UNIVERSITY OF MASSACHUSETTS BOSTON
CENTER OF SCIENCE AND MATH IN CONTEXT (COSMIC)

WIPRO SEF

YEAR 9
QUARTERLY REPORT
September 2021

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INTRODUCTION

Wipro SEF Program Overview

The Wipro Science Education Fellowship (SEF) is a four-year STEM district transformation program. Cohorts of K-12 teachers participate in a rolling two-year professional development experience designed to improve individual teacher practice, foster teacher leadership opportunities, and create a district corps of teacher leaders. Professional development for fellows is led by a university in partnership with the local school district. The program was developed at the Center of Science and Mathematics in Context (COSMIC) at UMass Boston and is now in 7 universities and 35 partner school districts throughout the United States.

Year One: Thinking About Teaching

› Monthly Fellows Meetings

Fellows from approximately five different school districts gather once a month at the host university to engage in professional development in the areas of instruction, reflective practice, adult learning, and leadership.

› Collaborative Coaching and Learning of Science (CCLS) groups

Fellows engage in research-based, structured inquiry into their own teaching and growth. Fellows meet in CCLS teams to share videos of themselves teaching in their classroom as well as sharing student work to learn from each other, to reflect on science content and pedagogy, and to improve their teaching of science. These small professional learning communities determine their own schedules, courses of study, and the lessons they will all be videotaping and observing with support and guidance from their university partner.

Year Two: Implementing the Individualized Growth Plan System (GPS)

Each fellow develops and carries out an individualized growth plan that has a clear vision and identifiable benchmarks. The 100-hour plan focuses on ways to improve the teacher's own instruction and leadership and is developed in collaboration with a university advisor, the district science coordinator and the fellow's principal. The yearlong project includes the fellow leading professional development for other teachers in their school district and culminates with a report and presentation of a poster session at the end of year conference.

A District Corps of Teacher Leaders

Over a rollout of three successive cohorts of fellows, each participating school district will have as many as 12 fellows who have participated in the extensive 2-year Wipro SEF program. These fellows serve as a leadership group for district science and engineering initiatives.

HOW TO READ THIS REPORT

This report captures the work of the Wipro SEF program from July 2021 thru September 2021, and an annual evaluation summary. During this time, all sites met the challenges of maintaining and adapting the Wipro SEF program during the Covid-19 pandemic. The chart below summarizes the activities of this quarter and the activities that will take place in this school year. Each site's report includes an overview of the activities that have taken place this quarter. Use the table of contents to locate a site's report. For a quick look at how the program is influencing Wipro Fellows please refer to the vignettes in the sections entitled "Featured Fellows." Throughout each site's report, you will find remarkable stories of Wipro Fellows supporting their students as teachers and supporting other teachers as teacher leaders. This report also includes a summary of the annual end of the year conference for that Wipro SEF program.

Year	CA Stanford University	FL University of South Florida	MA University of Massachusetts Boston	MO University of Missouri	NJ Montclair State University	NY Mercy College	TX University of North Texas Dallas
2019-2020	Year 2	Year 2	Phase II & Lead Institution	Year 2	Phase II	Phase II	Year 3
2020-2021	Year 3	Year 3	Phase II & Lead Institution	Year 3	(Funding ended)	Phase II	Year 4
2021-2022	Year 4	Year 4	Phase II & Lead Institution	Year 4	Funding ended	Phase II	Phase II

Table of Wipro SEF sites

	Cohort 1	*Cohort 2*	*Cohort 3*	*Phase II*
Year 0	Recruitment			
Year 1	Collaborative coaching and learning in Science (CCLS)	Recruitment		
Year 2	Growth Plan System (GPS)	CCLS	Recruitment	
Year 3		GPS	CCLS	
Year 4			GPS	
Phase II				Activities proposed by individual sites.

Key to yearly activities

UMass Boston Lead Institution- Building and Supporting a Network of Wipro SEF sites

Wipro Book

The UMass team is leading the development of a book that will not only highlight the successes of the Wipro SEF program but also provide information for university, school district and teacher leaders on how to implement the program at their site. The creation of a book and accompanying website has been a topic of discussion by the 7 site Wipro SEF network for some time. Arthur Eisenkraft created an outline for the project and IHE site leaders have volunteered to write a chapter. A tentative table of contents is shown below:

Chapter 1 - Vision of Wipro SEF
Chapter 2 - What is Teacher Leadership?
Chapter 3 - V-CCLS
Chapter 4 - H-CCLS
Chapter 5 - GPS
Chapter 6 - DSC roles
Chapter 7 - IHE roles
Chapter 8 - Getting Started - Operating Manual - Join the Community

Providing Wipro SEF Fellows with National Opportunities to Lead

One of the goals of the Wipro SEF program is to provide teachers with opportunities to develop their leadership skills. Through their 2 years in the program, they are often called upon to lead in their districts and in their state. Dr. Eisenkraft will work with 4 fellows to prepare them to present their work on a national stage as part of The STEM Teacher Leadership Network (STEMLnet) on November 10. Each active Wipro site was asked to nominate several fellows to present and from this group 4 fellows were selected.

The STEM Teacher Leadership Network (STEMTLnet) is an interactive learning community and collegial network where STEM teacher leaders and aspiring teacher leaders can share their paths, challenges, strategies, lessons learned, and resources with each other. The professional learning community provides resources, networking tools, and events throughout the year to help members explore topics related to STEM teacher leadership in depth.
https://www.terc.edu/projects/the-stem-teacher-leadership-network-stemtlnet/

Wipro SEF STEMLnet Presenters		
Wipro SEF Site	Fellow	Presentation
Texas	Maria Louisa Soto	Asking Questions and defining problems
California	Amanda Lim	Developing and Using Models
Florida	Ileana Bermudez Luna	Engaging in argument from evidence
Missouri	Katy Canote	Planning and carrying out investigations

The Fellows met with Dr. Eisenkraft via zoom and together created the workshop agenda.

	STEMLnet Presentation November 10, 2021	
5 minutes	Introduction of Wipro SEF and H-CCLS	Arthur Eisenkraft
40 minutes	Each Fellow presents for 10 minutes followed by 1-minute of warm/cool feedback by participants.	
10 minutes	Group discussion a) Protocols – value, importance, challenges? b) Value of working with teachers from other districts c) Why was focusing on one Practice for the semester beneficial in contrast to all 8 Practices in one 3-hour workshop? d) How has your relationship with your Science Coordinator and/or your university professor evolved during the Wipro SEF program? What was their role? e) Gains from Wipro SEF involvement	Amanda Lim Ileana Bermudez Luna Katy Canote Maria Louisa Soto Each fellow will lead a section of the discussion.
15 minutes	Small group discussions Participants will move into small groups to discuss: a) Could this H-CCLS model work with your teachers/district? b) What do you see as challenges and opportunities? c) Compare and contrast the H-CCLS model with Lesson Study d) What changes would you make to the model and why?	Small groups will report out to the entire group
2 minutes	Final remarks	Arthur Eisenkraft

CALIFORNIA- STANFORD UNIVERSITY

Cohort 3 GPS progress

In June 2021, Cohort 3 fellows were introduced to the GPS Projects through participating in the End of Year Conference as well as in their last whole group professional learning session. The Wipro CA Team asked fellows to think about GPS project ideas over the summer. During the fall Kick-Off Session in September 2021, fellows brainstormed ideas for a possible project, spent time writing about their personal goals, and meeting with their district teams to discuss district science goals. Fellows were then given a GPS Project Idea Template (see link below) and will be meeting with their mentor in the coming weeks. Ideally, all fellows will have a final project idea by early October. They were also introduced to a GPS Benchmarks Tracker

GPS Project Idea Template (LINK)
GPS Benchmarks Tracker 2021-2022 (LINK)

Cohort 3 GPS Topics

CA Cohort 3 Wipro fellows are currently making decisions about their GPS project ideas, but these ideas are not yet finalized.

