Scientists in the Classroom

Kate Heffernan
National Center for
Science Education

NCSE Background

Our Goal: Support educators teaching the science around socially and politically contentious, but scientifically sound topics.

- The National Center for Science Education has been around for over 30 years.
- NCSE started in the early 1980s, working to defend the teaching of evolution in public schools. We have expanded since then to include climate change education.

NCSEteach Background

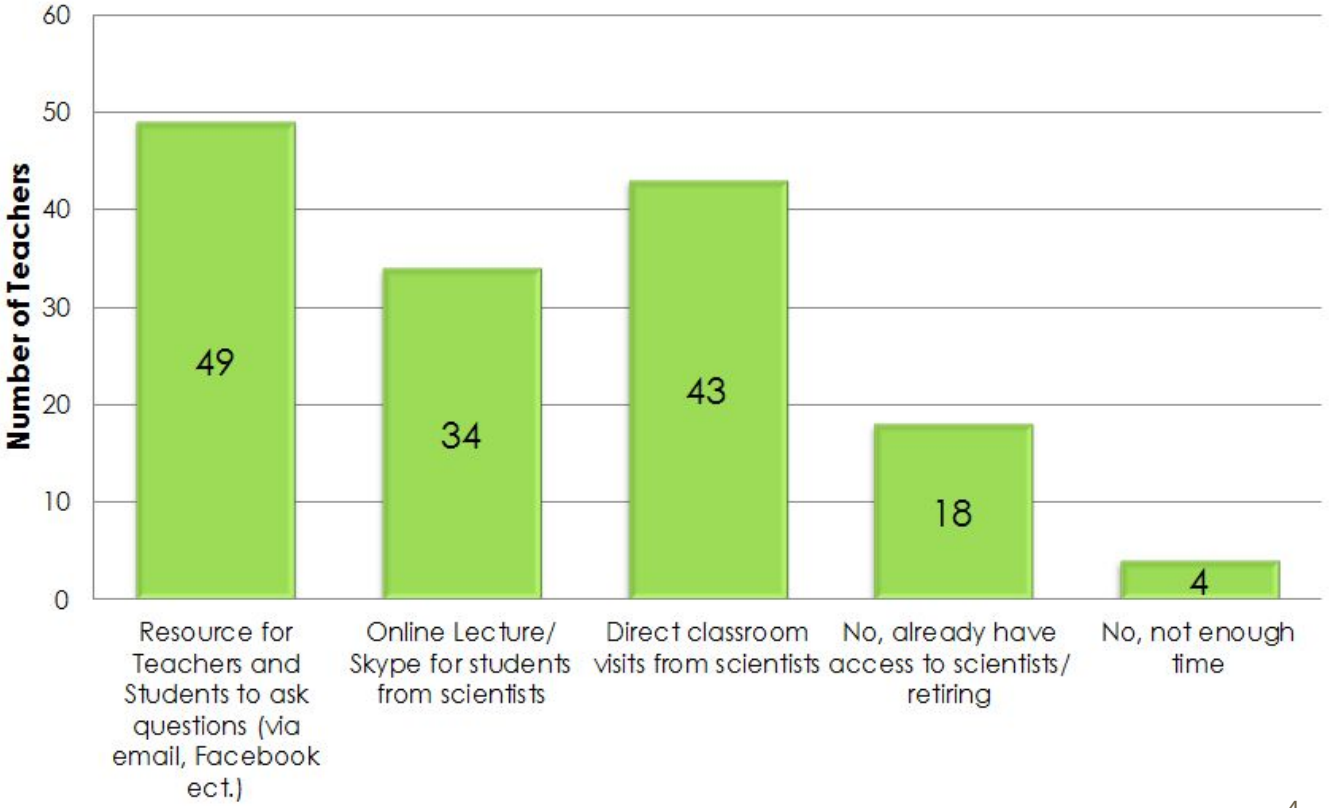
- A more proactive approach by NCSE to directly support climate change and evolution educators.
  - Teachers run into science denial problems the most, and we want to find new ways to help them.
  - A push to provide resources and support for educators to teach the “good stuff”.
- Launched NCSEteach - teacher arm of NCSE in 2015
  - We asked our teacher advisory board what they want from NCSEteach
    - Access to Scientists
    - Vetted Resources
    - Newsletters

SiC Pilot Development: Survey Results

- How can a network of scientists help you and your students?

- Teachers responded positively to both in-classroom scientist visits and online interactions with scientists

- **Scientists in the Classroom was born**



SiC Pilot: Four step process

- Recruitment
- Matchmaking
- Training
- Program Implementation!

