

THE CHALKBOARD

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SPECIAL ISSUE ON COLLABORATIONS AND PARTNERSHIPS

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Greetings from the Dean

Deborah Shanley,
Dean, School of Education

This is our second special issue of The Chalkboard devoted to aspects of the School of Education's Conceptual Framework. In this issue we celebrate the strong collaborations the School of Education faculty have forged with a rang of community partners across the city and beyond. WE have embraced the idea of how important it is for students to have access to the knowledge, skills, and rich resources of our cultural institutions, national parks, and other community-based organizations. The array of educational experiences pave the way for our graduates to braid these resources into their teaching practice. We continue to build new partnerships, strengthen existing ones, and align our work both with the national, state, and local learning standards and educational renewal efforts. As committed professionals, we strive to ensure that our graduates are able to set the stage for, and support research on, the importance of community institutions in the educational process.

Teachers without Borders: The School of Education/Laundry Capital Partnership

Wilda Gallagher, editor, with [Georgina Smith](#), '04, and [Martha Hennington](#) and [Wayne Reed](#), assistant professors, Teaching Fellows Program

As a summer student in the School of Education, **Georgina Smith** would return to her neighborhood at the end of a grueling day and stop occasionally at the local Clean Rite Laundromat on Eastern Parkway. There she would find moms and caregivers wrestling the week's wash while their young charges watched television or played video games. As a future educator, she knew that children are constantly learning, whether from TV, video games, peers, or classrooms, and here was an opportunity to create an on-site after-school learning community. The ingredients were there: children and tables. All that was needed was a pile of books and a lesson plan. She set about fulfilling her idea of creating a reading class at the Laundromat. After all, she was a member of the innovative New York City Teaching Fellows Program and was eager to put her three weeks' experience in curriculum, pedagogy, and fieldwork.

With a master's degree in botany and twenty years experience as a management consultant, Smith might be considered a typical Teacher Fellow. Like her classmates, she had

entered the program with a diverse professional background and the desire to make a difference in the lives of children by becoming a teacher in the New York City public school system. Through this state-approved alternative certification program, she was preparing, over the course of one intensive summer, to earn a master's degree in education and to begin her new teaching career in the fall of 2004.

Teaching Fellow candidates in the School of Education are prepared by faculty whose skills have been honed by years of experience in the city's public school system. They encourage students to ground their practice in reality by conducting "action research" projects based on what happens in their classrooms. Student-teachers act as "participant investigators" by examining an aspect of their classroom experience with the goal of improving their teaching. Smith took the idea of combining washing with learning as an action research plan to her instructor, **Martha Hennington**, who approved it as her master's degree project.

Using books from a local elementary school's discard piles and a small tutoring fund from a local church, Smith's laundromat project became the Wash and Learn reading program, debuting in her neighborhood Clean Rite in September 2004 with Smith and two undergraduate students, **Amy Dempsey** and **Frances Gibson**. Although the program was originally based on the traditional teacher-student dynamic, including reading and homework, the team quickly discovered that their young students were not amenable to sitting and receiving literacy education in the conventional manner. They were free to run off, and they exercised that right with enthusiasm. Smith's action research suggested that a novel way to approach the children was needed in order to create sufficient interest in reading to woo them back to their seats.

Abandoning the tables for a circle of chairs, Smith recast the reading program as a club, complete with membership requirements and badges. In this new setup, books were presented as sources of special information, with newsy and tantalizing tidbits about the characters between the covers. Club members were motivated to find out more in order to join the conversation, and soon the animated telling and retelling of stories replaced TV and video games as a laundry pastime. Club members took pride in knowing about the adventures of "their" characters, and parents, too, became interested. At their request, the team gave parents tips on reading to their children using the same approach to build interest in books.

After six weeks of operation, the program had grown to attract sixty to eighty children, along with a number of older children and parents. Word-of-mouth from parents and Clean Rite employees resulted in the opening of a second Wash and Learn site with fifteen children at the Clean Rite on McDonald Avenue in October 2004. Smith then approached the parent company, Laundry Capital, with a business proposal for sponsoring Wash and Learn programs in all Clean Rite sites, available only to customers using the laundry facilities. Laundry Capital responded with a memorandum of agreement and the pledge of a grant to expand the program.

