

# LIZ DOSTER TAFT

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MSITE Department  
Science Education Program  
East Carolina University  
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## EDUCATION

- Ph. D.** Science Education, University of Georgia, Athens, GA
- M. Ed.** Secondary Science Education, Georgia Southern University, Statesboro, GA
- B. S.** Biology, Georgia Southern University, Statesboro, GA

## EXPERIENCE

- Associate Professor:** Department of Science Education, East Carolina University, Greenville, NC
- Graduate Assistant:** Department of Science Education, University of Georgia, Athens, GA
- Science Teacher:** Oconee County High School for Alternative Students, Watkinsville, GA
- Instructor:** Brewton-Parker College, Mt. Vernon, GA
- Science Teacher:** Wayne County High School, Jesup, GA

## TEACHING RESPONSIBILITIES

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|-----------|--|
| SCIE 3604 | Investigations in Life and Environmental Science |
| SCIE 4323 | Secondary Science Methods                        |
| SCIE 4324 | Observation and Supervised Teaching in Science   |
| SCIE 4000 | Biological Science for Secondary Teachers        |
| SCIE 4325 | Intern Seminar in Science Education              |
| SCIE 5000 | Environmental Education                          |
| SCIE 6003 | Selected Topics in Life Science                  |
| SCIE 6500 | Educational Research                             |
| SCIE 6200 | Environmental Science                            |

## PROFESSIONAL SERVICE

### Service on State Boards:

Executive Board, College of Veterinary Medicine, North Carolina State University (newly elected)

Board Member, North Carolina Zoo (4 years)

Trustee, Natural Heritage Trust Fund, State of North Carolina (10 years)

Board Member, North Carolina Museum of Natural Sciences (10 years)

Board Member, College of Veterinary Medicine, North Carolina State University (3 years)

## **PUBLICATIONS**

### **Articles in Refereed Journals:**

Yerrick, R. K., Doster, E. C., Parke, H., and Nugent, J. (2003). Social interaction and the use of analogy: An analysis of preservice teachers' talk about physics inquiry lessons. *Journal of Research in Science Teaching*, 40: 443-463

Meadows, L., Doster, E. C., and Jackson, D.F. (2000). Managing the conflict between evolution and religion: Is it possible for teachers to resolve these conflicting ideas? *American Biology Teacher*, 62, 102-107.

Doster, E. C., Jackson, D. F., & Smith, D. W. Modeling pedagogical content knowledge in physical science for prospective middle school teachers: Problems and possibilities. *Teacher Education Quarterly*, 24(4).

Jackson, D. F., Doster, E. C., & Meadows, L. Reply to "hearts and minds in the science classroom: The education of a confirmed evolutionist revisited." *Journal of Research in Science Teaching*, 34(1), 93-94.

Koballa, T. R., Doster, E. C., Meadows, L., & Jackson, D. F. Hot peppers to hurricanes: New ways to measure. *Science Scope*, 18 (11), 37-40.

Jackson, D. F., Doster, E. C., Meadows, L., & Wood, T. Hearts and minds in the science classroom: The education of a confirmed evolutionist. *Journal of Research in Science Teaching*, 32 (6), 585-611.

Jackson, D. F., Doster, E. C., Tippins, D. J., & Rutledge, M. L. Implementing "real science" through microcomputers and telecommunications in project-based elementary classrooms. *Journal of Science Education and Technology*, 3(1), 17-26.

### **Other Publications:**

Padilla, M., Doster, E. C., Kubota, C. Mattheis, F. & Kemp, A. Results and implications of the survey on children's view of science in the United States of America. In S. Takemura *Study on View of Science in Children, School, and Society*. Hiroshima, Japan: Hiroshima University Press.

Glynn, S. M., Doster, E. C., & Law, M. Making text meaningful: The role of analogies. In C. Hynd (Ed.) *Learning from Text Across Conceptual Domains*. Mahway, NJ: Lawrence Erlbaum Associates.

Doster, E. C. Insect Pollinators and Fruit Production. In C. T. Ketter & R.V. Herren (Eds.) *Laboratory Manual to Accompany Exploring Agriscience*. Albany: Del Mar Publishers.

Doster, E. C. Microbiology of Milk and Milk Products. In C. T. Ketter & R.V. Herren (Eds.) *Laboratory Manual to Accompany Exploring Agriscience*. Albany: Del Mar Publishers.

Doster, E. C. Parts of Plants. In C. T. Ketter & R.V. Herren (Eds.) *Laboratory Manual to Accompany Exploring Agriscience*. Albany: Del Mar Publishers.