SiC Pilot: Recruitment

- Teacher Recruitment
  - Via NCSEteach, our growing teacher network (4,000 and growing)
  - Application process
- Scientist Recruitment
  - Recruited based on where teachers were located
    - Contacted department heads and professors in fields related to evolution and climate change at local universities near participating teachers
    - Contacted Climate Voices and other programs
  - Application process

SiC Pilot: Matchmaking

- Collected data on the scientists and teachers through an application process to make the most effective matches possible
- Scientist-Teacher matches made based on
  - Interests:
    - Subject matter studied by the scientist
    - Subject matter being taught by the teacher
  - Location:
    - Scientists and teachers within a 30 mile radius of each other
- Matches connected via email

SiC Pilot: Training

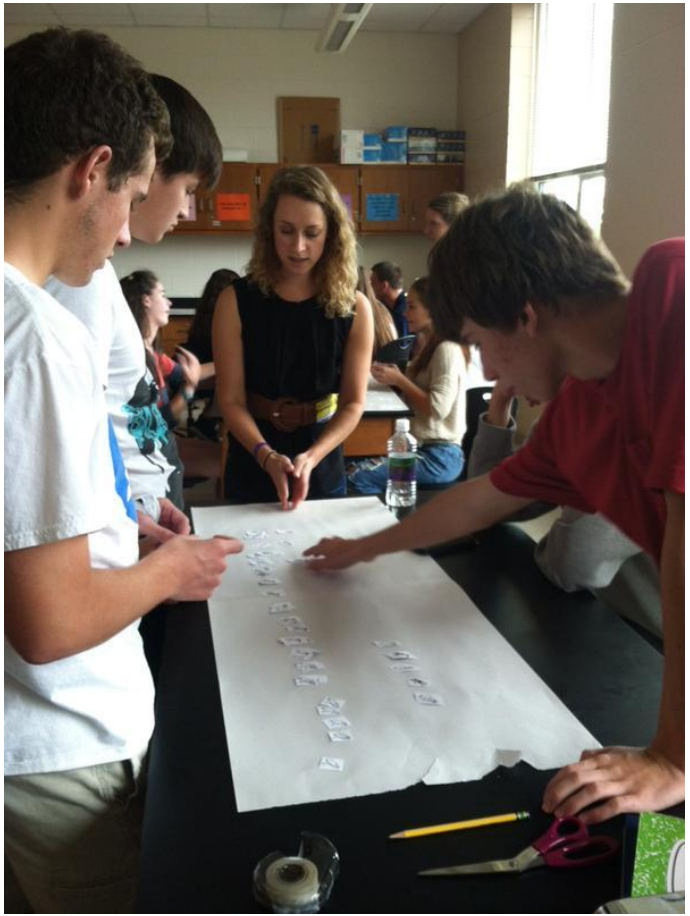
- Webinar at the beginning of the program for the scientists and teachers, respectively.
  - Overview of the program
  - Expectations for the program
  - Common issues in the classroom and how to deal with them effectively
- Challenges with webinar scheduling
- Successes found with recordings of the webinars, participants watching videos later and emailing us questions directly.

SiC Pilot: Program Structure

- Social Media
  - Monthly social media interactions
    - Skype, twitter, Facebook etc.
    - Prompts sent monthly to guide social media discussion
      - ex/ scientist introduction, the effects of climate change and evolution on students' lives, what is the evidence behind climate change/ evolution
- One In-Person Scientist Visit
  - Scientists and teachers collaborate to plan the in-person visit
  - Teacher fully present during the visit, maintaining order in the classroom.
  - Scientists and teachers determine the activity based on the knowledge students already have on a topic and what the teacher wants them to go over with the scientist during the visit.

SiC Pilot: Success Stories

- Climate Change Community Action Plan
- Phylogenetic trees of aquatic bugs activity
- Letter writing to elementary students
- We’re still mid-pilot so there are more to come!



SiC Pilot: Challenges

- Teachers, for the most part, abandoned the social media component.
  - Privacy issues
  - School policy
- Administrative issues getting the scientists into schools
  - Unaccounted for hoops to jump through before being able to visit the classroom.
- A few scientists not responding to emails from teachers
- Timing of the program with evolution and climate change units in schools

Spring Implementation: Solutions

- Eliminate the social media component of the program
  - Scientists can communicate with **the class** via email and optional video conferencing.
- Include a “school visitor policy” component to the teacher application
- Proactive, direct contact with scientists who are not responsive to their teachers.
- Allow for flexibility with the timing of the program
  - If the evolution and/or climate change units are not covered during the Scientists in the Classroom semester, allow for pairs to postpone the program as needed.

Spring Implementation: Recruitment

- Scientists
  - Mass recruitment email started this month
  - Universities, science listservs, Climate Voices, and more
- Teachers
  - NCSEteach
  - **The CLEAN Network!**
  - NABT, NSTA, NAGT and more
  - Museum and Zoo listservs
  - State science teacher organizations
  - Alliance for Climate Education
  - And more..

Scientists in the Classroom Spring Roll Out

- Increase program to 100-150 matches
- Scientists and teachers work collaboratively to plan in-class visits
- Scientists visit the class in-person at least twice throughout the semester-long program.
- The first visit will take place at the beginning of the semester, in which the scientists will tell the story of how they became a scientist, what their research entails, and what their day-to-day life is like as a scientist.
- At the end of the semester, scientists will visit the class again to do an activity or experiment with the students related to either evolution or climate change.

Questions?

Contact Information

Kate Heffernan
Scientists in the Classroom Intern
Heffernan@ncse.com
(510) 601-7203

Minda Berbeco
Programs and Policy Director
Berbeco@ncse.com
(510) 601-7203