foundation Discovery Research K-12 Principal Investigator Meeting. Washington, D.C.

Lott, K. & **Campbell, T.** *ThinkTank: A New Technology for Collecting and Analyzing Focus Group Data.* (2010, January). Workshop at the Association for Science Teacher Education (ASTE) 2010 International Conference. Sacramento, California.

Campbell, T., Oh, P. S., Shin, M. & Zhang, D. *Reform efforts in science education: Comparisons between Korean and U.S. classrooms.* (2010, January). Presentation at the Association for Science Teacher Education (ASTE) 2010 International Conference. Sacramento, California.

Staver, J. R., Bryan, L., Finson, K., & **Campbell, T.** *ASTE Publications.* (2010, January). Presentation at the Association for Science Teacher Education (ASTE) 2010 International Conference. Sacramento, California.

Lott, K., & **Campbell, T.** *Exploring the link between socioeconomic status and differing science laboratory experiences of high school students* (2009, January). Presentation at the Association for Science Teacher Education (ASTE) 2009 International Conference. Hartford, Connecticut.

Campbell, T., Abd-Hamid, N., & Chapman, H. *Development of Instruments to Assess Teacher and Student Perceptions of Inquiry Experiences in Science Classrooms* (2009, January). Presentation at the Association for Science Teacher Education (ASTE) 2009 International Conference. Hartford, Connecticut.

Yager, R., Blunck, S. & **Campbell, T.** *Broadening contexts in school science: Can it all be assessed for success?* (2008, January/February). Presentation at the 23rd Annual Meeting of the International Association for Science, Technology, & Society (IASTS). Baltimore, Maryland.

Mack, P. & **Campbell, T.** *The Intentions and Impact of Science, Technology, and Society General Education Courses for Undergraduates* (2008, January/February). Presentation at the 23rd Annual Meeting of the International Association for Science, Technology, & Society (IASTS). Baltimore, Maryland.

Campbell, T. & Lott, K. *Triad experiences: The impact of joint professional development for pre- and in- service science teachers on triad dynamics* (2008, January). Presentation at the Association for Science Teacher Education (ASTE) 2008 International Conference. St. Louis, Missouri.

Campbell, T. *What Difference Does it Make? Engaging Students in Science Technology and Society Instruction* (2007, February). Presentation at the 22nd Annual Meeting of the International Association for Science, Technology, & Society (IASTS). Baltimore, Maryland.

Campbell, T. & Erdogan, I. *How can teacher questioning influence student learning: Providing scaffolding through questions* (2006, April). Study presented at the 2006 National Science Teachers Association (NSTA) National Convention. Anaheim, California.

Campbell, T. *Investigating the Extent to Which Pre-service Instructional Technologists' Teaching Philosophies are affected by a One-Semester Course Focused on Science Instruction* (2006, February). Study presented at the 21st Annual Meeting of the International Association for Science, Technology, & Society (IASTS). Baltimore, Maryland.

Campbell, T. *The Perceived Threat of Online Instruction: A Case Study of the First-time Online Instructional Experiences of an Instructor in an Instructional Technology Graduate Program* (2006, February). Study presented at the 21st Annual Meeting of the International Association for Science, Technology, & Society (IASTS). Baltimore, Maryland.

Campbell, T. *Analysis of changes in teachers' views on teaching and learning after participation in the Iowa Chautauqua for Reform and the effects these changes have on students* (2005, February). Study presented at the 20th Annual Meeting of the International Association for Science, Technology, & Society (IASTS). Baltimore, Maryland.

Campbell, T. & Erdogan, I. *What can student actions tell us about science classrooms?* (2005, April). Study presented at the 2005 National Science Teachers Association (NSTA) National Convention. Dallas, Texas.

Regional Presentations – Scholarship

Campbell, T. *Factors Influencing Reform Efforts in Science Education* (2006, December). Presentation at the 2006 National Science Teachers Association (NSTA) Western Regional Convention. Salt Lake City, Utah.

