Science Education Fellowship

Supporting District Cohorts of Science Teacher Leaders

University of Massachusetts Boston
Montclair State University
Mercy College
Goal

- Let’s change
  - A teacher
Goal

- Let’s change
  - A teacher
  - A school
  - A district
Wipro SEF Program

- Greater Boston Cohort (UMass Boston)
  - 5 districts: Boston, Braintree, Cambridge, Malden and Pembroke

- Northern New Jersey (Montclair State U)
  - 5 districts: Clifton, Kearny, Montclair, Paramus and Orange

- Greater New York (Mercy College)
  - 5 districts: TBD
# Year 1 – Fall (V–CCLS)

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# Year 1 – Spring (H–CCLS) (and PD planning)

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# Year 2 – Fall (V–CCLS)

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# Year 2 – District 1 of 5

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**8 Fellows**
# Year 3 – District 1 of 5

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**12 Fellows**
## Year 4 – District 1 of 5

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Coordinators

- Impetus behind district application
- Partners in all aspects of the program
- Communicate district initiatives to Fellows
- Coordinate work within districts
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- Partners in all aspects of the program
- Communicate district initiatives to Fellows
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- Professional growth opportunity to meet with other coordinators
- Annual planning meeting
Cross Collaboration

- Annual conference with Fellows across regions
  - Lessons learned
  - Sharing of PD plans within districts
  - H–CCLS report outs
  - Feedback on the program to improve for next cohort
Giving meaningful feedback

- Monthly meetings to review videos of each other
- Norm setting
- Warm/cool feedback
Classroom video—8th grade lesson on energy transfer and ecosystems
Sample debrief session
Fall Retreat
Monthly Workshop
Focus for our vertical group—content and pedagogical
NJ Fellows’ reactions

- Renewed interest in different teaching methods or refining existing practices
- Initial anxiety with recording and sharing lessons morphed to appreciation of recording as a means to enhance teaching practice
- Discussions with colleagues lead to practical change in teaching practices
- Shifting understanding of the role of a “teacher leader” as someone who can encourage and scaffold change in their schools.
Greater Boston Teacher Experiences

- Horizontal teams during spring 2014
  - 3–4 teachers
  - Continue networking with teachers from different districts
  - Groups utilize one of the eight Science/Engineering Practices with a specific content or pedagogical focus
Science & Engineering Practices

1) Asking questions (for science) and defining problems (for engineering);
2) Developing and using models;
3) Planning and carrying out investigations;
4) Analyzing and interpreting data;
5) Using mathematics and computational thinking;
6) Constructing explanations (for science) and developing designs (for engineering);
7) Engaging in argument from evidence; and
8) Obtaining, evaluating and communicating information.
Greater Boston Teacher Experiences

Strengths
- Exploring the similarities and differences of science education among different districts
- Opportunity to share out lessons learned from our Vertical teams

Challenges
- Logistical hurdles with transportation, meeting times, etc.
Merits of Working Across Districts

- Familiarity with neighboring districts
- Similar needs and common goals
- Eliminate isolation
- Accomplish more
- Professional Learning Community
Districts’ Common Goals

- Quality Science instruction
- Student learning
- Student achievement
- Interest in STEM
- Teacher leaders
How is Wipro Helping?

- Working in vertical and horizontal groupings
- Reflecting on lessons
- Feedback
- Collaboration
- Professional development
- Teachers as leaders
Year 2 Growth Plans

- Fellow proposes ideas for professional growth based on reflection and dialogue
  - Vision
  - Goal(s)
  - Plan (tasks/timeline/deliverables)
  - Evidence (indicators of success)
  - Needs

- Advisor support throughout the process
Goal:
My primary goal is to improve understanding of chemistry for students of all levels in my Chemistry 1 classes. Some students come in to the class with strong background knowledge of chemistry, whereas others come in with very little. Students' ability to perform mathematical operations varies greatly among 10th graders. Their exposure to student-centered teaching and guided inquiry also varies greatly. Have targeted improvement and progression of learning for all students in my Chemistry 1 class as my goal.
Goal:

I went to the GK-12 conference last year, and I learned about Project Based Learning (PBL) programs in place in Atlanta schools in conjunction with Emory University. I would like to create one case study, based on environmental science issues, for the middle school level, rich with multimedia resources. This case study would accompany the 8th grade Populations & Ecosystems FOSS kit.
Goal: Increase Outdoor and Environmental Education Programs
Develop and implement programs that take students outdoors for scientific study and use as a model to encourage others of the value of outdoor education through an article and conference presentation.

Sub goals: Creating outdoor educational experiences for students, improving grant writing skills, creating partnerships with environmental organizations, dissemination of practice, teacher collaboration and development.
Further Benefits

- Parallel programs
  - Exchange of ideas
  - Community of teachers
- Sustainable model
  - Teacher Leaders
  - Network of teachers
Wipro SEF Contacts

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