Integrating Environmental Science across the Curriculum

Imagine children cleaning up rivers or beaches in your community. Or imagine students starting recycling programs, conducting water and air quality tests, researching over the Internet, establishing a wetland nursery, or saving trees in your neighborhood (Evans, 1998).

These ideas can become a reality when students are given the information regarding environmental education and are then able to practice it in their community. Integration of environmental science education strengthens and expands environmental education in America’s classrooms and reconnects children with nature.

The plan for the science integration unit will consist of a day long workshop that will instruct the students in curriculum mapping and implementation of environmental science across the curriculum. Guest speakers will present information about the benefits of science integration and provide examples from the native environment. Students will be creating grade level specific assessments and rubrics based on the information learned during the training event.

This workshop will take place at Big Cottonwood Canyon in Salt Lake City in April 2011. Participants will include 90 pre-service teachers from The Urban Institute for Teacher Education at the University of Utah.
This spring Family School Partnership (FSP), under the directorship of Dr. Leticia Alvarez Gutiérrez, co-collaborator Dr. Clayton Pierce, and coordinators Cinthia Cervantes-Castañeda, Mary Kavila and Takwa Sharif, continues its work with linguistically and culturally diverse students and families by bridging innovative learning approaches and family involvement. In addition to its ongoing work at East and West high schools, FSP is building off its success at Northwest Middle School that has integrated a community/learning garden into the school’s science curriculum.

In collaboration with Miss Isabel Kiss, a 7th and 8th grade science teacher, the community garden has become the basis for a learning laboratory that unites core curriculum standards with experimental learning and community building projects. In the spring of 2010, FSP, Northwest middle school teachers, students, families, Urban Institute of Teacher Education (UITE) students, and members of the community broke ground and built 10 planter boxes which became home to a variety of plants (e.g., chilis, corn, potatoes, and tomatoes to name a few) students had been growing and studying over the duration of the semester.

Working closely with University of Utah students in the UITE who are enrolled in ECS 5709/6709: Bridging Family School Community Partnerships for Youth Success, taught by Dr. Matt Bradley and mentored onsite by Dr. Clayton Pierce, Miss Kiss’s students spent the semester researching plant histories, uses of plants in both indigenous and contemporary settings, and the migration of plants across space and culture.

Each research project also included experiments that incorporated Utah science education core content such as determining the soil chemistry composition, energy intake and output of plants, and what biochemical properties of plants are used for medicinal and human health practices such as the silk on the ear of corn that is used for digestive health. Student research projects also investigated how human health issues such as Type 2 Diabetes is associated with high intakes of certain types of food.

For example, students compared uses of corn in its original settings in Mesoamerica to current applications in the industrialized food system in the U.S. that primarily utilizes corn as a food sweetener and preservative and feed for livestock. At the end of the semester students were able to plant their seedlings in the learning garden as well as present their research findings to families and community members at an organized FSP science reception.

FSP is continuing its work at Northwest Middle School with a new cohort of UITE students to build relations with families and community members this spring. In March FSP will be hosting a family and community potluck that will be comprised of dishes involving plants students will grow and study throughout the term. Students will also be conducting experiments with composting and other forms of sustainable growing practices such as organic forms of fertilizers.

FSP hopes that the garden will become both a springboard for greater academic achievement, the strengthening of connection between community and school, and a place for students, families, and community members to share in the process of building strong scientific and ecologically sustainable literacies.
Technology Assisted Curriculum Center

The Urban Institute for Teacher Education’s Regina Delong is the proud recipient of a Technology Assisted Curriculum Center (TACC) grant award in the amount of $5000 for an online course development for EDU 5360/6360, Elementary Math Learning Methods. This course provides students seeking an elementary teaching license with a curriculum and learning opportunities to demonstrate their understanding of mathematics content through the application of teaching methods within the context of grades k-6 mathematics classrooms.

