

VITA

Full Name:

Richard Alan Frazier

Rank and Department:

Assistant Professor, Science Education, Department of Curriculum and Instruction

Date of appointment:

August, 1999

1. Academic Degrees

A.B., Washington University, St. Louis, Missouri, 1972
Concentration in English and Biology

M.S., University of Illinois at Urbana-Champaign, 1981
Secondary Education—Science Education

Thesis: An examination of the conceptual structures three nonscience majors use in their encounters with mathematics and science.

Ph.D., University of Illinois at Urbana-Champaign, 1996
Curriculum and Instruction—Science Education

Thesis: Ways of working, ways of being: A study of four children working in a setting for learning science.

2. Certification(s) (i.e. teacher, administrator, professional, and/or learned society)

General Science and Biology, Life Teaching Certificate Missouri, Southeast Missouri State University, Cape Girardeau, Missouri, 1975

Foundational Approaches in Science Teaching (FAST 1: The Local Environment), Teacher Certification, Curriculum Research and Development Group of the University of Hawaii, 1988

Foundational Approaches in Science Teaching (FAST 2: Matter and Energy in the Biosphere), Teacher Certification, Curriculum Research and Development Group of the University of Hawaii, 1998

3. Professional Experience

1999-present

Assistant professor of science education in the Department of Curriculum and Instruction, Central Missouri State University, Warrensburg, Missouri

1988-1999

Science teacher (grades 7-8), Singapore American School, Singapore

Teacher in the summer program (June-July) at the Singapore American School in 1998 and 1993

Consultant and guest teacher at Lhoksemauwe International School, Sumatra on a tropical forest study trip for middle schoolers, February, 1998

Writing tutor for high school ESL students from Japan, Korea, China, and Indonesia 1997-1999

1994-95 (sabbatical year)

Instructor and student teacher supervisor, Department of Curriculum and Instruction, College of Education, University of Illinois at Urbana-Champaign

1983-88

Science teacher (grades 7-9), Dhahran Academy, Saudi Arabian International Schools, Dhahran, Saudi Arabia

1978-1983

Teaching assistant, instructor, student teacher supervisor, Department of Astronomy, Departments of Secondary Education and Elementary Education, College of Education, University High School (grade 12 Biology), University of Illinois at Urbana-Champaign

1976-78

Mathematics and science teacher (Forms 1-5), inservice teacher trainer, Njala Komboya Secondary School, Ministry of Education, Peace Corps, Njala Komboya, Sierra Leone--West Africa

1973-75

Science teacher (grades 7-8), Charleston, R-1 School District, Charleston, Missouri

4. Teaching, Administrative, and Supervision Responsibilities
(Current and last two semesters)

University

Central Missouri State University

College

College of Education and Human Services

Department

Department of Curriculum and Instruction

Physics for Teachers SCED 1110

(course information, etc. online at url =

http://courses.cmsu.edu/bin/common/course.pl?course_id=_259_1

select preview at login for guest access)

Elementary Science Teaching Strategies SCED 4120

(course information, etc. on line at url =

http://courses.cmsu.edu/bin/common/course.pl?course_id=_94_1

select preview at login for guest access)

Graduate student advising.

Supervision of Senior Honors Project.

Supervision of independent graduate courses.

5. Current Professional and Academic Association Memberships

(For items #5 through #12 include Fall 1996 to present)

International

American Educational Research Association

National Association for Research in Science Teaching

Phi Delta Kappa

North American Association for Environmental Education

National

National Science Teachers Association

Association for the Education of Teachers in Science

Science Teachers' Association of Singapore

State

Missouri Academy of Science

Science Teachers of Missouri

Missouri Environmental Education Association

Local

Citizen's for environmental excellence-Warrensburg, MO

6. Service Activities

University

2000-2002

Member of Faculty Senate committee on International Affairs.

College

2001-2002

Member of College of Education and Human Services committee on Professional Status.

2000-2002

Member of NCATE accreditation steering committee.

Electronic Documents committee for NCATE accreditation.

2000-2001

Member of College of Education and Human Services committee on Assessment.

Department

1999-present

Member of faculty team (CPI cluster) developing and evaluating performance portfolios (electronic) for preservice teachers.

7. Scholarly Activities

Publications

Forawi, S. and Frazier, R. (2001). Southwest Charter School. In Sluder, R., Thomas, D. and Snyder, M. Opening and Operating Charter Schools: The Kansas City Experience. Warrensburg: Central Missouri State University. Pp. 111-123.

Frazier, R. (1988). Beginning without a conclusion. The Science Teacher. 55 (5). Pp. 38-40.

Papers presented

Frazier, R. (2001). Breadfruit and rubber in the movies: What can we learn? Paper presented at the annual meeting of the American Educational Research Association (AERA) in Seattle, April, 2001.

Frazier, R. (2001). 'Are you saying this to get on our nerves, or are you really curious?' Arguments about data, theory, and status, in seventh grade science. Paper prepared for the annual meeting of the National Association for Research in Science Teaching, St. Louis, March, 2001.