As it expands, Wash and Learn has grown beyond the scope of literacy education in a novel setting to include pre-service fieldwork for teacher candidates. It also provides them a training opportunity as an action research project. Currently, eighteen graduate and undergraduate childhood education students are engaged in a Wash and Learn "floating practicum" under the supervision of **Randall Hansis**, associate professor, and assistant professors **Haroon Kharem** and **Curry Malott**, in which they examine methods of interacting with a wide variety of children using role-playing, communication, and engagement skills.

Looking at the success of Wash and Learn as a vehicle for teaching in a nontraditional setting, and considering the many places where children congregate outside of classrooms, its potential becomes apparent. Currently, Smith and her faculty associates are collaborating to develop a similar program module to be implemented in any off-site, transient venue where classes can be established to promote the joy of learning, as well as prepare qualified teachers to serve children's educational needs.

For more information about the program, please contact Prof. Wayne Reed at 718-951-4800.

Visit the Wash and Learn on the Web at <http://washandlearn.com/> for locations and class schedules

Learning Outside the Box: The National Parks of New York Harbor Education Center Collaboration

Deborah Shanley, dean, school of education

Eleanor Miele, assistant professor and program head, childhood science and environmental education; middle childhood science education

Dean **Deborah Shanley**, Brooklyn College Provost **Roberta Matthews**, David Podell, Provost and Vice President for Academic Affairs at the College of Staten Island, formally celebrated the fruits of collaboration with the grand opening of a state-of-the-art educational center dedicated to the study of New York Harbor's ecology, history, and commerce. In addition to a tour of the new facility, participants saw a presentation, "Metropolitan Communities: Immigration" and "Sentinels of Our Shore" by Staten Island middle and elementary school students.

Located at historic Fort Wadsworth, Staten Island, the center is designed as an interactive learning environment for school groups, teachers, and communities in the regions surrounding New York Harbor. The 20,000 square ft. facility includes a where eighth-grade students listen to immigrants' stories of assimilating into the American land and culture, and then interpret and reenact the stories, using costumes and props. In a room dominated by a copy of an 1812 cannon and surrounded by a replica of a fort's parapet, fourth graders investigate principles of coastal defense as well as physics and Earth science. In the Science and History Studio Workshop, a "blue screen" allows the image of a person into a virtual NPS-New York Harbor site. This setup enables an instructor to select a background site and "broadcast" an interactive lesson via video monitor to students in a remote classroom. A lunchroom equipped with a colorful recycling and trash station gives youngsters the opportunity to see firsthand how their choices can make a difference. A resource room contains a reference library and a center where teachers and other professionals can learn about the harbor and develop innovative programs, teaching materials, and activities focused on New York's harbor. The goal is to create dynamic learning stations that capitalize on real world issues and themes of the National Parks of New York Harbor, covering issues from the environment to those dealing with history and culture, according to Patti Reilly, director of the NPS Northeast Center for Education Services. Programs for the Environmental Workshop, Science and History Studio, and the NPS Adventures Workshop will be developed by the university – NPS collaborative.

The core team of university and NPS staff including **Eleanor Miele**, Martin Schreiber, and Wayne Powell of Brooklyn College, Lia Kudless of the Discovery Institute at the College of Staten Island and Patti Reilly, and Jeanette Parker of the National Park Service coordinates the development of curricular, research and funding opportunities for the center. They envision the collaboration's educational agenda as a vehicle for proving many opportunities to share resources that:

- Offer standards-based programmatic offerings keyed to state assessments in the context of non-formal education, supported by region and school-level administrators;
- Serve as a field site for programs for students from Kindergarten through graduate school;
- Serve as a field site for pre-service and in-service teacher education;
- Serve as a field site for programs for college faculty, and
- Serve as a center for inter-institutional collaboration between informal science institutions and higher education.
- Serve as a community resource for life-long learning

Dean Shanley and **Provost Matthews** commented on their shared vision for the promise of this extended learning community that encompasses the two colleges, the National Parks facilities, and those of our other non-formal partners. Dean Shanley added that our collective experience with field-based instruction at parks, museums, zoos and other institutions has demonstrated the power of field-based instruction to increase student commitment and motivation as well as provide professional development opportunities for teachers. With the opening of the National Parks of New York Harbor Education Center, students in the School of Education will have access to a state-of-the-art teaching and learning environment; students of natural science will have access to National Parks wildlife areas for environmental research and field study, and students of the social sciences will have field sites that bring history to life.

