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Center of Science and Math in Context, University of Massachusetts Boston

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Wipro Science Education Fellowship Teacher Leadership Program

Center of Science and Math in Context (COSMIC) in partnership with the Boston , Braintree, Cambridge, Malden and Pembroke Public Schools; Montclair State University in partnership with Clifton, Kearney, Montclair, Orange, and Paramus Public Schools; and Mercy College

Summary/Abstract



The WIPRO Science Education Fellowship (SEF) is a 2 year science teacher-leadership program funded by the Wipro Ltd. Wipro committed \$5.1million to COSMIC, over seven-years, to train three (3) cohorts of 180 school teachers, fostering leadership and teaching excellence in science education among K-12 teachers from Greater Boston, Northern New Jersey and Greater New York. Through engagement and collaboration with teams of teachers from different districts, teachers reflect on their own practice and that of their peers through the use of video; they identify opportunities for themselves to take a leadership role within the district, in their building or with their peers; and they identify and pursue opportunities for individual growth through adult learning.

Impacts

The impact on teacher practice in Year 1 of Cohort 1, as reported by the teachers is positive:

- Engaging and collaborating with a vertical team of teachers from different districts has been invaluable
- Teachers are using the cross-district collaboration to look at their own practice and to make changes

2nd grade teacher, Cambridge Public schools, Massachusetts

“The feedback offered [in my Vertical Collaborative Coaching and Learning Science Team (VCCLS)] was valuable, and I learned not only from what was noticed about my own teaching by my peers, but I have tried things they do in their classrooms since watching their videos.”

High School Biology Teacher, Boston Public Schools, Massachusetts

“My role as presenting teacher and observer allowed me to think about my practice in detail that I haven’t been forced to do in a long time. The most remarkable part of the experience was the vertical aspect of the groups. Being a High School teacher, I found it very refreshing to see the excitement and energy that students have in the lower grades when discovering science! Working with Teachers from other districts also proved to be valuable in respect to seeing how the discipline of science is treated and supported.”

Next Steps

We will evaluate the model and implementation of the model, and its outcomes and impacts. The formative and summative findings will inform the program development and provide important documentation of lessons learned and changes in fellows’ work. The questions will include:

The model and implementation of the model:

- How effectively does the program meet its goals?
- What is the role and benefit of using videotape for all SEF participants?
- How does this model build on aspects and goals of the key BSP strategies?
- How does the model scale across sites?

The impacts/ outcomes:

- What do the fellows gain as a result of their participation in the program? In what ways/how do the program activities increase their capacities to serve as Master Teachers?
- What are the impacts of the fellows on other teachers, their students, their school and their district?

Goals and Objectives of Wipro SEF



- By engaging teacher fellows in professional development with their lead university, create and support a corps of 60 K-12 science teacher leaders over 7 years in each of the Greater Boston, Northern New Jersey and Greater New York regions for a total of 180 teachers
- To institute a culture of active and reflective instruction
- To improve science teacher quality through vertical alignment, the **Collaborative Coaching and Learning Science (CCLS)** model, and professional development in order to increase student achievement in science
- To successfully scale the BSPS SEF model to partner universities and their surrounding communities



Approaches and Methods

The Wipro Science Education Fellowship approach consists of three core programmatic aspects:

Teacher Reflection of Practice: In year 1 of the program, the Teaching Fellows are involved in structured inquiry into their own teaching and growth using tools developed through educational research. Fellows tape themselves teaching a similar concept across grade levels. The meet in *Collaborative Coaching and Learning Science (CCLS)* teams to focus on analysis of those videos and other artifacts from the classroom. Use of the **CCLS** protocol helps to build trust among teachers so that they can establish the role of “critical friend” as they reflect on each other’s lessons.

Teacher Leadership from the Classroom: In year 2 of the program, Fellows will be asked to identify opportunities for themselves to take a leadership role within the district, in their building or with their peers. To facilitate this, fellows will read research based literature on educational leadership in science education and work with experts in adult learning and leadership in order to develop the skills that will allow them to help other teachers to become leaders, to be able to motivate other teachers, and to bring other teachers along the professional continuum.

Individual Growth through Adult Learning: In Year 2 of the program each fellow will also identify and pursue opportunities for growth based on their own professional growth plans.

Additional Information



The Wipro Science Education Fellowship is a program sponsored by Wipro Ltd (NYSE:WIT), (www.wipro.com) a global information technology, consulting and outsourcing company and based upon the success of the Boston Science Partnership’s Science Education Fellowship (BSPS SEF) (www.bostonscience.org), which was supported through the National Science Foundation (NSF) from 2009 to 2012 and was a partnership between The Center for STEM Education at Northeastern, COSMIC (UMB), and The Boston Public Schools.

Partnership Information

Wipro SEF is in the Greater Boston region through a partnership with UMass Boston’s  and the public school districts of Boston, Braintree, Cambridge, Malden, and Pembroke; in Northern New Jersey through a partnership with , Montclair University and the public school districts of Clifton, Montclair, Orange, Kearny, and Paramus; and in greater New York through a partnership with , Mercy College and 5 (soon-to-be-identified) school districts from the Westchester and Rockland counties. For more information contact Roxane.Johnsondelear@umb.edu. or visit www.umb.edu/cosmic/projects