Fellows Name	**Personal Goal (1-2 sentences)**	**District Goal (1-2 sentences)**	**Advisor (s)**
Chelsea Alvarez	TBD	TBD	TBD
Robert Coverdell-Meneses	TBD	TBD	TBD
Mithril Cox	TBD	TBD	TBD
Jennifer DeGraaff	TBD	TBD	TBD
Jaclyn Diaz	TBD	TBD	TBD
Thomas Fulwiler	TBD	TBD	TBD
Nicholas Guttadauro	TBD	TBD	TBD

Sarah Huggins	TBD	TBD	TBD
Alex Johnson	TBD	TBD	TBD
Victoria Lanterman	TBD	TBD	TBD
Amanda Lim	TBD	TBD	TBD
Yichang Liu	TBD	TBD	TBD
Julie McKinley Reed	TBD	TBD	TBD
Brittney O'Brien	TBD	TBD	TBD
Jessica Paulsen	TBD	TBD	TBD
Margaret Poor	TBD	TBD	TBD
Stacey Rader	TBD	TBD	TBD
Elizabeth Reiff	TBD	TBD	TBD
Laura Spanier	TBD	TBD	TBD
Emily Stollmeyer	TBD	TBD	TBD
Adrian Tamayo	TBD	TBD	TBD
Sierra Vance	TBD	TBD	TBD
Gargi Verma	TBD	TBD	TBD
Stephanie Yue	TBD	TBD	TBD

Upcoming meetings with Cohort 3 fellows

Meeting Date	**Goal(s) of Meeting**	**Zoom Links for Virtual Sessions**
Sept 11, 9am-12pm	Kick-Off Session: Slide Deck ● Science Teaching and Learning- Reflecting on Year 1 ● Teacher Leadership: Exploring Definitions of Teacher Leadership ● GPS Projects	link
Oct 14, 4-5:30pm		link

Nov 18, 4-5:30pm	The following topics will be addressed throughout the school year during the professional learning sessions: Science Teacher Leadership: - Coaching and Giving feedback on NGSS practices in particular - Multilingual Learners and NGSS Leading for Equity - connect this with district goals that they described - Multilingual Learners Other Leadership Topics - How do we help/influence others in our school/district? - Adaptive & Technical Challenges - Understanding Change - Stages of Group Development - Practices of Leadership- Kouzes and Posner - Considering Authority - Practices of Leadership- Heifetz, etc.	link
Dec 11, 9am-2:30pm		tentatively in-person
Jan 20, 4-5:30pm		link
Feb 12, 9am-2:30pm		tentatively in-person
Mar 24, 4-5:30pm		link
Apr 23, 9am-2:30pm		tentatively in-person
May 19, 4-5:30pm		link
June 16, 4-5:30pm		tentatively in-person

Cohort 3 meetings with Advisors

Cohort 3 fellows have been assigned coaches from the beginning of their participation in the first year of the program. Coaches will continue supporting their assigned fellows as their GPS Mentors this coming school year. The only exception to this will be fellows who will be assigned to our newest member of the CSET Wipro Team, Preetha Menon. Preetha has expertise with multilingual learners and fellows who choose projects related to ELL/multilingual students will benefit most from her mentorship.

Mentors will meet once a month with their assigned fellows and will support their GPS progress following this GPS Benchmarks document (LINK).

District Science Coordinators

Meetings with Cohort 3 Fellows

All meetings will take place virtually. The following dates have been scheduled for District Coordinator/IHE Meeting:

- 9/1/21
- 11/10/21
- 1/19/22

- 3/23/22
- 5/25/22

The CA Team tries, as much as possible, to gather all District Coordinators at the same time. However, because of their busy schedules, the team schedules make-up sessions for any District Coordinators who are unable to attend any of the meetings listed above.

Shaping the GPS year

District Coordinators from each of the districts have varying levels of involvement with their Wipro Fellows. Some are very hands-on and will check-in with their fellows for every part of the Wipro Program. Others are available for support but do regularly reach out to their fellows. Cohort 3 Fellows have been encouraged to share their GPS project ideas with their District Coordinators and seek support if appropriate.

Cohort 1& 2 Fellows

District Coordinators, in their varying roles in their districts, continue to interact with Wipro Fellows regularly as part of their school district responsibilities. Currently, there is no formal expectation for them to work with their Cohort 1 and Cohort 2 fellows. However, many fellows are involved with district initiatives, so they have had continuous interactions with their Wipro District Coordinators as they continue to take on leadership roles and responsibilities.

Cohort 2 Portfolios

Almost all portfolios have been submitted (see table below with links). Several projects are still being completed, but their mentors have been in touch with them and have worked out a reasonable timeline for completion.

Portfolio Feedback

The CA Wipro Leadership Team continues to review the portfolios and feedback to each fellow individually via email. All fellows will receive their feedback sometime in the next month.

Portfolios that stood out for the CA team

Cohort 2 Fellow	Presentation	Poster	Portfolio
Carol Lima	Link	Link	Wix Site
Sohum Bhatt	Link	Link	Wix Site
Joanne Endo *group project completed with Satomi	Link	Link	Wix Site
Satomi Fujikawa *group project completed with Joanne	Link	Link	Wix Site

It was difficult to choose exemplar GPS portfolios because the GPS projects were all unique in different ways. The four samples above are a nice cross-section of the kinds of GPS portfolios that were completed for CA Cohort 2.

CA Cohort 2 GPS Projects (2020-2021)

Name	Presentation	Poster	Portfolio
Eric Armann	Link	Link	Not complete yet
Sohum Bhatt	Link	Link	Wix Site
Krista Berry	Link	Link	Wix Site
Margaret Dominguez	Link	Link	Wix Site
Melissa Duran	Link	Link	Wix Site
Joanne Endo	Link	Link	Wix Site
Satomi Fujikawa	Link	Link	Wix Site

Allison Houghton	Link	Link	Wix Site
Theresa Lester	Link	Link	Not complete yet
Jennifer Lim	Link	Link	Wix Site
Carol Lima	Link	Link	Wix Site
Kelsey Magaña	Not available	Link	Wix Site
Andrea Martinez	Link	Link	Wix Site
Gina Maschio	Link	Link	Wix Site
Jessica Overby	Link	Link	Completed *(private only- does not want it published)*
Vicente Patino	Link	Link	Wix Site
Anu Sarkar	Link	Link	Not complete yet
Antony Torres	Link	Link	Wix Site
Roy Walton	Link	Link	Wix Site

Reflections on the End of the Year Conference

The End of Year Conference was a wonderful experience for all fellows because it gave them a chance to interact with fellows from across the country. The team has received positive feedback and thought that it was well-worth their time and effort.

As far as the planning and preparation for the conference, much of the work was done by Tammy Moriarty and Jennifer Ray. The preparation work took much more time and effort than we had anticipated. The CA Wipro Leadership Team does not necessarily have suggestions for improvement because the team feels that this was the best kind of conference, we could have offered given the situation with the Covid-19 pandemic.

Cohort 1& 2 Fellows

The CA Wipro Leadership Team will continue to stay in touch with Cohort 1 and Cohort 2 fellows with virtual coffee hours and email check-ins. There is no formal plan yet to include Cohort 1 and Cohort 2 in other ways, although the team may decide to do so as we progress through the year.

Featured Fellows

Joanne Endo
Grade 5
Moreland School District

On my first day of the Wipro Science Education Fellowship, I knew it would be an unforgettable experience: I was put into a group of strangers and told to experiment with termites.

This, of course, was just an introduction to the engaging and illuminating discussions and activities we would partake in over the course of the next two years. My group of strangers was revealed as my V-CCLS team, and although I was nervous about sharing the video of my lesson first, it quickly became a positive exercise that affirmed our shared triumphs and universal teaching struggles. We bonded as we learned about the importance of conceptual flow and finding the story behind the science.

Moving on to the H-CCLS portion of the year was not just a shift in the program, it was also accompanied by the statewide school shut-down of schools due to the pandemic. As teachers, we were faced with the conundrum of what education would look like when we were all at home. Through the unfolding months of health crises, racial tension, and political clashes, it quickly became clear that accepting the status quo was no longer an option.

The support of the Wipro SEF team and colleagues bolstered my commitment to developing my science teaching. Although participating in an extracurricular program could be seen as just one more burden during an already challenging year, this fellowship was encouraging and energizing. It helped me realize that no matter the circumstances, I can continue to improve myself and my teaching. Although it was bittersweet to reach the final conference after two years of hard work, seeing the dedication and drive of teachers across the country showed me that this was not the end but just the beginning of our shared journey.

Now we are looking to the future, when we will hopefully be back in the classroom. We are questioning old habits and traditions and contemplating how we can better prepare future generations for the issues they will face. The phrase I often hear is “the new normal,” and through this program, I know that I am one step closer to preparing a better normal for my students.

Vicente Patiño
Grade 7-8
San Francisco Unified School District

WIPRO was some of the best professional development I have had as a science teacher – and we go through a lot!

The WIPRO Science Education Fellowship was a lot of things – a forum to have both feet in the realms of being a teacher and reading and doing research (which is a narrow overlap), an opportunity to lead my site in the development of standards-based science assessments, a chance to discover the effectiveness of structured protocols when reviewing feedback, and – my favorite – seeing other teacher's classrooms!

It's the last I have to thank for the smooth transition I have had this return from the pandemic. Very rarely do we teachers have the time and bandwidth to see what practices beside our own look like. That is unfortunate. When other teachers get together to watch videos of their classroom or to sit in on live, virtual sessions of their practice as we did in WIPRO, you shine a bright Arclight on the blind spots of your own practice. Pandemic or no, we watched as teachers flexed their creativity muscles to teach science in the best way they knew how.

For me, the defining moment of WIPRO was at the end of our time together, when we set off to do our GPS projects. Mine was to send and grade some of the standards-based assessments that I worked with my partner teacher to create. Because we were in the pandemic, I ended up mailing the work to my students, complete with a self-addressed return envelope. When the assignments came streaming back, and I was able to use rubrics informed by my work with WIPRO and share my work with my WIPRO colleagues, it was a moment of accomplishment that is difficult to describe. That moment of accomplishment was heightened by the fact that I was able to share my work with WIPRO fellows nationwide. I owe a debt of gratitude to WIPRO and the folks who worked with them. I hope others who enter WIPRO's umbrella will benefit just as greatly.