Program Updates

Hands Across the Earth: The GLOBE Collaboration

Stanley Wolfe and **Leah Sarasohn**, instructors, childhood science and environmental education

Students in instructors **Stanley Wolfe's** and **Leah Sarasohn's** environmental science education classes are getting the chance to experience collaboration on a global scale through the GLOBE program, an international school-based science program sponsored by NASA and the National Science Foundation. GLOBE links more than a million students in 12,000 schools in 105 countries with 20,000 teachers in an array of projects involving data-gathering and analysis, thus creating a tremendous online database available to students and researchers worldwide under the broad categories of atmosphere, soil, water, and land cover/biology. Students in collaborating schools post their findings at the interactive Globe website (www.globe.gov), where they can create maps and graphs and have their data validated by participating GLOBE Scientists. Projects are listed and schools are invited to join at any stage. In addition to world-wide research projects, the GLOBE program provides support for teachers through professional development workshops, teacher's guides, videos and a help desk.

Characterized by Nobel Laureate Dr. Leon Lederman as the "quintessentially ideal program for involving kids in science," the GLOBE program aims to help teachers meet emerging standards for science and math achievement through a hands-on, scientific inquiry-based approach that teaches science as process as well as content and encourages young learners to question. The School of Education looks forward to hearing more from Wolfe and Sarasohn's GLOBE students.

Strengthening the Backbone of Mathematics Education: The MILE program

Laurie Rubel, assistant professor, adolescence mathematics education and **Betina Zolkower**, assistant professor, childhood mathematics education

Brooklyn College's School of Education will embark on the second year of the Mathematics Institute for Leadership in Education in August 2005. This two-year program, designed and directed by assistant professors **Laurie Rubel** and **Betina Zolkower**, is for mathematics teachers interested in focusing on mathematical knowledge, instruction, curriculum design, and leadership. Seventeen teachers participated in the program, all of whom are recent or upcoming graduates from the Brooklyn College's Adolescence/Middle Childhood Masters Program in Mathematics Education. Most of the participants teach mathematics in Brooklyn public schools, representing the neighborhoods of Crown Heights, Red Hook, Canarsie, Bedford-Stuyvesant, East New York, Flatbush, and Sunset Park.

By strengthening mathematical knowledge and pedagogical expertise, MILE seeks to prepare teachers to become valuable mathematics education resources for their schools by creating learning experiences in their classrooms geared toward a diverse range of students. The program also prepares teachers to participate in a 4-semester graduate-level seminar/practicum ("m Seminar") that prepares teachers for broader leadership responsibilities.

In the first summer, the teachers worked on their mathematical and pedagogical content knowledge of rational numbers, algebra, and discrete mathematics. They explored student work on problems in these areas, addressing the most common errors, confusions, and misunderstandings as well as various ways to share student-generated solutions to math problems. Participants brainstormed topics for lessons and instructional sequences that would provide opportunities for students to develop a critical attitude towards the uses (and misuses) of mathematics in various social arenas.

In line with the School of Education's *Conceptual Framework*, the theme of social justice is included within the broader scope of critical mathematical literacy. In the Brooklyn College MILE program, participants read and discussed research articles on this topic and explored math activities and problems related to social justice. Among the mathematics for social justice activities were a critical examination of data relating the death penalty to the race of the defendant and victim, and construction of a physical model of the distribution of wealth throughout the world. Participants also looked comparatively at past and present apportionment methods used for national elections in the U. S. and designed a map of New York City showing average income differences by area.