Doster, E. C., Jackson, D. F. Values, Dissection, and School Science: An inquiry into students' construction of meaning. *AETS Conference Proceedings*. P. Rubba, P. F. Keig, & J. A. Rye (Eds.)

Doster, E. C., Jackson, D. F., Oliver, J. S., & Crockett, D. K. Moving toward a richer understanding of students' interaction with dissection: Implications from an interpretive study. NARST Annual Meeting Abstracts, Oak Brook IL.

Doster, E. C., Jackson, D. F., Veal, W., & Wieseman, K. (Eds.) *Program Abstracts for the Annual Meeting of the National Association for Research in Science Teaching*: St. Louis: NARST.

Yerrick, R. K., Doster, E. C., Parke, H., and Nugent, J. (accepted).

## CONFERENCE PRESENTATIONS

Burik, Katherine, Fewell, M., & Doster, E. C. (January 2012). Life is a Journey: Set Your Student's GPS for a Great First Job. Association for Science Teacher Education, Clearwater, FL.

ECU Science Education Faculty and Secondary Science Methods/Graduate Students (November, 2011). Secondary Science Share-a-thon. Presented at the annual meeting of the North Carolina Science Teachers Association, Greensboro, NC.

Doster E. C. and ECU Faculty and Secondary Science Methods/Graduate Students (November, 2009). Secondary Science Share-a-thon. Presented at the annual meeting of the North Carolina Science Teachers Association, Greensboro, NC.

Doster E. C. and ECU Faculty and Secondary Science Methods/Graduate Students (November, 2006). Secondary Science Share-a-thon. Presented at the annual meeting of the North Carolina Science Teachers Association, Greensboro, NC.

Doster, E. C., Finley, T., & Simo, A. (2001, March) Developing a Secondary Professional Development School at East Carolina University: A Narrative Journey. Paper to be presented at the Southeastern Holmes Regional Partnership Conference, Myrtle Beach, SC.

Doster, E. C., Spence, L., Clark, V., and Hathaway, T. (2000, November) Hurricane Floyd and the Flood: Teaching Implications of Natural Disaster Events. Presented at the annual meeting of the North Carolina Science Teachers Association, Greensboro, NC.

- Doster E. C. and ECU Secondary Science Methods and Graduate Students (2000, November) Secondary science share-a-thon. Presented at the annual meeting of the North Carolina Science Teachers Association, Greensboro, NC.
- Meadows, L. and Doster, E. C. (April, 2000). Teaching evolution so conservative Christian students will listen. General session presentation at the annual meeting of the National Science Teachers Association, Orlando, FL.
- Doster, E. C. and Spence, L. Second year strategies: A state-wide environmental Paper presented at the annual meeting of the North Carolina Science Teachers Association, Greensboro, NC.
- Doster, E. C. and Nichols, S. Evaluation and assessment of the PREP Program. Presented at the MSEN/PREP Teacher Orientation, Asheboro, NC.
- Padilla, M., Mattheis, F. E., Doster, E. C., & Ogura, Y. Staff development programs for science teachers in Japan. Paper presented at the annual meeting of the Association for the Education of Teachers of Science, Austin, TX.
- Doster, E. C., Crockett, D. K., & Emory, A. Addressing critical educational issues in Pernambuco, Brazil: An indigenous, thematic approach. Paper presented at the annual meeting of the Association for the Education of Teachers of Science, Austin, TX.
- Doster, E. C., Pedersen, J., Spence, L. & Stubbs, H. Planning and implementing a state-wide environmental education course via the telecommunications network: Strategies, solutions, and outcomes. Paper presented at the annual meeting of the Association for the Education of Teachers in Science, Minneapolis, MN.
- Doster, E. C., Mattheis, F., Padilla, M., Riley, J., Kemp, A., Ogura, Y., & Yoshida, A. Culturally centered perceptions of science: A collaborative International research study of students in the United States and Japan. Paper presented at the annual meeting of the Association for the Education of Teachers in Science, Minneapolis, MN.
- Doster, E. C., Crockett, D., & Emory, A. A holistic description of Shamos' developmental levels of scientific literacy. Paper presented at the annual meeting of the Association for the Education of Teachers in Science, Minneapolis, MN.
- Doster, E. C. & Pedersen, J. A tale of two teachers: The paradox of methodology & content. Paper presented at the annual meeting of the Association for the Education of Teachers in Science, Minneapolis, MN.
- Doster, E. C. Relationship of gender to students' interest in science: Implications from a comparative study of the United States and Japan. Paper presented at the International Symposium on Children's' Views of Science in Hiroshima, Japan.
- Doster, E. C. & Jackson, D. F. Moving toward a richer understanding of students' interaction with dissection: Implications from an interpretive study. Paper to be presented at the annual meeting of the National Association for Research in Science Teaching, Chicago, IL.