Yearly Reflection

The CA Wipro Team felt that the following areas were our successes:

- Our contribution to the End of Year Conference organization, including the brochure

- The monthly professional learning meetings have continued to be thoughtfully designed and implemented, even in a virtual format
- We continue to have great relationships with our District Coordinators and have had productive District Coordinator meetings.
- We have been able to hand-deliver (mostly) gift packages to all fellows in the program. This happened several times in the past year.
- The team has successfully used Zoom for planning meetings, professional learning sessions, and District Coordinator meetings.

The CA Wipro Team felt that the following areas were our challenges:

- The CA Team has not been able to gather and meet our Cohort 3 members in-person
- The CA Team finds it challenging to figure ways to make fellows feel special other than delivering gifts to their houses. (We are unable to throw receptions, parties, etc.)

FLORIDA- UNIVERSITY OF SOUTH FLORIDA

Introduction: USF has gone through two major administrative changes this academic year. The president of the university stepped down suddenly and was replaced by an interim president. In the College of Education, we have a new Dean, Anthony Rolle, most recently the dean at the University of Rhode Island. The COVID-19 pandemic is raging in Florida, which at this time means we are meeting virtually until further notice.

Cohort 3 GPS progress

The Florida team held a meeting on August 21st for their fellows. During this point in time they went over burning questions that the fellows had regarding their projects in addition to providing guidance in the next steps for their projects. During this meeting they also developed the affinity groups. IHE leaders also met as a leadership team after the meeting and discussed their mentors. Every fellow received their mentor that day. In between meetings the team also emailed consistently and shared the following key dates with them:

- Brainstorming Document due June 25th
- Feedback Provided by July 2nd (This was late due to DSC feedback, so we pushed back other deadlines)
- GPS Proposal Due August 16th
- Attend August 21st Meeting
- Mentor Assigned August 21st
- Meet with Principal(s) to discuss GPS Project due Sept. 1
- Meetings setup with Mentors due Sept. 1 (though meetings may not have happened by then).
- GPS revisions are due September 24th
- September reflections will be due September 30th.

Thus, fellows are just starting their GPS projects and having initial meetings to go over what they want to accomplish. Fellows received all of their templates and deadlines via email as well as via a dropbox account.

The Florida team also have a fellow from Cohort 1 who was not able to complete her GPS come back and join them this year to complete a GPS project.

Cohort 3 GPS Topics

Please note that these are the initial goals, and many will be revised since fellows had a difficult time with personal versus professional goals.

First Name	Last Name	Goal 1	Goal 2	Wipro Mentor
Andrea	Blomeley	Can plants enhance SEL education in the classroom?	How can taking care of plants positively impact science learning in the classroom?	Lesley Kirkley
Andrea	Smoley	Increasing STEM Lab Comprehension	Increasing STEM Fair Participation	Pam Pelletier
Charles	Turner	Demonstrate the student advantages of modeling as a lesson delivery tool and establish regular use of modeling as a lesson delivery tool.	Increase my knowledge of, and skill in, employing modeling in the classroom.	Allan Feldman
Chelsey	Swats	My goal is to facilitate discussion in the classroom	The discussion to create deeper understanding of content for students	Nancy Islam
Christina	Macurdy	Learn to implement Stem to supplement science standards for student to have rich learning experiences that also enhance grade level science standards	Learn about and inform students about STEM related fields of study	Katie Laux
Dawn	Avolt	Implement 1 project-based STEM lesson during each of the science units throughout the school year in order to increase student understanding of the 4th grade science content, especially as it relates to the Nature of Science.	Increase student understanding of science related vocabulary through the use of research-based strategies and the expectation of student usage of vocabulary in their science work.	Karl Jung

Gina	Choate	Professional Development and collaboration to learn the Flip-grid program	Implement the use of Flip-grid in science with my 1st grade students	Karl Jung
Ileana	Bermudez Luna	To provide Conceptual Chemistry high school students with a more meaningful learning experience in science throughout Inquiry-based Activities and Labs that will foster their critical thinking and problem-solving skills	To gain confidence as a public speaker and as a teacher leader as well as to have the opportunity to train new science teachers thru PD and curriculum development.	Allan Feldman
Kathryn	Laubach	Utilize coding to increase student engagement and learning	Utilize small group instruction to monitor student learning and increase student mastery.	Larry Plank
Kelleigh	Weeks	To increase engagement and interest in physics, astrophysics, astronomy, and planetary sciences among students who are not part of the top 25% nor the bottom 25% of students, specifically minority students (BIPOC). The students that fall in the middle are often "forgotten" and I want to focus on these students. Many of our BIPOC students fall within the middle 50% and are very underrepresented in physics, astrophysics, astronomy, and planetary sciences. My goal is to open these worlds to these	To increase my knowledge of physics, astrophysics, and astronomy. I want to expand my personal knowledge and understanding in these areas. I want to learn more about astrophysics and astronomy specifically. I want to become proficient in using a telescope, learn physics to better my understanding of astrophysics and learn more astrophysics including quantum. To expand my knowledge, I also need to expand my math background.	David Rosengrant

		students and encourage them to explore these areas.		
Kellie	Delgado	Highlight Diverse Scientists in each Science Content Area (Life Science, Physical Science, Earth Science, Scientific Process Skills)	Partner with fellow colleagues and community members who may be able to contribute to building equity in the Elementary Science Classroom	David Rosengrant
Kimberly	Fox	During the 2021-2022school year, I will gain a clearer understanding of why some groups of people lack representation in the science community.	During the 2021-2022school year, I will create lessons for staff and students which bring underrepresented scientists to light.	Katie Laux
Laura	Lacy-Carlson	Incorporating fine arts in the science curriculum	Building a culturally responsive science classroom	Lesley Kirkley
Laurie	Vaughn-Grantges	How does argumentation help strengthen the ability to communicate?	By integrating my argumentation lessons throughout my school, I will increase awareness of AP Capstone & STEAM.	Nancy Islam
Lora	Darby	Create a sustainable garden to supply vegetables to our pack-a-sack program.	Unite the school in which every grade level is responsible for taking care of a certain section of the garden.	Lesley Kirkley
Loretta	Lamore	Foster a culture of learning in my classroom supported by a grading system that is based on student mastery of the course content	I would like to be able to demonstrate to my colleagues at school that grading students based on mastery of content and not behaviors, extra credit or sheer compliance is doable and ultimately	Allan Feldman

			in the students' best interest	
Mishell	Thomas-King			Fawnia Schultz
Nicole	Caltabellotta	Pinellas County Schools is committed to ensuring equity and excellence for all learners with the ambitious goal of eliminating or greatly narrowing the achievement gap within 10 years between black and non-black learners	Increase interest and confidence in STEM disciplines for elementary age girls, in order to begin addressing the gender gap in professional STEM fields.	David Rosengrant
Nicole	Holman	Achieve higher biology EOC scores through acceleration versus remediation	Teach Biology as a science that is valued and has importance in the student's everyday lives by making connections to real world applications	Karl Jung
Roshaun	Reno	Develop at least 3-4 ADI activities with integration of technology to implement in the classroom.	Develop teacher leadership skills.	Fawnia Schultz

Upcoming meetings with Cohort 3 fellows

Meeting Date	**Goal(s) of Meeting**	**Online meeting link**
October 16	GPS check-ins with affinity groups. TBD PD session.	GPS check-ins with affinity groups. TBD PD session.
December 18	GPS check-ins with affinity groups. TBD PD session.	F2F or Virtual TBD

February 12	GPS check-ins with affinity groups. TBD PD session.	F2F or Virtual TBD
April 9	GPS check-ins. Preparing for poster presentations and portfolio. TBD PD session.	F2F or Virtual TBD
June 4	Closing meeting. GPS poster presentation and celebration of completion of Wipro SEF project. Pinning Ceremony.	F2F or Virtual TBD

The leadership team is still working with their DSCs to determine the PD sessions that will take place each month with the fellows in addition to supporting their GPS work. They have invited cohort 1 and 2 fellows to lead PD sessions if they would like, either around their GPS work, or on a different topic in which they have expertise.

Cohort 3 meetings with Advisors

All fellows were supposed to have had their GPS proposals completed by August 21st. Two did not and one is still outstanding. All of the Wipro leaders reviewed multiple brainstorming documents and provided feedback (these were split between DSCs and USF leaders as well as Pam, but every brainstorming document had 2 reviewers). During the August 21st meeting, every individual gave an overview of their GPS project. Following the August 21st meeting, the leadership team met and discussed all of the projects and we selected mentors that aligned with resources and or interest of the mentors. It was done in a way that there was a connection for the fellow the mentor. For example, the fellow who wanted to start a STEM club for girls and minorities was partnered with Dr. Rosengrant since he would be able to work with her and use the STEM lab as a resource for the fellow.

District Science Coordinators

Meetings with Cohort 3 Fellows

Schedule of meetings during GPS year

The DSCs meet with the Cohort 3 Fellows when we have our bimonthly meetings. We met August 21st, and will meet on the following dates:

10/16/21, 12/4/21, 2/12/22, 4/9/22, and 6/4/22. The DSCs are also serving as mentors to the Fellows and interact with their mentees at least monthly. Our bimonthly meetings will be face-to-face or virtual depending on where we are with the pandemic.

