

TEACHER ENVIRONMENTAL EDUCATION PREPARATION IV

Twenty-seven environmental educators from universities, government agencies and non-profit organizations participated in Teacher Environmental Education Preparation IV (TEEP IV) on December 12th 2019 at New York University.

MORNING PRESENTATIONS

During the first phase of the morning session speakers from Brooklyn College, NYU and Queens College gave presentations on the environmental education aspects of their respective colleges' teacher preparation programs. Dr. Eleanor Miele highlighted the basic environmental science course required of all Brooklyn College undergraduate candidates for a preK-6 teaching certificate in New York State. It would be wonderful if everyone throughout the State seeking an elementary school teaching certificate had to take such a course. She also outlined environmental courses and electives offered to those seeking an M.A. in the Earth and space sciences.

Dr. Rebecca Light spoke about the incorporation of access to non-formal settings into the training of pre-service early childhood teacher education candidates at NYU. Once exposed to the value of such experiences for their prospective pre-k-2 students, teacher graduates from Dr. Light's program will hopefully include class visits to non-formal venues including outdoor areas, in their teaching.

Peter Schmidt, Assistant Director of the GLOBE NY Metro Program at Queens College, described how the GLOBE Program is utilized in the preparation of all secondary school teacher candidates at Queens College. GLOBE is a k-12 program to improve science education by involving students and their teachers in world-wide research examining global change. GLOBE trains teachers to provide authentic inquiry based science education for their students. (www.qc.cuny.edu/Academics/Degree/DMNS/sees/GLOBE)

While this is encouraging, at the secondary school level environmental education has been dropped from the elementary school teacher training program at Queens College for reasons that are not clear.

The second phase of the morning session contained the following presentations:

Drs. Shakila Merchant and Tarendra Lakhankar of the City College NOAA Center for Earth Systems Science and Remote Sensing Technologies (CREST), on "Weather Stations in Schools" as a means of teaching about climate change;

The ongoing effort to establish an environmental education clearinghouse for teachers and non-formal educators by River DiLeo of EEAC;

Planning for a climate change education conference by Sarah Pidgeon of Solar One and EEAC;

The NYC DOE program to install solar collectors on school buildings by Christine Johnson of DOE, Division of School Facilities.

Workshop attendees were excited when Shakila Merchant and Tarendra Lakhandran of City College offered the college's facilities as a place to hold the climate education conference.

Some 45 schools currently have solar PV systems and over 300 are currently in the pipeline to receive a system. The average system provides 20% of a school's electricity; in some schools as much as 50% of electricity is provided.

AFTERNOON DISCUSSION GROUPS

The afternoon session consisted of four concurrent discussion groups which were intended to review the highlights of the morning talks and recommend next steps in each area: teacher preparation in environmental education, plans for a climate change education conference for teachers and non-formal educators, weather stations for schools and the role of sustainability coordinators in schools (speaker cancelled morning presentation due to family illness).

Climate Change Education Conference for Teachers and Non-formal Educators

The climate change education conference discussion group developed strategies for moving the conference planning process forward. With respect to outreach the group recommended looking for other non-profit partners who can reach teachers. Specifically this means connecting to organizations and individuals in the health, social justice, civics and after-school fields.

Civics group outreach should also include communicating with groups such as "Civics For All" (CFA) who can help us with eliciting participation in the conference and with facilitating workshops. Greg Borman of DOE will contact CFA.

The group then tackled logistics recommending a \$25-35 charge which would include food for attendees. We would endeavor to secure a NYC DOE co-sponsorship of the conference, offer a number of scholarships and reduce the conference fee for EEAC members.

The group discussed conference content. All agreed that workshops should be hands-on and/or interactive, should be aligned with curriculum content and offer some networking events during and after the conference such as a happy hour, film screening and casual events. A Facebook group will be set up ahead of time and people should enroll in it.

There was consent that an expo be a feature of the gathering with a raffle with \$80 fees for profit making organizations and \$25 for non-profits.