Frazier, R. (2001). Beyond the lab report: Reflective and creative writing in science. Presentation at the National Association of Science Teachers annual meeting in St. Louis, March, 2001.

Frazier, R. (2000). Valuing a place: School projects in the community. Workshop and presentation for the Annual Conference on Environmental Education, Missouri Environmental Education Association and Missouri Department of Conservation, Osage Beach, MO, November 10-12, 2000.

Frazier, R. (2000). 'You don't need to time it, you just have to see': Racing in children's science? Paper prepared for the annual meeting of the National Association for Research in Science Teaching, New Orleans, April 28-May 1, 2000.

Frazier, R. (1997). Competition in school science? Two video exemplars. Presentation for the Southeast Asia Teachers' and Counselors' Conference (SEATCCO), Kuala Lumpur, November, 1997.

Frazier, R. (1997). Plants and people: Integrating science, geography, history, and culture. Presentation for the Southeast Asia Teachers' and Counselors' Conference (SEATCCO), Kuala Lumpur, November, 1997.

Frazier, R. (1997). 'You just look at it and that's it. You can't touch': Observing frogs and toads in a fifth grade summer science camp class. Paper prepared for the annual meeting of the American Educational Research Association. Chicago. March, 1997. Part of the symposium organized by David Brown: Telling Stories: Video Exemplars of Students in Science Inquiry.

Frazier, R. (1996). Dinosaurs in the imagination: Setting research loose in the classroom. Paper prepared for the Educational Research Association and Australian Association for Research in Education (ERA-AARE) Joint Conference, Singapore, November, 1996.

Frazier, R. (1995). Naturalistic animal study: A perfect topic for school science. Presentation for the Southeast Asia Teachers' and Counselors' Conference (SEATCCO), Singapore, November, 1995.

Frazier, R. (1995). Planting ideas: Plant propagation as an integrating theme for botany, history, and culture. Paper prepared for the National Science Teachers' Association (NSTA) Convention, Philadelphia, Pennsylvania, March, 1995.

Frazier, R. (1995). A philosophical toy. Archived at url = <http://www.ed.uiuc.edu/courses/CI241-science-Sp95/resources/resources.html>

Joint papers and presentations

Frazier, R. and Beck, D. (accepted). Listening to the voices of children: Promise across contexts, across cultures. Paper prepared for the annual meeting of the National Association for Research in Science Teaching. New Orleans. April, 2002.

Beck, D., Jurich, D., and Frazier, R. (2001). Developing and teaching culturally appropriate science: Examples of a Navajo science curriculum. Presentation for the annual Southern Area Convention of the National Science Teachers Association. Memphis. December, 2001. (accepted)

Frazier, R., Dean, C., Nelson, M., Stacey, S. Taylor, E., Woods, A., and Young, J. (2001). Simple Machines for Elementary Science: Life-sized, Hands-on, and Simplified. Workshop and presentation for the Science Teachers of Missouri Conference in Columbia, MO, October, 2001.

Beck, D., Herrod, G., Tracey, G., and Frazier, R. (2001). The Culture, Chemistry and Physics of Fry Bread. Presentation for the annual Navajo Studies Conference. Flagstaff. October, 2001.

Forawi, S., Frazier, R., Bertz, S., and Messer, B. (2001). Success variables of a science field experience. Presentation for the Missouri Academy of Science annual meeting. Joplin. April.

Frazier, R., Frazier C., Thome, K. and Wee, B. (2001). Science and service: The story of a nature trail for the visually impaired. Paper presented at the National Association of Science Teachers annual meeting in St. Louis, March, 2001.

Frazier, R., Hunter, J. and Mollet, S. (2000). Making the most of models: Empathy, inquiry, and understanding," Workshop and presentation for the Science Teachers of Missouri Conference in Columbia, MO, September 30, 2000.

Frazier, R. and Lane, P. (2000) Let nature be your teacher: An inquiry into wild classrooms. Paper prepared for the annual meeting of the American Educational Research Association, New Orleans, April 24-28, 2000.

Frazier, C. and Frazier, R. (1998). Service walks hand-in-hand with nature: The story of a sensory trail for the visually handicapped. Presentation for the Southeast Asia Teachers' and Counselors' Conference (SEATCCO), Jakarta, November, 1998.

Frazier, R. and Lane, P. (1998). Wild classrooms: The forest as teacher. Presentation for the Southeast Asia Teachers' and Counselors' Conference (SEATCCO), Jakarta, November, 1998.

Brown, D., Beck, D. and Frazier, R. (1997). Constructive lenses for viewing and valuing students' activities during inquiry in science." Paper prepared for the annual meeting of the National Association for Research in Science Teaching (NARST), Oak Brook, Illinois, March, 1997.

Brown, D., Beck, D., Frazier, R., & Rath, A. (1996). Siphons and strawberry milkshake machines: Is fantasy in science inquiry a valuable context or an unwanted distraction? Paper prepared for the annual meeting of the American Educational Research Association. New York, April, 1996.