Shaping the GPS year

The DSCs meet monthly with the USF team. Together they revised their model of working with Cohort 3 fellows during their GPS year based on feedback from the two previous cohorts. The DSCs read and responded to GPS brainstorming documents and the GPS proposals of Fellows from their districts. As noted above, they also serve as mentors for 2-4 Fellows.

Cohort 1& 2 Fellows – how will DSCs be working with C1 and C2 Fellows?

The DSCs are working with the Fellows in a variety of ways including as formal and informal science teacher leaders. In addition, they are serving as facilitators of PLCs and as PD presenters. Fellows from cohorts 1 and 2 presented at the Tampa Bay STEM Network STEM Academy on July 20, 2021. These roles for Fellows will continue and will most likely expand during this academic year.

Cohort 2 Portfolios

Cohort 2 portfolios have been successfully submitted. At this time all but three of the original Cohort 2 Fellows have submitted their portfolios. The leadership team has been in contact with Teresa Buckman, who said that she will submit hers shortly. Richard Card was not able to complete his GPS project last year because his teaching assignment was changed several times due to the COVID-19 pandemic. Lesley Kirkley has been attempting to reach him to see if he will complete this year. Finally, Daniel Rice left the Tampa region at the beginning of the 2020-21 academic year because of the pandemic. He did, however, continue with his plans for his GPS at his new location.

Portfolio feedback

Each fellow has emailed their GPS portfolio to the leadership team. Based on the rubric, we assessed their GPS portfolio and provided feedback. At first, mentors reviewed their assigned fellow's portfolios, then a second reviewer looked into those again. Both goal 1 and 2 were reviewed separately in their portfolio. We contacted fellows via email and attached portfolio feedback document to them. Here is a snapshot of the portfolio rubric.

Fellow's Name - Rubric for GPS Project

Topic	Not Met (0)	Partially Met (1)	Met (2)	Points	Comments
Table of Contents	Not present		present		
Introductory Statement	Overview does not address key components of portfolio or expectations for reader.	Overview addresses either 1. key components of portfolio or 2. expectations of reader.	Overview addresses both points in previous column.		

Sample portfolios

Michele Weihagen - https://sway.office.com/nMoaPq90v53e9N01?ref=Link
Karen Bulino - https://sway.office.com/XAD66AZoMkTFcdfX?ref=email

Portfolio selection

The Tampa Bay team selected the portfolios because they felt both Karen and Michele did excellent work with their respective GPS project. Karen's work around equitable grading was very meaningful and has led to important and impactful work at the district level. Michele developed important and useful curricula resources for her school district to support their implementation of STEM lessons and design challenges. Additionally, both Karen and Michele used the application Microsoft SWAY to complete their written portfolios. We found this application provided a very clean, professional looking product for presenting their GPS work.

Reflections on the End of the Year Conference

The Tampa Bay team provided extensive feedback about the conference in the June report. "Our reflections about it have not changed. It is pasted below:

- **H-CCLS Presentations**
  The recorded presentations and asynchronous feedback were okay. We feel that there was a big loss in not having real time warm and cool feedback. We provided that for our Fellows in our May meeting.
- **Synchronous Sessions**
  We feel that overall, they went well however, it is not clear to us how many Fellows would have attended with the requirement. If we do this in the future, an attempt should be made to canvas the Fellows to see what they want to do in the synchronous sessions.
- **Asynchronous HCCLS presentations**
  See above. It's not clear what you are asking for here that is different from the first bullet item.
- **Asynchronous GPS Presentations**

The recorded presentations and asynchronous feedback were okay. We feel that there was a big loss in not having real time warm and cool feedback. We provided that for our Fellows in our May meeting.

- **Invited Guests- DSC's, Principals, etc.**
  Although we encouraged the Fellows to invite administrators, we were not aware if any attended. For some reason there was little participation among the DSCs.
- **Conference logistics**
  It was a lot of work to put together the schedule and brochure and we thank Tammy and the others who worked on that. We found the Torsh platform to be highly unintuitive. We recommend that it not be used in the future. We also believe that the complexity of the Torsh system and the need for preregistration impeded the participation of invited guests.
- **Other**
  We strongly believe that the focus of the conference should be on the Fellows themselves and their work, which we believe did not happen because it was not the focus of the synchronous sessions."

Cohort 1& 2 Fellows

The leadership team hopes to continue engaging our Cohort 1 and 2 fellows during a portion of the meetings we hold every other month in two ways. 1) that cohort 1 and/or 2 fellows will lead PD sessions during those meetings, either sharing key takeaways from the work they completed during their GPS, or by sharing other passions and projects they are working on. 2)
that fellows from these cohorts will join and participate in those PD sessions to share in the learning across the full set of fellows in the TB Wipro SEF project.

Additionally, all fellows will be invited to attend the end of year poster presentation and celebration that we will hold in the beginning of June.

Featured Fellows

Nicole Holman (Cohort 3) Chamberlain High School

My name is Nicole Holman, and I am a high school biology teacher at Chamberlain High School. I have been teaching for nine years in Florida and one year abroad in Chile. I have taught Biology, Chemistry, Physics, AP Biology, and zoology. One of my biggest passions is teaching science to students. I want to inspire students to love science and look at the world from a scientific point of view. I encourage a lot of questions and try and foster inquiry in my classroom. I am currently the Science Department Head at Chamberlain High and a part of many different STEM communities in the Hillsborough County Public School District.

I am also now a Wipro fellow going into my second year. The Wipro fellowship has had a significant impact on my understanding of becoming a science teacher leader. Using the NGSS Science practices in my everyday lessons with the help of the vertical and horizontal planning groups, I learned how to teach in a more productive and lasting way for our students. Working with the other Fellows in the V-CCLS and H-CCLS groups helped me better understand how to teach science effectively. Here, the fellows would watch me teach and give warm and cool feedback, and I got the same opportunity. We all saw our teaching skills grow tremendously over the year. Using the science practices and various pedagogical methods allowed me to grow as a science teacher in my classroom. The Tampa Bay WiproSEF leaders, Allan Feldman and Karl Jung, have been very supportive through this whole process. I have worked with Professor Feldman on several different projects throughout the past few years. This year I was given an opportunity to work with Professor Jung in another professional development. They are excellent mentors and have offered tremendous guidance and support throughout the program. The fellowship has enhanced my journey as a science teacher leader, and I look forward to sharing with my peers throughout the county.

Kimberly Fox

As a Tampa Bay Wipro fellow, I have had the opportunity to work with colleagues from across three school districts in planning, implementing, and reflecting on strong instructional practices. When working with other science teachers at the middle school level, I was able to witness how students of similar ages approach and react to science lessons and discuss these observations with teachers similar to myself. The vertically aligned group offered the chance to see the same approach to teaching at grade levels from elementary through high school. Seeing this progression and understanding the coherence of standards and concepts allows me, as a STEM coach, to have more meaningful planning conversations with the science teachers I support on my campus. I am thrilled to be part of this group and am sad to see it come to an end.

Yearly Reflection

From the Tampa Bay team, "Our biggest challenge remains the pandemic. That said, we appear to be successful at using Zoom for our meetings, and last year the Fellows were able to participate in the CCLS teams and complete their GPS projects. Of course, another challenge for this year is moving from having two cohorts to only one, and that being the Fellows engaged in their independent projects. So, the challenge is maintaining the sense of community.
Our successes are that even though we needed to be totally online for our meetings, our program was successful, despite the teachers and us facing incredible challenges teaching during the pandemic. Cohort 2 Fellows were able for the most part to complete their GPS projects even though they often had to make significant changes in them. Cohort 3 was successful in the implementation of the V-CCLS and H-CCLS models of collaborative learning."

Site news

There were several things that happened at the Tampa Bay Site. First, Dr. Rosengrant was promoted to Full Professor as well as being named Interim Director of Education on the St. Petersburg campus. This includes overseeing work in STEM Education as that will be a focus for the St. Petersburg campus.

Dr. Rosengrant is continuing to work with a fellow from cohort 1. Jessica Strauss and he are wrapping up a project with the Office of Americana Studies – International Teacher Education Network in a collaborative project with Sam Sharpe Teachers College in Jamaica. In addition to this project, they are working on developing an augmented reality app in partnership with OzGrav in Australia to develop a gravitational simulation to share in the classrooms.

To assist with the added workload of Hillsborough School District, the team brought in Katie Laux to assist with mentoring for the GPS projects as well as PD during our cohort meetings.

The Tampa team also had some good news for the Fellows:

- Teresa Buckman received the REEL award for my work in teaching economics through sustainability through the Stavros Center and the Florida Council on Economic Education. She has also been nominated for the Presidential Excellence in Math and Science Award and is in the process of completing that application. In addition, she presented at EQuIPD Summer Sessions in June and July and the STEM Leadership Academy in July and has a presentation on Economics Instruction using Virtual Worlds with Dr. Deb Kozdras on September 14th.