Campbell, T., Wathen, M., Herron, D., & Madsen, J. *Joint Pre- and In-service Pedagogical Action Research accommodated through Clinical Experiences of Pre-Service Teachers* (2006, December). Presentation at the 2006 National Science Teachers Association (NSTA) Western Regional Convention. Salt Lake City, Utah.

Campbell, T. *The Inaugural Technology in Math, Science, and Engineering Instruction Conference designed to meet the needs of a Local Education Community* (2006, September). Presentation at the 2006 University Continuing Education Association (UCEA) West Regional Conference. Salt Lake City, Utah.

Campbell, T. *A long-term inquiry project tracking wolves using GPS data available via the internet: The struggles and successes of facilitating long term inquiry* (2006, February). Study presented at the 2006 Utah Science Teachers Association (USTA) Annual Conference. Cedar City, Utah.

Campbell, T., Anderson, P., & Chung, C. *Creating a voice for teachers in the area of professional development* (2003, October). Study presented at the 2003 Annual Iowa Science Teachers Section (ISTS) of the Iowa Academy of Science. Des Moines, Iowa.

State & University Presentations

Campbell, T. *Science Pedagogy-Pulling Together Practices, Processes, and Content.* (2011, April). Invited presentation to the Utah State Office of Education Elementary Principals Mathematics and Science Leadership Academy. Salt Lake City, Utah.

Campbell, T. *The Nature of Science and the Utah K-2 Science Core.* (2010, October). Invited presentation to the Salt Lake City School District K-2 Professional Development Academy. Salt Lake City, Utah.

Campbell, T. *International Comparative Research in Science Education* (2009, November). Invited presentation for Visiting Korean Student Teachers at the Ogden School District. Ogden, Utah.

Campbell, T. *Frameworks and Learning Progressions* (2009, May). Invited presentation to the Utah State Office of Education K-2 Core Steering Committee. Salt Lake City, Utah.

Campbell, T. *Scientific Inquiry* (2009, April). Invited presentation to the Utah State Office of Education K-2 Core Steering Committee. Salt Lake City, Utah.

Campbell, T. & Lott, K. *Students Engaged in University Classrooms* (2009, March). Invited presentation to the Utah State University Faculty Sponsored by the Vice Provost for Faculty Development and Diversity. Logan, Utah.

Campbell, T. *Possibilities for Future Collaborations between NUCC and USU focused on Science Education* (2008, December). Presentation to the Northern Utah Curriculum Consortium (NUCC). Murray, Utah.

Campbell, T. & Lott, K. *Engaging Students in University Classrooms* (2008, November). Invited presentation to the Utah State University Faculty Sponsored by the Vice Provost for Faculty Development and Diversity. Logan, Utah.

Campbell, T. *The Reformed Teaching Observation Protocol (RTOP) and its use for math/science teaching research* (2008, September). Invited presentation to the Utah State University Mathematics department. Logan, Utah

Campbell, T. *The Science Laboratory Experiences of Utah's High School Students* (2007, November). An invited presentation at the Utah State Office of Education's State Science Education Coordinator Committee meeting. Salt Lake City, Utah.

Campbell, T. *Responsive Instruction: Shaping Curriculum to Better Respond to Student Needs* (2007, March). Invited presentation at the Regional Campuses and Distance Education Association Spring Conference. Vernal, Utah.

Campbell, T. *A focus on student centered instruction: A session for modifying curriculum to make instruction more meaningful and relevant to students* (2006, August). Presentation at the 2006 Fall Extension Continuing Education Association (ECEA) Conference. Roosevelt, Utah.

Campbell, T. & Mauche Faatz, R. *Facilitating instruction with technology: Weblogs and Internet image searching* (2006, April). Presentation at the 2006 Snow College/Utah State University-Ephraim Technology in Math, Science, and Engineering Instruction (TMSEI) Conference. Ephraim, Utah.

PRESENTATIONS

(Accepted)

Shelton, B, Olsen, J. & **Campbell, T.** *Investigating Cyber-Enabled Learning Usage, Access, Achievement, and Beliefs* (2012 March). Presentation at the American Educational Research Association (AERA) 2012 International Conference. Vancouver, British Columbia, Canada.