During the academic year, participants will work on transforming an aspect of their practice, at the classroom or the school level or both, based on a chosen area of their teaching. For example, some participants may elect to develop a curricular unit that addresses mathematics and social justice; others may focus on specific strategies for the sharing and discussion of student work during their mathematics lessons; others may focus on forming a school-based, teacher-led study group. The MILE group will meet twice during the upcoming year for participants to share their progress.

The Brooklyn MILE Program is funded by the MetroMath Center for Learning and Teaching, National Science Foundation-funded partnership of Rutgers University, The State University of New Jersey in New Brunswick and Newark, the University of Pennsylvania, the City University of New York (CUNY), the CUNY Graduate Center, and the school districts of New York City, Philadelphia, Newark, and Plainfield (NJ). Parallel MetroMath MILE Programs took place in Newark, Philadelphia, and Manhattan.

Calling all Future Scientists: Brooklyn Outreach for Science Careers (BOSC)

Eleanor Miele, assistant professor and Program head: childhood science and environmental education; Middle childhood science education

The Brooklyn College departments of Physics, Geology, and Education and the Interdepartmental Program in Environmental Studies have collaborated to create an innovative program to redirect students to majors in under-enrolled science majors. Supported by a five-year, \$999,986.00 grant from the National Science Foundation, Outreach for Science Careers (BOSC) will offer a four-year program in support of STEM majors in Physics, Earth Science, and Environmental Studies. Participants will be selected from among entering freshmen who have performed well in high school mathematics and science but have not expressed any interest in majoring in STEM fields. The program provides a summer bridge program to develop quantitative reasoning and study skills and to expose students to career opportunities in physical-science related, socially rewarding professions. It continues in the freshman year with activity-based instruction in physics, block-programming in other coursework and Peer-led Team Learning (PLTL) support in the context of a science Learning Community. Summer internships will provide guided experience with research in years one, two and three. Block programming continues for years 2-4, but participants are weaned from formal support. We project that 50% of entering participants will ultimately graduate as majors in the physical sciences identified above, increasing graduation rates in these areas by a factor of five.

The intellectual merit of Brooklyn Outreach for Science Careers is in testing a model for increasing STEM majors in physical sciences including physics, Earth sciences and environmental studies by redirection of qualified students who have not expressed interest in a STEM major. This project is based upon the hypothesis that if entering college students are made aware of the variety of rewarding careers available to STEM graduates they can be induced to enter STEM majors in the physical sciences. A second hypothesis is that activity-based instruction supported by Peer-led Team Learning will help retain these redirected students. A third hypothesis is that a summer bridge program will ease the transition to the critical first year of college-level science study and contribute to success among redirected students. A fourth hypothesis is that a learning environment that is supportive both socially and academically will contribute to retention of these redirected students in STEM majors. A final hypothesis is that such a program can become self-sustaining in a comprehensive publicly-supported urban institution.

The project's broader impact will be to develop and test a prototype for redirection of qualified college students into majors in physical sciences that can be replicated in other large urban colleges. Locally, the borough's young people will be made aware of, and provided with an avenue to enter a broader range of financially and socially rewarding careers. The project will also increase the number of well-trained local high school science teachers, which should positively impact the pipeline of qualified STEM majors from the largely minority area high schools in the future.

Teacher Renewal for Urban Science Teaching (TRUST)

The TRUST program, developed by **Eleanor Miele**, and **Wayne Powell**, assistant professor of geology; in collaboration with the American Museum of Natural History (AMNH) and Lehman College, received its second year of funding from the National Science Foundation. The "Teacher Renewal for Urban Science Teaching" program is a four-year professional development project that joins the resources of the American Museum of Natural History with the teacher education programs at Brooklyn and Lehman Colleges (CUNY). The program is offered to science education students seeking certification in earth science or certified teachers seeking dual certification in earth science and includes courses, summer institutes on campus or in the field, lecture series, study groups, museum resources, and stipends. For more information, contact Prof. Miele at emiele@brooklyn.cuny.edu.

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Deborah A. Shanley, Dean
Wilda Gallagher, Editor

Please send submissions and news to:

The Chalkboard
School of Education, Brooklyn College
2900 Bedford Avenue
Brooklyn, NY 11210

e-mail to: wildag@brooklyn.cuny.edu