- Diana Mills did a presentation on incorporating NOS standards into content lessons at district wide training.
- Karen Bulino presented "Why Grading is an Equity Issue" to Wipro fellows and leadership last year. She also presented her GPS findings to the PCS Equity Advisory Group comprised of district leadership. She created monthly professional development in the form of collaborative PLC's to support teachers using equitable grading practices (as a result of her GPS findings). Karen accepted a position at Seminole Middle School teaching STEM and developing a STEM academy/magnet at that school. She presented at ECET2 (Elevating and Celebrating Effective Teachers and Teaching). She continues to present at other schools throughout the district to support district equity work surrounding grading.
- Sarah Swoch presented her GPS project at the 2021 SIMposium Poster Session. Her presentation was featured in the University of Kansas Center for Research on Learning Strat*e*notes newsletter.
- Carrie Donatelli Treasurer for the Hillsborough Association of Elementary Science Teachers.

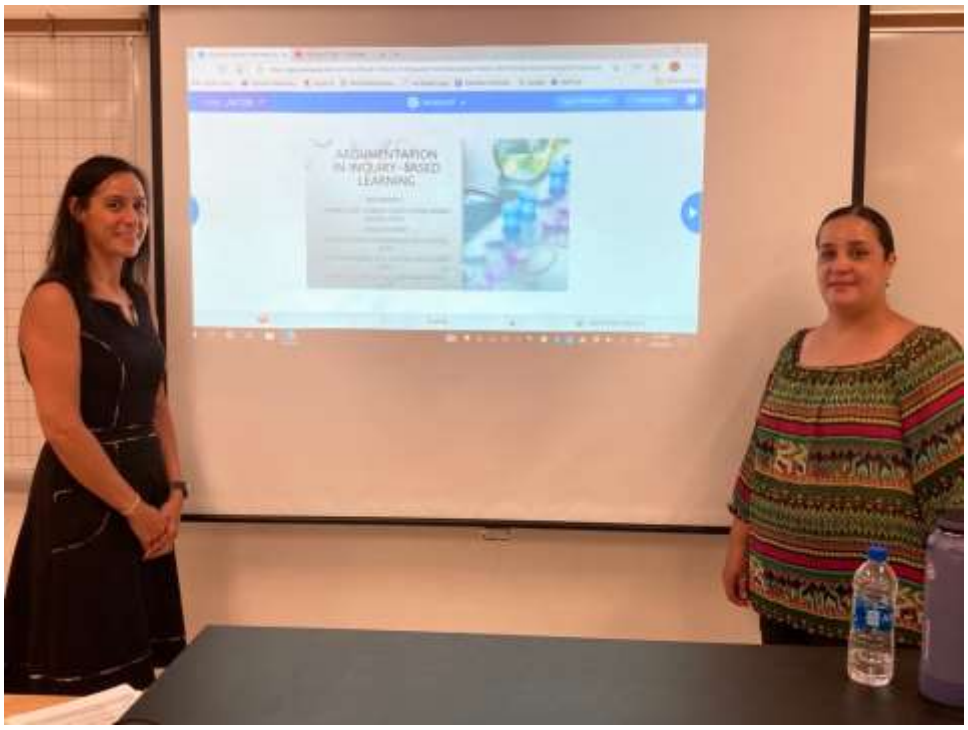
Other Activities

Presentations and Publications

Tampa Bay Wipro SEF had a large presence and was co-hosts at the STEM Academy held this summer (see attached program).

Presentations by Fellows:

- Systems Thinking: Teaching in the 21st Century: Teresa Buckman
- Augmentation in Inquiry-Based Learning: Nicole Holman and Ileana Bermudez-Luna
- Claims, and Evidence, and Reasoning Oh My! : Kelleigh Weeks and Laurie Vaughn-Grantges
- Spiraling the Standards in the Biology Curriculum: Nicole Holman



Ileana Bermudez Luna and Nicole Holman presenting at the STEM Academy

Kelleigh Weeks presenting at the STEM Academy

DSC Larry Plank welcoming attendees to the STEM Academy

TB Wipro SEF co-PI Karl Jung welcoming attendees and providing information about the Wipro SEF

MISSOURI- UNIVERSITY OF MISSOURI

Updates

Cheryl Mack, DSC from Community R-6 has retired. She has been replaced by Jessie Mommens.
Owing to spikes in COVID cases, the Missouri leadership team has had to (once more) postpone plans to present plaques to fellows at school board meetings. Our current schedule is to do so during the late fall or spring.

Cohort 3 GPS progress

Cohort 3 met via zoom for an hour on June 29. The purpose of the meeting was to discuss the Fellows nascent GPS plans and get their questions answered. Three Cohort 2 fellows, Stacey Bishop, Melissa Milius and Susan Saracini-Cram discussed how they went about choosing and implementing their GPS projects, and the challenges they faced. The presentations were short – about 5 mins each and allowed time for questions. MU staff answered Fellows' questions.

The first draft of Cohort 3 GPS plans were due on Aug 1. Most of them were submitted on time, and a few more were submitted within a week. The plans were reviewed by MU staff (Siegel, Kosztin, Kelley and Chandrasekhar). MU staff met via zoom to discuss the plans and align our feedback to the fellows. The most common issue was that several fellows chose personal goals that were just another district goal (and this is similar to previous years). These Fellows were asked to amend their plans. Advisors were assigned, and all advisors were also invited to add to the feedback. Written comments were sent to the fellows, and the final version of the GPS plan is due Sep 16.

Three Cohort 3 fellows have left the program. David Ganey and Rachel Walk have moved to districts not in the Wipro project. Amanda Sauerwein has resigned her position and is working on her doctorate.

Cohort 3 GPS Topics

Fellows Name	Personal Goal (1-2 sentences)	District Goal (1-2 sentences)	Advisor (s)
Brandy Albrecht	Write and illustrate a children's book	Implement weekly Genius Hour devoted to students' passion projects	Heather Hunt
Jennifer Bacon	Standards-based assessment *	Increase student achievement via standards-based learning	Marcelle Siegel

Melissa Baker	Improve health and well-being	Implement journaling and small group teaching	Amy Lannin
Rex Beltz	Implement 5E in classroom *	Implement standards-referenced grading for Astronomy	Meera Chandrasekhar
Robin Bishop	Improve health and well-being by gardening	Create placed-based area /garden	Dorina Kosztin
Katy Canote	Improve health and well-being through meditation	Develop at least one place-based activity for each science unit	Heather Hunt
Natalie Dixon	Create a flower/pollinator garden outside in our empty fenced in area of school. *	Create a place-based learning area on our school grounds	Dorina Kosztin
Kayla Eads	Create a self-care plan that includes times each week for reflection (journaling), exercise, and reading.	Create STEAM carts to be used during morning worktime.	Meera Chandrasekhar
Nicole Golden	Integrate gross motor or fine motor brain breaks twice a week	Develop a standards-based curriculum for 5th grade students	Marcelle Siegel
Tyler Helton	Improve the school's outdoor space and make an educational outdoor classroom. *	Create outdoors educational classroom for mark and recapture labs, demonstrating Newton's laws, and learning about pond ecosystems and macroinvertebrates.	Dorina Kosztin
Josie Hess	Implement self-care workout routine to better balance teaching, coaching cross country and working as church's youth director.	Integrate science and literacy through using consistent terms across content and teaching cross-cutting concept skills in 5th grade	Amy Lannin
Chelsea Jacobs	Improve staff morale by planning social gatherings and appreciation events to help alleviate stress and burnout.	Plan and implement standards based grading rubrics into a 7th grades science.	Marcelle Siegel

Melanie Manning	Decrease the amount of work brought home with me by dedicating every Thursday to grading and assessing student work during my plan time	Intentionally teach the science and engineering practices #7 and 8 (argumentation and communicating information).	Kate Kelley
Steve McMullin	Not submitted yet	Not submitted yet	Meera Chandrasekhar
Erin Snelling	Create a self-care plan that includes times each week for reflection (journaling), exercise, reading, and meditation.	Learn/find new apps/online platforms/digital interactives to use in my Biology, Anatomy, and AP Biology classes.	Heather Hunt
Christie Zoeller	Increase my health and well-being through available workouts	Use Rack Performance and incorporate it into my teaching practices to raise student achievement and student well being.	Kate Kelley
* Asked to rethink personal goal			

Upcoming meetings with Cohort 3 fellows

Meeting Date	Goal(s) of Meeting	Online meeting link
Sep 14, 2021	Share GPS plans, discuss next stages	1. https://umsystem.zoom.us/j/2433710837?pwd=dXlwaVV5STM1cmZwUjUzZnhEdmEvdz09 2. Meeting ID: 243 371 0837 3. Passcode: WiproSEF
Nov 9, 2021	Meet with advisors, Discuss progress in GPS and leadership	

Cohort 3 meetings with Advisors

Advisors were selected so that their interests/expertise aligns with fellows' topics. Some fellows that had similar personal goals were assigned to the same advisor.