*Robertshaw, M. B. & **Campbell, T.** *Talking Science in the Wild: A Study to Investigate Pre-service Science Educators' Argumentation Skills in a Socio-Scientific Context* (2012 March). Presentation at the American Educational Research Association (AERA) 2012 International Conference. Vancouver, British Columbia, Canada

Campbell, T., Oh, P.S., & Neilson, D. *Discursive Modes in Model-Based Science Inquiry Classrooms* (2012 January). Presentation at the Association for Science Teacher Education (ASTE) 2012 International Conference. Clearwater, Florida.

Campbell, T., Longhurst, M., Duffy, A., & Wolf, P. *Technology Use in Science Classrooms and Reformed Teaching*. (2012 January). Presentation at the Association for Science Teacher Education (ASTE) 2012 International Conference. Clearwater, Florida.

Smith, E.R. & **Campbell, T.** *Classroom Instruction Observed from the Perspectives of Current Reform in Science Education: Revisiting the TIMSS Video Study with a Reform Lens*. Presentation at the Association for Science Teacher Education (ASTE) 2012 International Conference. Clearwater, Florida.

Melville, W., **Campbell, T.**, Bartley, A., Fazio, X., Tkaczyk, N., & Stefanile, A. *Creating RTOP profiles to investigate pre-service science teachers and the teaching of science as inquiry*. (2012 January). Presentation at the Association for Science Teacher Education (ASTE) 2012 International Conference. Clearwater, Florida.

Lee, H. & **Campbell, T.** *Student Motivation and Interests as Proxies for Forming STEM Identities*. (2012 January). Presentation at the Association for Science Teacher Education (ASTE) 2012 International Conference. Clearwater, Florida.

UNIVERSITY TEACHING

Utah State University, Logan, Utah (2005-present)
College of Education and Human Services

Courses Taught – Utah State University

SCED 4210 – Cognition and Evaluation of Student Learning

A course Designed to lead the pre-service secondary school teacher to address two questions: (1) How do students construct concepts; discover relationships; and develop knowledge-level skills, comprehension and communication skills, and problem-solving abilities? (2) How do teachers monitor students' progress, evaluate and communicate their achievement, and interpret the results of system-wide and standardized test results to students and their parents?

SCED 5500 – Student Teaching Seminar

Ten-week capstone seminar focused upon student teaching issues, professional development, and principles of effective instruction, emphasizing reflective teaching.

SCED 3300 – Secondary Education Clinical Experience I

The first clinical practicum (40 hours minimum) in middle and secondary schools, arranged by special methods instructors in department.

SCED 3400 – Teaching Science I

A methods course focused on science curriculum and instruction for preservice secondary teachers with teaching majors in any of the science areas.

SCED 4400 – Teaching Science II

A methods course focused on science curriculum and instruction for preservice secondary teachers with teaching majors in any of the science areas.

SCED 4300 – Secondary Education Clinical Experience II

The second clinical practicum (40 hours minimum) in middle and secondary schools, arranged by special methods instructors in department.

SCI 4300 – Science in Society

Investigation of interactions between current scientific topics and societal goals and concerns. Intended as a capstone course for science teaching majors.

New York Institute of Technology, Old Westbury, New York (2004-2005)
College of Education and Human Development

Courses Taught – New York Institute of Technology

EDMA 625 – Mathematics Science and Technology I

A graduate course for instructional technologists focused on integrating technology into mathematics instruction.

EDSC 626 – Mathematics Science and Technology II

A graduate course for instructional technologists focused on integrating technology into science instruction.

EDUC 370 – Strategies Utilizing Instructional Technology in Science

An undergraduate elementary education science teaching methods course.

The University of Iowa, Iowa City, Iowa (1992-2004)
College of Education

Courses Taught – The University of Iowa

97:106 - Societal and Educational Applications of Chemical Concepts

An undergraduate and graduate level applications course focused on teaching chemistry.

Kirkwood Community College, Cedar Rapids, Iowa (1999-2004)
College of Science

Courses Taught – Kirkwood Community College

CHM:110 – Introduction to Chemistry

Introduces chemistry to those with little or no previous background in chemistry and is preparatory for further coursework in chemistry such as General Chemistry I and Bio-Organic Chemistry.