Workshop structure was reviewed and there was general agreement that there would be about 30 workshops total divided between two hour and one hour sessions. There would be a need for 10 classrooms. We agreed to think about offering strands such as a policy strand and a practices track. As stated earlier City College may be able to provide the space at little or no charge.

Teacher Preparation in Environmental Education

The discussion group on teacher preparation in environmental education (EE) focused on expansion within the City University of New York (CUNY). They identified a few basic obstacles that have prevented more integration of EE into teacher prep. at CUNY:

*Existing environmental courses are often not accepted by school faculty and/or administration as fulfilling science requirements, making it difficult for colleges to include those courses in teacher certification packages;

*Added to the previous issue is the anxiety that many prospective teachers feel over taking science courses causing

them to take as limited and unchallenging a science menu as possible;

*Often EE programs do not continue because faculty who spearheaded them have retired and new staff have other areas of focus and expertise;

*Often EE courses are more theory than practice- there is not enough application of theory.

The group made some recommendations:

+EE and sustainability courses and programs must be institutionalized by making sure they are in the course bulletin and school program descriptions;

+When inviting CUNY faculty to present at conferences and symposia include invitations to their deans as they value opportunities to present;

+Attendees to this discussion group should reach out to invite other CUNY faculty to meetings to discuss teacher prep. in EE, e.g., Amanda Levy has a contact at Medgar Evers who should be brought into the loop. TEEP can play a supporting role;

+This group can make a presentation at the Climate Change Education Conference to be held later in 2020.

The discussion ended on a positive note with Eleanor Miele stating that there is a freshman seminar in sustainability at Brooklyn College and Peter Schmidt offering the information that the GLOBE Program has an introductory course available to all freshmen at Queens College.

Sustainability Education Coordinators

The main takeaway from the Sustainability Coordinator Discussion Group is that the DOE Office of Sustainability will continue to offer and enrich a plethora of support opportunities to sustainability coordinators such as the sustainability project grant, sustainability mentorship program and the Sustainability, Efficiency and Environment Dedication (S.E.E.D.) Certification, which guides schools through action access categories that support measurable progress in sustainability. Schools work towards bronze, silver and gold certificates and DOE

recognition. EEAC will support those efforts in any manner possible.

The Weather Stations in Schools Group

The group reviewed the current status of weather stations in schools and how much future expansion is realistic. Twenty weather stations in schools have been installed across the 5 boroughs of NYC, 19 of which are feeding data to the CUNY server at the CREST Institute at City College.

CUNY CREST plans to install additional sites including on Staten Island and Long Island. To do this the Center needs to find more funding, resources and participants who are willing to spend the time and make the commitment. There is also a need to create teacher ambassadors and leaders who can train incoming teachers to the program and expand the knowledge and pedagogy/curriculum on weather stations and climate. Dedicated instructors and curriculum developers need to be identified to create instructional designs in line with academic standards with a focus on Earth System Sciences and environmental engineering.

The group discussed a role for EEAC/TEEP involving the identification of schools that want weather stations and sources of funding. The preparation of proposals is another area where TEEP may be able to provide assistance.

NEXT STEPS

*The Climate Change Education Planning Group, coordinated by Sarah Pidgeon, Chair of the EEAC Program Committee, is exploring a virtual climate change education conference in 2021.

*TEEP will participate in the Weather Stations in Schools effort as a means of teaching climate change in the NYC schools. Hopefully more schools will be motivated to participate.

*TEEP will support DOE's Sustainability Education Coordinators enrichment projects in any manner possible.

*TEEP will continue to work to create the EE Clearinghouse for teachers and non-formal educators.

*The course and program offerings in teacher preparation at Brooklyn College, Queens College, City College and NYU can be the basis of "best practices" initiatives that should be

presented to all CUNY schools. TEEP will try to move forward with an effort to facilitate "best practices" in teacher prep. in environmental education at CUNY.

Submitted by Mike Zamm
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