Fellows will meet their advisor during each of the 4 bimonthly meetings during the year and once each between meetings, making for a total of 8 meetings through the year. Fellows have selected a buddy among the C3 group, and they will meet them on a flexible basis, as needed. Some of the buddy groups are within districts.

District Science Coordinators

Meetings with Cohort 3 Fellows

District coordinators (DCs) have been meeting with their fellows on their own schedules. Since some of the districts are small, DCs find it convenient to meet with them on school days, either formally or informally. At Columbia Public Schools, which is a larger district, teachers have a regular meetings scheduled with their district coordinator, and Wipro fellows meet with him after that meeting. These meetings are expected to be in-person.

MU staff will be meeting with DCs once during each semester, most likely via zoom, to discuss GPS progress.

Shaping the GPS year

DCs have been consulted in the creation of GPS plans, along with other administrators – usually a principal.

Cohort 1& 2 Fellows

The MU team will discuss DCs plans to work with C1 and C2 fellows during their scheduled meetings.

Cohort 2 Portfolios

Yes, all portfolios have been submitted. MU staff have been asked to review the portfolios and provide feedback to fellows by email. This process has not yet been completed.

Here are two portfolios that stood out:

Seth Willenberg: https://swillenberg.wixsite.com/website-18. Seth's growth is an example of how the Wipro project provides the impetus for teachers to learn and do things that they knew they wanted to do, but never had the time or the motivation to pursue. Seth leveraged both the requirements of his GPS project and the COVID year to learn and implement online tools. His portfolio provides insight into how the process unfolded.

Melissa Milius: https://mcmilius.wixsite.com/website-6 Melissa's GPS project has expanded to school-wide implementation. Her principal was so impressed with her project that she procured funding for the expansion. Melissa has documented her GPS project in her portfolio with useful photographs. Her portfolio gives the viewer insight her dissatisfaction with the "before GPS" activities in her classroom, and how her GPS project impacted both her and her students' attitude toward science.

Reflections on the End of the Year Conference

The end-of-year conference helped our team understand how fellows navigated this difficult Covid year. Over the year we had worried about whether Cohort 3 would gel as a cohort, and whether burnout would take over. We were quite relieved to see that Fellows managed to keep up their teamwork, collaborate successfully and moreover, to see this

collaboration as a break from the daily grind. Although three cohort members have left the program, the reasons had little to do with stress or burnout – two left for other positions, and one resigned to work on her doctorate.

The acceptance of online meetings has allowed us to take a defensive approach to this year's meetings. Given the high infection rate in Missouri, especially in surrounding counties with low vaccination rates, we plan to start with zoom meetings (in September) and will reevaluate the format for November.

Cohort 1& 2 Fellows

The Missouri team had Cohort 2 Fellows visit with Cohort 3 as they began formulating their GPS plans. Cohort 2 and 1 Fellows have been suggested as buddies for Cohort 3 Fellows. We plan to better track these relationships this year.

Yearly Reflection

The biggest challenge has also been the biggest success –the remote meetings and online-only relationships. Cohort 3 fellows seem to have managed this admirably. They have had successful VCCLS and HCCLS working groups and have reported friendships despite never having met others personally. They appreciated the convenience of "zooming in" from anywhere and not dealing with a commute.

While many fellows were teaching face-to-face, and therefore did not have to deal with online classes, the stress of the pandemic still took a toll, since they all had a few students that had to be taught online. The level of stress and burnout was palpable by the end of the academic year.

From the point of view of the MU staff, we felt that the biggest downside was the difficulty of forging/maintaining personal relationships with the Fellows. We missed the side conversations and the ability to converse one-on-one with a large number of fellows as we can in face-to-face meetings.

Reflections on the End of the Year Conference

The end of the year conference was helpful for the GNY Wipro Team. The conference allowed the GNY Wipro Team a chance to organize resources and ideas to support their Phase II Fellows. It also gave the GNY Wipro team an opportunity to connect with the Fellows at the other Wipro sites. During the conference, the GNY Wipro Team lead a session for Teacher Leadership and Goal setting which provided participants with opportunities to discuss their leadership in their districts as well as support each other in finding new ways to take on leadership roles. This included providing teacher leaders with examples of leadership, opportunities for funding, and support with setting goals for school and district projects.

Cohort 1,2 &3 Fellows

Cohort 1,2, & 3 Fellows will be an integral part of the GNY Wipro Team this academic year. Mercy College will be working with Fellows as instructors for the Center for STEM Education's Saturday STEM Academy and for local professional development opportunities. Mercy College also plans to involve the Cohort 1, 2, & 3 Fellows as presenters and workshop providers for the upcoming October K-12 STEM Teacher Conference that serves teachers from local school districts in the GNY area.

Featured Fellows

This fall, several of the GNY Wipro Fellows are leading the Mercy College team as STEM ambassadors for the school districts. This role will allow them to take on leadership opportunities to better integrate STEM into their K-12 districts. The STEM ambassadors will begin their work later in the fall and this work will be featured in the next Wipro quarterly report.

Yearly Reflection

While the 2020-2021 academic year posed a great number of hurdles for all the Wipro SEF sites, all teams managed to stay connected and move forward with cross-site conferences that were engaging for all participants. Some of the biggest successes this year were the GNY Wipro Team's ability to support and stay connected with DSCs and to fund a new Phase II mini-grant proposal. These successes maintained Mercy College's close relationship with Fellows and helped the team encourage mini-grant proposals,

professional development opportunities, and participation in the Wipro DSC conference. The biggest challenge faced by the GNY Wipro Team was navigating the tremendous pressures and obstacles that their Fellows encountered as a result of the Covid-19 pandemic. These challenges limited Fellows' ability to take on additional projects or professional development.

Phase II Fellows' activities

The focus of the Phase II Fellows activities this quarter has been on obtaining materials and plans for Phase II project proposals or implementation as well as preparing to lead as STEM ambassadors in their school districts (as described above). In particular, Anthony Patierno worked this summer to get his Phase II project on food science prepared for the start of the school year. His project is expected to launch later in September or early October. More information on this Phase II project will be featured in the next Wipro quarterly report.

Site news

The GNY Wipro site expects to launch their Westchester Smart Start professional development program this month. This will serve teachers in six local school districts. Four Wipro Fellows are involved as STEM Ambassadors for this program.

Additionally, the GNY Wipro site expects to host their annual K-12 STEM Teacher Conference on October 16th for local teachers and school districts to attend, gain resources, and share ideas. Wipro Fellows are encouraged to attend and/or present their work.

Other Activities

Professional Development

In the Spring 2021, the Mercy College Center for STEM Education organized six local districts, including four Wipro school districts to submit a proposal to New York State for their Westchester Smart Start initiative focusing on computer science. These proposals were awarded and are now underway for the 2021-2022 academic year. There are four Wipro Fellows involved, Carmen King (White Plains), Carrie Poulos (Port Chester), Scott Misner (New Rochelle) and Aimee Ferguson (New Rochelle), that will all work as STEM Ambassadors for their school districts alongside other teachers in the program. The STEM Ambassadors will gain experience and tools to bring STEM education, with a focus on computer science and engineering, to their K-12 classrooms. This program will feature a V-PLC with lesson observation and debrief, similar to the Wipro VCCLS.

Fall conference

This October, the Center for STEM Education at Mercy College will host their annual K-12 STEM Teacher Conference that will feature presentations and workshops from local educators as well as Wipro Fellows. This conference is intended to support local districts and offers teachers a chance to connect across communities, grade levels, and STEM subject areas to gain resources and support from each other.

Cohort 3 Portfolios

All of the C3 Portfolios have been graded, feedback provided, corrections made. Grades were submitted to the Graduate School on Sept 2nd, 2021, and all final stipends approved.

Below are the links to the C3 Portfolios

https://olaideajakaye.wixsite.com/website-34
https://markusburkhalter.wixsite.com/website-30
https://mbolden251.wixsite.com/website-28
https://jyacho.wixsite.com/website-22
https://msoto13.wixsite.com/gps-portfolio
https://marquitarawlins.wixsite.com/website-33
https://lobryan8.wixsite.com/website-23
https://tameshabrown1.wixsite.com/website-32
https://tiffaniejohnson5.wixsite.com/website-31
https://bella1922.wixsite.com/website-25
https://shelbyallen39.wixsite.com/website-29
https://yvasquez8.wixsite.com/website-24

Portfolio feedback

There was a very concerted plan to ensure that all fellows completed their Wix portfolios and the Fellowship on time. Fellows were made aware at the beginning of year 2 that their portfolios were due by Sept 1st, 2021. From May 2021, Dr. Narayan assigned parts of the portfolio to be due, Fellows worked on them and turned them in, Dr. Narayan looked at them and provided feedback by email that the Fellows then implemented. The team worked on completing the portfolio piece by piece, in small installments each fortnight. The final draft of the portfolio was due Aug 15th, and Dr. Narayan looked at each button and link and provided feedback. When she was satisfied, she emailed them that she was ready to assign them a grade and approve their final stipends.

Standout Portfolios

According to Dr. Narayan, "This is really tough because **all of them are really good**, they have worked hard on them and put in a LOT of effort. I know that all the Fellows went through a really tough times during this year and each portfolio has pieces that are awesome."