CHM:111 – Introduction to Chemistry Laboratory

A course that introduces chemistry laboratory exercises to those with little or no previous background in chemistry and is preparatory for further coursework in chemistry.

EP:121T – The Environment: Natural Science Perspective

Examines environmental issues from a scientific perspective. Topics examined include ecosystems, energy, global warming, ozone depletion, air pollution, water resources, population growth and biodiversity.

Teaching Workshops Completed/Professional Development

Peter Seldin Teacher Portfolio Workshop (2011, May). This workshop was by invitation only and sponsored by the USU Provost's Office.

http://www.teal.usu.edu/files/uploads/facultystaffinfo/Campbell_Teaching_Portfolio.pdf

RESEARCH SUPERVISION

Committee Member – PhD Graduates/Dissertation Complete

- Richard Nye (PhD, 2011). *Comprehensive high school reform: The lived experience of teachers and the small learning community initiative*. (Doctoral Dissertation, Utah State University, 2011).
- Leah Welte (PhD, 2010). *Orchestrating classrooms: A collaborative inquiry study of novice teacher community building*. (Doctoral Dissertation, Utah State University, 2010).
- Greg Wheeler (PhD, 2010). *Assessment of College Students' Understanding of the Equal Relations: A Development and Validation of an Instrument*. (Doctoral Dissertation, Utah State University, 2010).
- Pam Miller (PhD, 2008). *What We Do Best: Quality Collections Care Practices in Small Museums in Utah*. (Doctoral Dissertation, Utah State University, 2008).

Chair – PhD Students/Program Committees

- Max Longhurst (assumed chair position Fall 2011). Utah State University. Emphasis: Science Education.
- Jennelyn Talbot (assumed chair position Fall 2010). Utah State University. Emphasis: Teacher Education and Decision making.
- Linda Walter (assumed chair position Fall 2010). Utah State University. Emphasis: Science Education.
- Nancy Hauck (assumed co-chair position Summer 2010). Utah State University. (Comprehensive Examination completed Spring 2011, Proposal defended Summer 2011) Emphasis: Science Education.
- Emma Smith (enrolled Spring 2009); Utah State University. (Full Time Assistantship funded with Grant). Emphasis: Science Education.
- Katie Jean Larson (assumed chair position Spring 2008-enrolled 2004); Utah State University. (Comprehensive Examination completed 2009). Emphasis: Institutional Leadership.
- Eric Jorgensen (assumed co-chair Fall 2008, assumed chair position Fall 2009-enrolled 2006); Utah State University. Emphasis: Science Education.
- Rachel Harris Hill (assumed co-chair Spring 2008, assumed chair positions Spring 2010-enrolled 2006); Utah State University. Emphasis: Science Education.

Member – PhD Candidate/Dissertation Research

- Peter Blair (joined committee 2011); Utah State University Emphasis: Instructional Technology and Learning Sciences.
- Yuanzhi Li (enrolled 2010); Utah State University Emphasis: Mathematics.
- Robin Nagy (joined committee 2011); Utah State University Emphasis: Geology and Geology Education.
- Jeffrey Olsen (joined committee 2011); Utah State University Emphasis: Instructional Technology and the Learning Sciences.
- Travis Price (enrolled 2010); Utah State University Emphasis: Curriculum and Instruction.
- Chang Li (enrolled 2010); Utah State University Emphasis: Mathematics.
- Jason Stanger (enrolled 2007); Utah State University Emphasis: Curriculum and Instruction.
- Lee Mason (enrolled 2008); Utah State University (Comprehensive Examination completed Spring 2010, Dissertation Proposal defended Summer 2010). Emphasis: Curriculum and Instruction.

Committee Member – M.Ed Graduates/Project-Thesis Complete

- Kim Rathke (M.Ed., 2010). Tracking Student Writing using Online Essay Assessment. (Masters Project, Utah State University, 2010).