Students in EDU 5360/6360 learn the fundamentals of the applications of mathematical knowledge to instruction and assessment in areas related to: knowledge of numbers and numeration in ways that engage elementary students in thinking and reasoning; the development of methods/procedures; and opportunities for problem solving as a means of understanding mathematical processes. Students also examine available technology to improve their teaching and abilities to motivate k-6 grade level students in their learning.

The online course was written using a traditional face-to-face course content, learning activities, and objectives. Both TACC and the Center for Teaching and Learning Excellence (CTLE) have reviewed the course development process and given support to produce a high-quality online course.

Providing students’ flexibility in managing their own learning with innovative ways to approach both curriculum and pedagogy is well suited for this course and will lead to other face-to-face courses for teacher licensure and professional development in the future. As with any online course, students must demonstrate a high level of initiative, autonomy and ability to work independently.

The course is currently offered through the facilitation of Shari Goodman, recently retired Granite District Math Specialist for the past 10 years and Regina Delong, mathematics and technology integration specialist for the UITIE.

Peer Advocate Biographies

Andrea Garavito Martínez is a graduate assistant and coordinator of the UITE Peer Advocacy Program (PAP). She works in collaboration with the elementary and secondary education advisors to assist in recruiting and retention of prospective students in the teaching licensure programs. In the last two years, she has focused on developing outreach and retention efforts and materials for traditionally underrepresented students in teacher licensure programs.

As part of these efforts, Andrea developed the PAP in order to provide “friendly contact” that is familiar with the University of Utah undergraduate application program and the UITE teaching licensure programs. Peer Advocates attend both off- and on-campus events to promote the UITE and encourage students and families to see the profession of teaching as a viable option for the future.

During the academic year, Andrea along with the Peer Advocates have attended Plaza Fest I & II, Connecting U Days, Major Expo, Pacific Islanders Student Association (PISA) High School Conference, and Movimiento Estudiantil Chicana/o de Aztlán (MEChA) High School Conference. Peer Advocates have also completed class presentation to UITE pre-service classes, developed a Facebook page, and emailing list. They are in the process of developing a brochure for middle/junior high school and high school students interested in becoming teachers along with a short video clip and web page.

Off-campus, Andrea has also increased the UITE’s outreach efforts in the Granite, Salt Lake, Jordan, Davis, and Canyons School District.

Currently, the Peer Advocates will be completing a series of presentation for AVID programs in the following schools: West Lake and Valley Middle School and Cottonwood and Kearns High School. Andrea has coordinated visits from the Adelante: College Awareness and Preparatory Partnership, Latinas Adelante, and Odgen’s GEAR UP program to the College of Education. She works closely with the Teacher Recruitment Scholarship for Diverse Students, Office of High School Services and Recruitment, and Latina/o Outreach Center.

She is currently a second year doctoral student in the Department of Education, Culture, and Society (ECS). Under the mentorship of Dr. Dolores Delgado Bernal, her research focuses on the historical experiences of Latinas/Chicanas in higher education.
NEW TO UITE

Emily Walton joins UITE after working with the University of Utah Athletics Dept. for almost 10 years. Emily was adopted at 9 months & grew up in Salt Lake City in a family of 7 children.

Coming from a family of artists & teachers she found her interest in photography. As a hobby she loves to go out & take pictures. Her goal is to become a photojournalist & be able to capture stories through photography.

Emily loves to travel & one of her favorite places is New York. She tries to go out to visit her brother who lives there as often as possible. Her dream destinations & goals are to go Italy, New Zealand, & Australia.

“Where are they now?”

Zach Layton, a graduate of the secondary licensure program, is in his second year at Eisenhower Jr. High in the Granite School District. Since leaving the U, Zach completed a Master's in Reading Curriculum Development. He is currently working on an ESL endorsement.

As part of his teaching assignment, he oversees two eighth grade and three seventh grade English classes, a seventh to ninth reading class, and a seventh grade exploratory class.

He also teaches an after-school ESL computer class to adults. Zach says, “It seems like a lot (and it is), but I wouldn't want it any other way. The stacks of papers to grade never disappear, but I wake-up everyday excited to go to work. How many people can say that?”

Contact Us!

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