Reflections on the End of the Year Conference

I believe the year end conference was helpful in so many ways. It gave Fellows a venue to present their GPS presentations. It also allowed them to view other Wipro Fellows presentations and provide and get feedback. The leadership believe this feedback aspect is very important. In their Wix portfolios fellows were asked to write a small reflection based on the feedback they received for their presentation at the year-end conference.
Dr. Narayan would at some point like to see more cross site projects, TX is doing some collaborative projects and those are interesting.

Cohort 1,2 &3 Fellows

This year again, the TX team plans to offer the Southwest collaborative Professional development conference and Dr. Narayan will invite Fellows from all 3 cohorts to present.

Yearly Reflection

From Dr. Narayan, "Covid and the impact it had on the fellows, their students, schools, families, the isolation, and the agony each of the fellows underwent cannot be described. So, everything we achieved I consider a huge success.

One aspect of the GPS projects was the informal goal, however, due to Covid all the informal sites were closed and so for C3, I replaced the informal project with a Leadership and Innovation task and that worked out very well. It also enabled collaboration which helped combat the isolation of doing projects alone especially with Covid. The collaborative piece forms the focus of our Phase 2 proposals.

Julien Yacho, one of our C3 tech savvy fellows held regular Wix helper sessions for the rest of the cohort as they worked on completing their Wix portfolios. He was much appreciated and compensated for his efforts.

The thing that worried me the most was fellows completing the Fellowship on time. Part of this stemmed from C2 being given additional time due to Covid and some of them not even being done in Jan 2021. But I spoke to the C3 Fellows at the beginning of the year, and we came up with a plan, implemented it and all Wix portfolios are complete, and grades submitted, and stipends approved.

The Wipro Program manager, Kendra Brown took a full-time job with UNT System in June. I was worried as to how the grant activities would go on, I submitted 2 Task Assignment requests for Kendra to complete the pending tasks in August and September and all, but one has been completed because she contracted Covid. I have advertised for a Part time Wipro Coordinator.

Just like in 2020, UNTD and the 5 participating ISDs, STEMScopes and Region 10 offered the Southwest Collaborative Professional development conference. It was a true collaboration and free for all educators. We offered 72 different sessions over 2 days, the conference was well attended and received by the teachers. For every session, we had a random number draw and gave away a swag bag with promotional materials from all the partners. Each presenter and facilitator received a certificate of appreciation, and each partner received a most Valued Partner Certificate. I LOVED that all 5 superintendents featured in a promotional video for the conference.

Personally. I think my biggest success is in keeping my Fellows motivated and providing the support they needed when they needed it."

Phase II Fellows' activities

Phase 2: will consist collaborative Mini grants for the fellows and a collaborative grant for the DSCs

a) The WalkStem project for the DSCs. Each DSC and a teacher from the ISD will work on developing a WalkStem walk at their site. We have agreed on dates we will be meeting. The cost for the project will be split between the Wipro Grant and a Verizon STEM gift Dr. Narayan received

b) The Fellows: Dr. Narayan has gotten 2 completed proposals that will start on Oct 1st and a third she will get sometime this weekend. As Dr. Narayan has said earlier, a 4th GPISD proposal is on ice because the principal did not feel comfortable with going through because of health issues of the Wipro Fellow.

c) Shake the trees: ☺" I love that term," said Dr. Narayan as Dr. Eisenkraft suggested in their meeting. She has started to talk to Wipro Fellows and many of them are showing interest. She is working with them to clarify their ideas and get a written proposal

Latanya Spragin (C1 Lancaster ISD) and her collaborators want to examine how PBL with STEM impact student's content and skill mastery.

Myesia Morrison (Lancaster C3) will be extending her GPS project on student led science videos

Ana Belmonte (Irving C2) is interested and will get back to Dr. Narayan after contacting the teacher (Rocio Avila, C2, Irving) she wants to collaborate with on either digital word walls or TPR

Marquita (C3, DeSoto moved to East Texas) wants to collaborate on integrating apiaries in the area into her science teaching and extending her project on argumentation in the classroom

Raino Bhatti (Irving C1,) and her collaborators, Candace Edmerson (formerly GPISD, now Duncanville) and her collaborator, Raisa and Billy (Both C2, DeSoto ISD) have expressed interest , so have other Fellows I am following up with.

There are 3 really strong science teachers who had to leave the fellowship after year 1 for personal reasons. Dr. Narayan spoke to all 3 of them about a collaborative Wipro Phase 2 proposal and all 3 are interested and were very grateful She contacted them and spoke to them about it.

There are other fellows she has not been able to get hold of and she will. "I just want to assure you I have been shaking the trees and we will have several more Phase 2 proposals and I will use the balance to fund their proposals too. I will send you a spread sheet with expected costs as soon as I get more details," said Dr. Narayan.
All meetings planned face to face with Phase 2 participants are now online.

Things are rough in Texas with Covid, schools are starting to close again. This week 27,000 students tested positive for Covid and 4000 teachers.

Site news

UNT Dallas has a search for a new Dean, right now they have an interim Dean at the School of Education. There is a lot of movement among the fellows and administrators switching jobs between districts.

The position of Part time Coordinator has been posted but a candidate has not been selected.

Other Activities

Dr. Narayan planned to attend the school board meetings in Sept for the Plaque ceremony, but due to Covid many of these have been postponed. Dr. Narayan is working with Chris Kramer @ Cliftontrophy.com regarding the plaques.

A summary of the evaluation report follows.

2020-2021 Evaluation Report

September 27, 2021

Prepared by:
Anne Gurnee, M.Ed., Founder
& Brian Garrison, M.A., Research Assistant
Anne Gurnee Consulting, LLC

Submitted to:
Center of Science and Mathematics in Context (COSMIC) at the University of Massachusetts Boston

Executive Summary

With financial support from Wipro, the University of Massachusetts Boston's Center of Science and Mathematics in Context (COSMIC) launched an initiative to prepare teacher leaders in partnering school districts. This initiative, the Wipro Science Education Fellowship (Wipro SEF), was built on the success of the Boston Science Partnership's Science Education Fellowship, a project funded by the National Science Foundation from 2009-2012. Since 2012, the Wipro Science Education Fellowship program expanded to include partnering school districts from New Jersey and New York, in collaboration with Montclair State University and Mercy College. In 2017, the program added a new state, Texas, with a new university partner, the University of North Texas at Dallas (UNT), and in 2018, three more universities, Stanford University, University of South Florida and the University of Missouri, joined Wipro SEF.

A major goal of the Wipro Science Education Fellowship is to develop a cadre of teacher leaders in each partnering district who deepen their practice and lead from their classrooms. Wipro SEF focuses on three specific areas including: thinking about teaching, leadership to peers, and individual growth opportunities. Other key elements of the program include encouraging the use of current research to improve science teaching, reflective teaching and improving districts through teaching leadership. Each year, Wipro SEF supports cohorts of teachers from approximately five school districts in each of the regions who participate in the program over two years. Key tenets of the program in year one include vertical and horizontal professional learning communities, lesson observations and debriefings as well as action research. In year two, Fellows develop a growth plan system (GPS) that includes opportunities for individual growth that also demonstrate their leadership skills while advancing a district-wide initiative.

This year (2020-2021) marked the fourth year of additional funding that supported continuing work in Northeast states and the continuation of the program in Texas, California, Florida and Missouri. Texas completed their final year with their third cohort of Fellows. California, Florida and Missouri continued with their second cohort of Fellows and welcomed their third cohort. Massachusetts, New Jersey and New York received additional funds from Wipro to continue support of some former Fellows' initiatives.

The Wipro Science Education Fellowship program leadership contracted with Anne Gurnee Consulting, LLC (AGC) to serve as a research and evaluation consultant for 2020-2021. (AGC took over the contract begun by David Heil & Associates, Inc. which began as the evaluation consultant in 2014.) AGC's work this year focused on formative and long-term data gathering, analysis, and reporting. For California, Florida, Missouri and Texas, the focus of the evaluation work is formative. In the Northeast, AGC is tracking longer-term impacts of the Wipro Science Education Fellowship program for the teachers involved.

This report summarizes findings from the formative and long-term data collected to date for the 2020-2021 academic year. Elements of the evaluation study included surveys, focus group discussions with Fellows and District Science Coordinators, interviews with local district administrators and program leadership (higher education faculty and staff), observations of meetings and four virtual conferences, and review of program artifacts and Fellows' work. This year, the program in all states continued to be disrupted by the global pandemic. AGC's goal was to continue to assess the extent to which the Wipro Science Education Fellowship model was implemented with fidelity in each region while also measuring the achievement of identified aims and goals and to chronicle the effect of the pandemic-related disruptions on the program and its participants. In addition, AGC documented outcomes and strategic impacts of the program, providing the program leadership with data-driven recommendations for the iterative improvement and continued implementation of the program. AGC also participated in several leadership planning meetings to set the stage for the future evaluation work in all regions.