SERVICE

INTERNATIONAL LEADERSHIP

Proceedings Reviewer (2010)	International Organization for Science and Technology Education 2010 Symposium. XIV. IOSTE Symposium Bled, Slovenia, June 13-18. 2010
Editorial Review Board Member. (2009-present)	International Journal of Environmental and Science Education
Board Member (2008-2009)	International Association for Science Technology and Society (IASTS)
Newsletter Editor (2008-present)	Association for Science Teacher Education (ASTE)
Professional Development Committee member. (2008-present)	Association for Science Teacher Education (ASTE)
Publications Committee member. (2008-present)	Association for Science Teacher Education (ASTE)
Editorial Review Board Member. (2007-present)	International Journal of Science Education
Editorial Review Board Member. (2005-2008)	Science Education Review

NATIONAL LEADERSHIP & SERVICE

Reviewer (2011)	Next Generation Science Standards (Achieve)
Review Panel Member (May 2011)	National Science Foundation (NSF)
Review Panel Member (Jan 2011)	National Science Foundation (NSF)
Reviewer	Utah State Office of Education invited review committee member for review of the National Academies of Science Common Core with regional representatives from Nevada, New Mexico, Arizona, California, and Hawaii in Las Vegas, NV. July 23, 2010.
Review Panel Member (Aug 2009)	National Science Foundation (NSF)
Guest-editor (April/May 2007)	NSTA journal <i>The Science Teacher</i> for the Community Collaborators edition with Field Editor Stephen Metz
Publication Review Panel (2006-present)	<i>The Science Teacher</i>
Editorial Review Board Member. (2005-2008)	<i>Networks: An Online Journal for Teacher Research</i>

STATE SERVICE – LEADERSHIP ACTIVITIES

Writing Committee Member (2010)	Writing Committee Member for Utah State Office of Education Earth Science Core. This committee was charged with rewriting the Utah Earth Science state core.
Committee Member	Utah State Office of Education State Science Safety Committee Member
Steering Committee (2009)	Utah State Office of Education Science Steering Committee charged with providing ongoing leadership to science education in Utah.
Writing Committee Chair (2009)	Chair of 1 st Grade Writing Committee for Utah State Office of Education Science K-2 Core. This committee was charged with writing Utah 1 st grade science core.
Steering Committee (2009)	Utah State Office of Education Science K-2 Core Steering Committee charged with writing Utah K-2 science core.
Test Item Writer (2007, 2009)	Utah State Office of Education Utah Science Criterion Reference Test (CRT)
Committee Member (2006, 2011)	Utah Presidential Awards in Math and Science Teaching
Committee Participant (2005-present)	Utah State Office of Education State Science Education Coordinator Committee Participant (SSECC)
Committee Participant (2005-2008)	Utah State Office of Education Science Education Research Committee (SERC), sub-committee of SSECC
Advisory Board Member (2001-2004)	State Science and Technology Fair of Iowa

PROFESSIONAL SERVICE – INSTITUTIONAL

UTAH STATE UNIVERSITY Institutional Service – University Level

- Tenure/Promotion Committee Member for Becky Williams, Assistant Professor in Biology in the College of Science (2011-present).
- Post-Tenure Review Committee Member for Greg Podjorski, Associate Professor in Biology in the College of Science (2011-2012).
- Tenure/Promotion Committee Chair for Amy Alexandra Wilson, Assistant Professor in Literacy in the School of Teacher Education and Leadership (2011-present).
- Tenure/Promotion Committee Member for Susie Broughton, Assistant Professor in Literacy in the School of Teacher Education and Leadership (2011-present).
- Tenure/Promotion Committee Member for Nicole Pyle, Assistant Professor in Literacy in the School of Teacher Education and Leadership (2011-present).
- Tenure/Promotion Committee Member for Spencer Clark, Assistant Professor in Social Studies in the School of Teacher Education and Leadership (2011-present).
- Tenure/Promotion Committee Member for Cathy Maahs-Fladung, Assistant Professor in STEM in the School of Teacher Education and Leadership (2011-present).