- Doster, E. C., Tippins, D. J., & Del Rey, P. Encouraging gender equity in teaching practice. Paper to be presented at the annual meeting of the National Science Teachers' Association, New Orleans, LA.
- Meadows, L., Jackson, D. F., & Doster, E. C. Teaching evolution to conservative Christian Students: Insights from interviews with conservative Christian scientists and science teachers. Paper to be presented at the annual meeting of the National Science Teachers' Association, New Orleans, LA.
- Doster, E. C., Jackson, D. F., & Crockett, D. Values, dissection, and school science: An inquiry into students' construction of meaning. Paper presented at the annual meeting of the Association for the Education of Teachers in Science, Cincinnati, OH.
- Doster, E. C., & Jackson, D. F. *The influence of student values on perception of the dissection experience*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, St. Louis, MO.
- Crockett, D., Doster, E. C., & Oliver, J. S. *Socially constructed barriers: An exploration of how we know*. Paper presented at the annual meeting of the Southeastern Association for the Education of Teachers, Jackson's Gap, AL.
- Doster, E. C., Crockett, D., Emory, A., & French, M. J. *Sociological interactions and their influence on learning in western science classrooms*. Paper presented at the sixth consultation of the International Consortium for Research in Science and Mathematics Education, Belize City, Belize, Central America.
- Doster, E. C., & Crockett, D. *Student construction of meaning in the laboratory setting: A critical examination of the influence of gender and cultural membership*. Paper presented at the annual meeting of the Association for the Education of Teachers in Science, Seattle, WA.
- Oliver, J. S., Crockett, D. K., & Doster, E. C. *Preservice teachers' development of the image of science as "how we know" during sequential teaching methods courses*. Paper presented at the annual meeting of the Association for the Education of Teachers in Science, Seattle, WA.
- Glynn, S. M., Doster, E. C., Nichols, K., & Hawkins, C. *Teaching biology with analogies: Explaining key concepts*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- James, R. K., Yager, R., Brunkhorst, H., Doster, E. C., Davi, B., Twiest, M., Gallagher, J., Marshall-Bradley, T., McGlamery, S., Krockover, G., & Spector B. *Preliminary results and design issues for the Salish project*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, San Francisco, CA.
- Crockett, D. K., Doster, E. C., & Williams, C. S. *Teaching and learning science: Appreciating and encouraging all voices*. Paper presented at the annual meeting of the Southeastern Association for the Education of Teachers, Pensacola, FL.

- Doster, E. C., Oliver, J. S., & Jackson, D. F. *Teaching evolution: Insights from interviews with conservative Christian scientists and science teachers*. Paper presented at the annual meeting of the Southeastern Association for the Education of Teachers, Pensacola, FL.
- Doster, E. C., & Lederman, N. G. *Dissection in biology instruction and the nature of science: Congruence of form and function?* Paper presented at the annual meeting of the Association for the Education of Teachers in Science, Charleston, WV.
- French, M. J., Doster, E. C., & Koballa, T. R. *Visualizing empowerment: Student's perceptions of emancipatory strategies*. Paper presented at the annual meeting of The Association for the Education of Teachers in Science, Charleston, WV.
- Jackson, D. F., Calvert R. C., Doster, E. C., & Crockett, D. C. *Inservice education in the use of computers in middle school science teaching: Contrasting approaches to instruction and follow-up support*. Paper presented at the annual meeting of the Association for the Education of Teachers in Science, Charleston, WV.
- Jackson, D. F., Doster, E. C., Padilla, M. J., Pyle, E., Butts, D. P., Lane, L., & Richardson, L. *Preparing doctoral students to teach science methods courses: Contrasting approaches to the mentoring process*. Paper presented at the annual meeting of the Association for the Education of Teachers in Science, Charleston, WV.
- Tippins, D. J., Pate, E., Crockett, D. K., & Doster, E. C. *Alternative assessment of science: The promise of meaningful learning*. Paper presented at the area meeting of the National Science Teachers Association, Las Vegas, NV.
- Crockett, D. K., Tippins, D. J., Pate, E., & Doster, E. C. *Research on science teaching and learning: Practical applications for the classroom*. Paper presented at the area meeting of the National Science Teachers Association, Las Vegas, NV.
- Doster, E. C., Oliver, J. S., & Jackson, D. F. *Approaches to teaching evolution to fundamentalist students: Insights from interviews with fundamentalist scientists and science teachers*. Paper presented at the annual meeting of the National Science Teachers Association, Anaheim, CA.
- Jackson, D. F., Doster, E. C., Meadows, L., & Wood, T. *Hearts and minds in the science classroom: The education of a confirmed evolutionist*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Anaheim, CA.
- Doster, E. C., Jackson, D. F., & Smith, D. W. *Modeling pedagogical content knowledge in physical science for prospective middle school teachers: Problems and possibilities*. Paper presented at the annual meeting of the Association for the Education of Teachers in Science, El Paso, TX.
- Doster, E. C., Jackson, D. F., Tippins, D. J., & Koballa, T. R. *Teacher and student learning in a project-centered technology-rich environment*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Atlanta, GA.