Grants written (External/Internal)

Internal grant awarded by the Committee for Academic Technology (CAT) for computer interface hardware and software. Two laptop computers were included. Technology obtained through this grant will enhance efforts in Science Education to bring high quality science inquiry into the hands of our prospective teachers.

Research in Progress

Analysis of various episodes of children involved in science inquiry based on videotapes and student work.

Development of teaching ideas along a number of topical dimensions (for example):

Plants and people.

The science of food.

The history of ubiquitous and debatable demonstrations in school science. (Cartesian diver; Candle in a jar, etc.)

Nature study and ecology in the schoolyard and neighborhood.

The relation of inculcation and inquiry in school science.

Creative and generative writing in science.

Reviewer

National Association for Research in Science Teaching--annual conference proposals, 2000.

American Educational Research Association--annual conference proposals--Division C--Science education and Ecological and Environmental Education-SIG, 2000, 2001, 2002.

Urban Education, October, 2001.

8. Professional Development

Attended Eisenhower Grant information workshop. Jefferson City, MO, September, 2001.

Attended PRAXIS workshop, CMSU. Spring, 2001.

Attended American Educational Research Association, Seattle, April, 2001. (Session chair)

Attended National Association for Research in Science Teaching, St. Louis, March, 2001 (Session chair)

Attended National Science Teachers Association, St. Louis, March, 2001.

Attended Missouri Environmental Educators Association. Lake of the Ozarks. November, 2000.

Attended Science Teachers of Missouri conference. Columbia. September, 2000.

Attended NCATE conference, Washington, D.C. September, 2000.

Attended American Educational Research Association conference, New Orleans, April, 2000.

Attended National Association for Research in Science Teaching conference, New Orleans, April, 2000. (Session chair)

Attended Missouri Environmental Educators Association conference. Lake of the Ozarks. November, 1999.

Attended Science Teachers of Missouri conference. Columbia. September, 1999.

9. Involvement and collaboration with P-12 schools, educators, and appropriate others

Development of partnership with Ridgeview School (Warrensburg) to provide field experience for preservice elementary teachers in science (SCED 4120--Elementary Science Teaching Strategies). From Spring 2000 to present CMSU preservice teachers have conducted science lessons in first, second, and third grade classrooms during 8-9 visits to Ridgeview. State assessment scores in science (MAP) have increased dramatically since the inception of partnership.

Faculty instructor. Navajo Nation Summer Science Camp: Learning in Harmony. Atsa Biyaazh (Shiprock Alternative Schools, Inc.). Shiprock, New Mexico. Inservice for teachers and science camp for children. Credit for teachers granted through Fort Lewis College, Durango, Colorado. Funding by the Ettinger Foundation, Knox College, Shiprock Alternative Schools, Inc. and the Navajo Nation Rural Systemic Initiative (NSF). Summer, 2001

Guest science education consultant, Lavalla School, Phnom Penh, Cambodia. Lavalla School serves children whose abilities are affected by landmine injuries, polio, congenital defects, accidents, cerebral palsy, and other physical ailments of undiagnosed origin. Workshop series for Lavalla teachers, visiting teachers, and representatives from the Ministry of Education. Team-teaching and consultation with Lavalla teachers. Informal science activities after school / evenings with children (boarding). March, 2001.

Judge for Science Olympiad and Science Fair. Various schools and CMSU. 2000-2001.

10. Diversity

Professional development

Work with Navajo teachers and students, Summer, 2001. (see above)

Work with Cambodian teachers and students, March, 2001. (see above)

Attended Diversity Workshop, CMSU, Spring, 2001.

Episodes (many recorded in video) from teaching / learning in various countries and cultures used as exemplars in SCED 1110 and SCED 4120.

Navajo child's question used to establish context for initial investigation in Physics for Teachers (SCED 1110). Fall, 2001. ("Is fry bread a chemical reaction?")

Student led discussion/presentation on diversity issues in science and science education. (SCED 4120).

References on diversity issues in science provided through external links in Blackboard for both SCED 1110 and SCED 4120.

11. Technology

Professional development

Dreamweaver training. CMSU. August and September, 2001.

Course Info Training. CMSU. Spring, 2000.

Integration into teaching (i.e. Web-enhanced, Power Point presentation requirements)

Incorporation of Course Info / Blackboard into courses for information management, readings and reference, posting of experimental data, posting of images relevant to students' investigation, publication of student work, electronic discussion.

Internal grant to purchase interface hardware and software.

Students' use of equipment (interface, computer, imaging) as part of personal inquiry.

12. Awards, honors, recognitions

Sabbatical granted from the Singapore American School for 1994-95 (1 given per year).

Co-sponsor of school environmental clubs who received the "Preserve Planet Earth Award" from the Rotary Club of Singapore and the Hong Kong Bank. \$10,000 was awarded to carry out the development of a nature trail for the blind on Pulau Ubin, Singapore, 1996.

Included on "List of instructors rated as excellent by their students," University of Illinois at Urbana-Champaign, spring semester, 1980.