- Graduate Recruitment Funding (Awarded \$1000 from the Graduate College) to fund the creation of Additional Graduate Recruitment videos for the School of Teacher Education and Leadership website (2010-2011).
- Committee Member for the following searches (2010-2011):
 - Committee charged with hiring a Physiological Ecologist Faculty Member for the Department of Biology at the Uintah Basin campus.
- Invited Panel Member for USU Proposal Writing Institute for panel discussion titled *Collaboration in Proposal Development and Your Research Career* (May 27, 2010).
- Graduate Recruitment Funding (Awarded \$1000 from the Graduate College) to fund the creation of Graduate Recruitment videos for the School of Teacher Education and Leadership website. Collaborating with Martha Whitaker and Deborah Byrnes (2009-2010).
- Promotion Committee Chair for Eric Packenham, Lecturer in Science Education in the School of Teacher Education and Leadership (2009-present).
- Promotion Committee Member for Thane Sweeten and Jessica Habasahi, Lecturers in the Department of Biology at the Brigham City Campus (2008-present & 2009-present respectively).
- 2008 Regional Campus and Distance Education (RCDEA) Annual Conference Awards Committee Member.
- Memorandum of Understanding (MOU) Committee for the establishment of a partnership with the College of Eastern Utah (Biological and Physical Science Composite Teaching Major) (2007-2009).
- Memorandum of Understanding (MOU) Committee for the establishment of a partnership with the Snow College (Biological Science Composite Teaching Major) (2006-2007).
- Snow College/Utah State University-Ephraim Technology in Mathematics, Science, and Engineering Instruction Conference Founder and Conference Coordinator (2006-2008).
- Snow College NSTA Student Chapter Faculty Advisor (2005-2008).
- Committee Member for the following searches (2007-2008):
 - Committee charged with hiring a Science Education Faculty Member for the Department of Biology.

NEW YORK INSTITUTE OF TECHNOLOGY
Institutional Service – University Level

- School of Education and Professional Services Curriculum Committee (2004-2005).

Institutional Service – College Level
College of Education and Human Services, Utah State University

- Committee Member for the following searches:
 - Committee charged with hiring a Secondary Literacy Education Faculty member on the main campus (2010-2011).
 - Committee charged with hiring a Secondary Education Social Studies Education Faculty member on the main campus (2010-2011).
 - Committee charged with hiring a School of Teacher Education and Leadership Instructional Leadership Faculty member on the main campus (2008-present).
 - Committee charged with hiring a Secondary Education Social Studies Education Faculty member on the main campus (2008-2009).
 - Chair of committee charged with hiring a Regional Secondary Education English Education Faculty member (2008).
 - Committee charged with hiring five Regional Elementary Education Faculty members (2007-2009).
 - Committee charged with hiring a Regional Secondary Education Social Studies Education Faculty member (2008-2009).

PROFESSIONAL AFFILIATIONS/LEADERSHIP ROLES

NATIONAL ASSOCIATION OF RESEARCH IN SCIENCE TEACHING (2009-PRESENT)

ASSOCIATION FOR SCIENCE TEACHER EDUCATION (ASTE) (2007-PRESENT)

- College & University Science Education Conference Strand Coordinator (2010)
- Newsletter Editor (2008-present).
- Professional Development Committee Member (2008-present).
- Presenter at International Meeting (2008, 2009, 2010).
- Workshop Reviewer (2009, 2010)

INTERNATIONAL ASSOCIATION FOR SCIENCE, TECHNOLOGY, AND SOCIETY (IASTS) (2006-2009)

- Board Member (2008-2009)
- Presenter at International Meetings (2005, 2006, 2007, 2008).

REGIONAL CAMPUSES AND DISTANCE EDUCATION ASSOCIATION (RCDEA) (2006-2008)

- Awards Committee Member (2008)
- Presenter at Annual Meetings (2006, 2007).
- President Elect (2008)

UTAH SCIENCE TEACHERS ASSOCIATION (USTA) (2005-PRESENT)

- Presenter at Annual Meeting (2006).

NATIONAL SCIENCE TEACHERS ASSOCIATION (NSTA) (2003-PRESENT)

- Guest Editor for The Science Teacher (April/May 2007).
- Publication Review Board Member (2006-present).
- Presenter at National Meetings (2005, 2006).
- Presenter at Regional Meeting (2007).