Jackson, D. F., Tippins, D. J., Doster, E. C., & Rutledge, M. *Teacher learning in a project-centered technology-rich environment: The role of imagery and metonymy*. Paper presented at the annual meeting of the American Educational Research Association, Atlanta, GA.

Doster, E. C., Rutledge, M., Jackson, D. F., & Tippins, D. J. *Teacher learning in a project-centered, technology-rich elementary classroom environment*. Poster session presented at the annual meeting of the National Association for Research in Science Teaching, Atlanta, GA.

## AWARDS

- JRST Award, National Association for Research in Science Teaching;  
An award given annually for the article published in the *Journal of Research in Science Teaching* during the previous year judged to be the most significant for that year (with D. Jackson, L. Meadows, & T. Wood)
- Thesis Committee Member, Outstanding Masters' Thesis Award: Mr. Andrew Gilbert;  
National Association for Research in Science Teaching
- Outstanding Graduate Teaching Award, University of Georgia;  
A university-wide award for contribution to the instructional mission of the university
- Bell South Award for Graduate Studies, Georgia Southern University,  
A state-wide award promoting excellence in science teaching
- Distinctive Performance Award, Masters' terminal oral examination, Georgia Southern University

## GRANTS

- Taft, Liz Doster, Crawley, Frank (December, 2011). Improving Elementary Science Instruction in Economically Distressed Counties in Eastern North Carolina. Grant to be submitted to the Golden Leaf Foundation. \$125,000.
- Gabbard, D., Doster, E. C., & Finley, T. (Winter 2001). OURWORLD: A Collaborative 3D Interactive Visualization Project. Grant proposal submitted to the Z. Smith Reynolds Foundation. (Service/Research) \$399,047
- Huskamp, J., Nichols, S. E., Doster, E. C. (Winter 2001). Visualization and Immersive Technologies in Rural Education. Grant proposal submitted to the National Science Foundation.
- Doster, E. C., Nichols, S. E., & James, L. (Fall, 2001). Community Eco-Explorers Project. Grant proposal submitted to Carolina Power and Light. (Service/Research) \$25,000; awarded
- Doster, E. C. and King, M. (Fall, 2000) Oxygen for Life: Measurements in a Pond Ecosystem. Pitt County Educational Foundation (Service) \$800 submitted; \$600; awarded

- Finley, T., Doster, E. C., & Gabbard, D. (October, 2000). Rave Wall “Virtual World Project.” Grant proposal submitted to the Science, Math, Technology Education Center. (Service) circa \$ 25,000 submitted
- Doster, E. C., Rouse, A., & Watson, S. (November, 2000) ECU-North Pitt Project Teach and Learn. Grant proposal submitted to ECU School of Education Partnership Grant Program. (Service) \$4000; awarded
- Doster, E. C., and Nichols, S. E. ENCEEN: The Eastern North Carolina Environmental Education Network. Grant proposal submitted to the Z. Smith Reynolds Foundation. (Teaching) \$15,000; awarded
- Doster, E. C. Faculty Travel Grant, Rivers Foundation. (Research)
- Doster, E. C. and Hensley, G. Facilitating Hispanic Students’ Transition to U.S. Classrooms: A Working Partnership between Wellcome Middle School and East Carolina University. Proposal submitted to the East Carolina University/Schools Partnership. (Service) \$4000; submitted
- Doster, E. C., Watson, S., & Forshey, S. Classroom Management Characteristics and Techniques of Effective Science Teachers. (Research) \$3,972;
- Doster, E. C. Grant proposal submitted to the Faculty Computer Program. Vice Chancellor for Academic Affairs. (Research/Teaching) circa \$2000; submitted
- Doster, E. C. Encouraging Gender Equity in University Instruction. Submitted to East Carolina University Teaching Grants Committee. (Research) \$5000; submitted
- Doster, E. C. Student conceptions of their religious beliefs and evolutionary theory: Implications for the teaching of evolution. Submitted to the East Carolina University Research/Creative Activity Grants committee. (Research) \$5000; submitted
- Atwater, M. M., Doster, E. C., & Holliday, J. Patricia Roberts Harris Fellowship, United States Department of Education. (Service) awarded; \$323,000