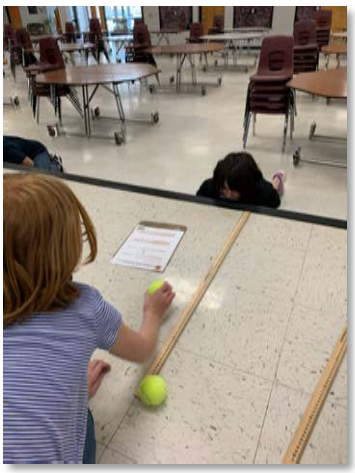
Key Findings – 2020-2021

This year, there continued to be broad agreement among the key stakeholders (e.g., Fellows, District Science Coordinators, higher education faculty and staff) involved with the program that the Wipro Science Education Fellowship was successfully implemented in California, Florida, Missouri and Texas. The data from this evaluation study indicated that the program was positively received by participants and resulted in numerous outcomes and impacts for Fellows, District Science Coordinators and their associated schools and districts. Data collected from the three Northeast sites showed that the Wipro Science Education Fellowship continues to have positive impacts on the Fellows years after their initial participation. The ongoing worldwide pandemic (SARS-CoV-2) continues to have significant impacts on the program this year as all sites experienced a variety of education system disruptions.

Key findings from the evaluation study indicated that:

- A large majority of Year 1 Fellows (98%), Year 2 Fellows (73%) and District Science Coordinators (94%) reported that they were satisfied or very satisfied with the Wipro Science Education Fellowship.
- A large majority of Year 1 Fellows (93%), Year 2 Fellows (75%) and District Science Coordinators (87%) felt their expectations of the Wipro SEF program were mostly met or exceeded.
- More than a quarter of Year 2 Fellows (26%) and District Science Coordinators (24%) felt more satisfied with the program since the onset of the pandemic.
- More than three-quarters of Fellows (78%) agreed or strongly agreed that staying involved with the Wipro SEF program had made a positive impact on their classroom since the onset of the pandemic.
- Nearly three-quarters of Fellows (73%) see themselves as teacher leaders in their schools, and a quarter (24%) see themselves as teacher leaders in their districts.
- Almost half of all Fellows (41%) cited specific examples of how they had demonstrated teacher leadership after the advent the pandemic. Nearly a third (31%) specifically mentioned that the technology skills gained through Wipro SEF had been an asset to their colleagues.
- Half of Year 2 Fellows (51%) experienced changes to their initial plans for their GPS due to the pandemic.
- At mid-year, three-quarters of Year 2 Fellows (75%) were somewhat to extremely satisfied with district meetings, the highest rating since the evaluation began.
- Fellows this year also experienced:
    - A significant increase in their confidence in science-related content and practices.
    - Significant growth in their leadership self-concept and leadership communication behaviors.
    - Moderate growth in their reflective practices.
    - Continued recognition of the importance of the collaborative network of science educators created by Wipro SEF.
    - For Year 1 Fellows, acknowledgment of the specific value in both horizontal and vertical collaborative work.
    - For Year 2 Fellows, acknowledgment of the value of the GPS experience.

- Former Fellows in Massachusetts, New Jersey and New York continued to demonstrate numerous impacts from their participation in the Wipro Science Education Fellowship including:
  - Using reflection to improve their professional practice
  - Giving, receiving and actively soliciting feedback from colleagues
  - Using research to guide their professional practice
  - Regular communication with other former Fellows in their school/district
  - Continued improvement of teaching skills and leadership
  - The value of a professional community of collaborative and similarly trained science educators
- A notable percentage of Northeast Fellows this year (28%) specifically mentioned exercising leadership through technology support for colleagues.
- District Science Coordinators felt the Virtual Leadership Conference was a very positive experience ranking it an eight out of ten on average.
- District Science Coordinators noted several key impacts of the Wipro SEF program on their Fellows:
  - A growth in teacher leadership and confidence
  - Improvement in science teaching skills
  - Continued growth of a collaborative network of science educators
- District Science Coordinators and district administrators in California, Florida, Missouri and Texas and former Fellows in the Northeast noted a number of impacts on districts involved with Wipro SEF including:
  - The value of a supportive and collaborative network of science teachers
  - A growing awareness of the importance of science at the district level
  - The creation of and improvement of teacher leaders
  - An improvement of science teaching & access to science for students
  - A highlighting of the importance of science at the district level
- A large majority of participants in the Year-end Virtual Conference (89%) were satisfied or very satisfied with the conference and nearly all participants (95%) felt most to all of their expectations were met.
- Wipro SEF higher education leaders continue to be pleased with the program overall. All again made modifications to the program this year to accommodate Fellows' needs during the pandemic. Several expressed concerns Phase 2 funding for the program and how best to structure their site's program for future sustainable success.



Fifth grade students collect evidence in a Wipro SEF Fellow's classroom in Missouri, 2020-2021.

Recommendations

While the Wipro Science Education Fellowship on the whole continues to be successful, input collected from participants (e.g., Fellows, District Science Coordinators, and program leadership) indicated potential areas for continued refinement of the model. As the program continues to evolve and grow, these insights help to inform the future phases of program growth and expansion. Based on analysis of this evaluation data, AGC offers the following recommendations:

1. **Consider repeating the Leadership Conference again in future years.**

The mid-year Leadership Conference was well-received by participants and deserving of a repeat performance. It provided another point of connection, cross-site sharing and relationship building. Most notably, it provided tangible opportunities for Fellows and DSCs to exercise their leadership skills in a supportive environment.

2. **If used again, continue to refine the virtual conference experiences in future years and look to ways that the virtual conference experience can inform improvements for the in-person conference experience.**

Out of the necessity born from the pandemic, the collective Wipro SEF leadership team has gained both the knowledge and skills needed to create vibrant online conference experiences for Wipro SEF participants. If the need for virtual conferences remains, or if it is actively chosen by the leadership team in the future, AGC encourages the team to continually refine the virtual conference format. Conference participants offered several concrete suggestions to consider (see Table 27). Further, if the team decides to engage in in-person conferences again in the future, AGC would recommend careful thought about the advantages enjoyed in the virtual realm that might be brought to future in-person gatherings.

3. **Encourage teachers' use of their technology skills as an outlet for their growing leadership by supporting an increase of their technology acumen.**

One of the notable ways that some Fellows have been able to exercise teacher leadership recently has been through their improved technology skills. Undoubtedly some of the Fellows were confident technophiles prior to becoming Fellows, but for others, their work with Wipro SEF has increase their confidence in technology. As the education world moved online and virtual teaching formats became needed in the past year, these technology skills were of prime importance. This opens a possibility for the Wipro SEF leaders to lean-in to this need and provide extra support from their universities or perhaps even from Wipro to provide more targeted technology training to Fellows. Doing so will help them lead and support their colleagues with fewer skills or lower confidence.

4. **As plans evolve for Phase 2, look for ways to support and grow the successful hallmarks of the Wipro SEF program.**

Wipro SEF IHE leaders are interested in remaining involved in Wipro SEF to varying degrees. All have seen the value of the program for the Fellows, District Science Coordinators and the districts involved, and they hope for more funding to continue the work. If that funding does become available, AGC recommends that that the collective leadership work to identify the core values of the program and to work specifically to enhance and grow the components of the program that have been most successful including:

- Supporting the collaborative network built by the program including continued opportunities for cross-site interaction and partnering

- Improving science teaching through sharing of knowledge and practices, increased understanding of NGSS, and creating reflective educators
- Continuing district impact through teacher leadership that involves both improved skills in feedback and presentation but also increased advocacy about the importance of science for all students

5. Address anti-racist teaching and its connection to teacher leadership in the upcoming year.

Although issues around equity and anti-racist teaching have not been a core element of Wipro SEF thus far, the IHEs involved have included these concepts in their general approach to Wipro SEF to varying degrees. However, considering the monumental events in our country this past year, it is time for the Wipro SEF program to talk openly with involved Fellows about how teacher leadership interfaces with these issues. The Fellows are no doubt discussing these topics at length, and it would be wise to have open discussions with them about their roles and responsibilities related to equity, inclusion and anti-racist teaching in their roles as science teacher leaders. AGC would strongly recommend that Wipro SEF leadership initiate these discussions with the IHE leadership and to look for well-qualified outside support if needed.

6. Continue to explore ways to tell the story of Wipro SEF to a broader audience in order to inform and inspire others to improve science education through comprehensive professional development.

AGC is compelled to repeat this recommendation as the data continues to grow about impact of the Wipro SEF program on Fellows, schools, and districts. As was mentioned last year, the additional challenge of a global pandemic overlaid on the previous years has produced even more stories to tell about the value of a program that creates collaborative networks of science teachers, improves science instruction, creates reflective educators, and builds teacher leaders. Although it has been difficult to marshal the resources to broadcast broadly the impacts of the Wipro SEF program, AGC would again encourage program leadership to persevere. There are a number of ways to tackle this goal including publications (large and small), conference presentations, and a comprehensive, user-friendly website. Working toward more of an external presence for the program will recognize the hard work done by all the current program participants but also will inform and inspire others in the broader education community that intensive professional development of science educators can create real change in schools and districts.

Graphical notes captured from one of the synchronous sessions on place-based learning offered during the Wipro SEF Leadership Conference, February 2021.