## **DIRECTION OF GRADUATE STUDENT REASEARCH**

(Director) Will Mosley: The effect of concept mapping on student understanding and its correlation with student learning styles (projected defense, fall 2012)

(Director) Crystal Williams: “A measure of the effectiveness of educational programming at Imagination Station Science Museum” (defended, Spring 2010).

(Committee Member) Jason Arno: “Form fits function in anatomy and physiology” (in progress).

(Committee Member) Mickey Adams: “Student preconceptions about evolutionary theory” (defended, Spring 2006)



(Committee Member) Cindy Anderson: “Providing Biotechnology Modules for high school science teachers. (defended, Spring 2006)

(Director) Lisa Everett: “A qualitative investigation of informal environmental education instruction at North Carolina State Parks” (defended November, 2002)

(Director) Ben Sinnett: “Investigating high school students’ misconceptions in Earth science” (defended April, 2003)

(Director) Amy Smith: “Influence of gender on perception of selected life science topics” (defends July, 2003)

(Committee Member) Maria Socacia: “An investigation of the teaching of university level chemistry laboratory teaching assistants” (defended December, 2000)

(Committee Member) Taylor McDaniel: “The role of university/school partnerships in teacher education and research” (defended April, 2000)

(Thesis Co-Director) Lynette Trueblood: A study of the multiple influences affecting the professional development of student teachers”(defended)

(Thesis Director) Leslie Upson: “State-mandated end-of-course testing in biology: The rest of the story (defended)

(Thesis Director) Christie Fackler: “Alternative conceptions concerning the marine ecosystem Held by students in a rural eastern North Carolina High School” (defended)

(Committee Member) Lisa Hackett: “The influence of a corporate industry on community science education” (defended)

(Committee Member) Linda James: The effects of participating in an elementary science practicum on classroom practice (defended)

(Committee Member) Samatha Forshey: Characteristics of effective classroom managers (defended)

(Committee Member) Andrew Gilbert: Taking the “diss” out of discourse: Marginalized voices in the high school science classroom (defended).

(Committee Member) Beth Egbert: “What administrators seek in community college science faculty” (defended)

(Committee Member) John Faison: “A descriptive analysis of the North Carolina PREP program” (defended)

(Thesis Director) George Cox: “An investigation of common misconceptions in high school chemistry students” (defended)

(Committee Member) Reggie Cobb: “Beyond Normal Science: A descriptive study of a role play activity for environmental science” (defended)

(Committee Member) Purvi Modi: “A critical theory perspective on high school science teaching” (defended)

(Committee Member) Diana Gurerro: “A study of gender equity in a high school science classroom” (defended)

## OTHER

### **Items reviewed, refereed, or juried for scholarly publications:**

Referee, Manuscript #970627; Evolution and the Nature of Science: On the Historical Discord and Its Implications for Education; Journal of Research in Science Teaching

Reviewer, “*Measure of the Acceptance of the Theory of Evolution*” An instrument developed by the Department of Biology, Middle Tennessee State University

Reviewer, *The Natural Inquirer* A publication of the United States Forest Service.

Reviewer, *NSTA Pathways to the Science Standards: Moving the Vision into Practice*

### **Consultantships:**

Grant evaluator, North Carolina Mathematics and Science Education Network. (paid)

Environmental Education Consultant, Eisenhower grant: REALMS: Reading to Enhance Activities in Learning Math and Science PI Sherry Nichols; Science Education (unpaid)

Environmental Education Consultant; United States Department of Education Grant, PI Jon McChesney; Recreation and Leisure Studies (unpaid)

Consultant, science teacher certification, *National Board of Professional Teaching Standards* (with J. Riley) (unpaid)

