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

WIPRO SEF

YEAR 8
QUARTERLY REPORT
March 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 December 16, 2020 through March 15, 2020 and an 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 a Leadership Conference that was held for the district science coordinators of the thirty-five districts involved in the 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

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

UMass as the Lead Institution plays a key role in coordinating the work of the sites and in providing opportunities for the sites to exchange information. This role has been particularly important during the Covid Pandemic. In addition to monthly Zoom calls, sites are normally visited by Dr. Eisenkraft and other university site leaders within the Wipro SEF network. With the arrival of the pandemic these in person site visits were cancelled, and network meetings were moved to Zoom and increased in frequency.

The calendar for site presentations were changed in the fall due to the cancellation of events in the spring. Both Texas and Florida held their virtual H-CCLS and GPS presentations in October. They were originally scheduled for Spring of 2020 but were rescheduled because schools and universities were closed for in-person instruction in the Spring.

The virtual V-CCLS presentations began in December and continued through mid-January 2021.

- Missouri V-CCLS Presentations, December 17, 2020
- Florida V-CCLS Presentations, January 9, 2021
- California V-CCLS Presentations, January 16, 2021

One unexpected consequence of having the virtual conferences was that it allowed sites to attend multiple conferences and to learn from each other. This was important to the sites as they planned their own virtual conferences and as the Wipro network planned the February Leadership Conference of Institute of Higher Education (IHE) leaders and District Science Coordinators (DSC).

Planning the February Leadership Conference

Planning a virtual conference that will entice busy District Science Coordinators (DSCs) to attend requires not only careful planning but the inclusion of the DSC's ideas to make a conference that is meaningful for them. Early in December Dr. Eisenkraft, Marilyn Decker and Anne Gurnee began gathering information from IHE site leaders and DSC's. A list of possible conference goals was created and sent to IHE leaders for input. Using their input Anne Gurnee created a pre-conference survey that was sent to DSCs in January. The survey included what topics would be most valuable to the DSC's and how the conference should be scheduled. Ms. Gurnee compiled the survey responses, and these responses formed the basis for the 5 sessions that became the conference. The sessions, however, still needed leaders to develop and facilitate each session. Volunteer IHE site leaders took

responsibility for leading a session and were assisted by 2-3 DSC's. A google drive was set up to assist in conference planning and all documents were deposited in this single folder. Because the planning sessions were virtual Dr. Eisenkraft was able to sit in on each one acting as a critical friend. He also was able to make sure that the 5 sessions of the conference worked together.

Anne Gurnee, the project evaluator, provided each session with an evaluation that could be customized for their session.

Conference Invitations

Once all the sessions and the schedule of the conference had been decided on an invitation was sent to IHE site leaders and the District Science Coordinators from all 7 Wipro sites. The conference was scheduled (across three time zones) so that there was maximum flexibility for DSC's Sessions were held on weekdays after the CA DSCs were out of school and the end of year planning session was held on Saturday morning. The response to the invitation was impressive – all seven sites had DSC's that participated and many of the DSC's participated in multiple sessions. One thing that was particularly gratifying was that DSCs from NJ and NY were part of the planning and facilitation teams. The formal part of Wipro SEF program had ended several years ago in NJ and NY, so it was a testimony to the IHE leaders that these DSCs are still actively connected to the Wipro SEF program. In MA three out of five DSCs attended the conference. These DSCs were not part of their districts when the Wipro SEF program was actively involved with their fellows. They however found the program useful to them and they participated in several sessions.

Highlighting the work of the DSC's- Vignettes

Pairing IHE leaders with DSCs to develop and lead the sessions had several benefits:

- IHE leaders and DSCs got to work with people they did not know previously
- Both leaders and DSCs learned from each other. Some of the DSC's became very knowledgeable about virtual tools and shared this knowledge with each other.
- DSCs got to know DSCs they had not met previously.

To highlight this work by the DSCs each DSC was asked to write a vignette about themselves. The Vignettes appear with the IHE site that they are affiliated with in this report.

Wipro SEF Leadership conference 2021

It's easy to see why people don't love the idea of virtual conferences. Sitting for hours behind a computer screen, listening to a floating head, isn't exactly a thrilling prospect. You don't get to bask in the change of scenery as you travel to other districts. And virtual conferences don't allow sites to retreat from their everyday routines and fully immerse themselves in sharing knowledge with other districts. The lack of in-person interaction is also a problem. It's no exaggeration that many worthwhile collaborations can be traced back to long conference lunch chats. Not to mention, the reward of free food after a long session is no longer on the table, literally, unless it's shared through a screen.

There is no doubt that virtual conferences in the current time of COVID-19 raise challenges for organizers, attendees and presenters. However, the 2021 Wipro SEF Leadership conference revealed a number of surprising positives that showed how virtual conferences are not only overcoming these hurdles but also triggering a paradigm shift in how conferences of the future could look. The 2021 Wipro SEF Leadership Conference was comprised of five sessions, each of which was led by an Institute of Higher Education (IHE) faculty member and several District Science Coordinators (DSC) (see image 1 below for additional scheduling details). Each session was independent of the previous session and took on a different theme that encompassed the goals of the Wipro Program. Participants could choose which session(s) they wanted to attend. Ultimately, they were allowed the time to reflect on the past year and share in struggles, experiences, and lessons. They left the conference with a new shared knowledge and tips for how to move forward in the year to come.

wipro | Science Education Fellowship

Wipro Leadership Conference | February 2021

SESSION 1	SESSION 2	SESSION 3	SESSION 4	SESSION 5
Sharing District Science Coordinators' Expertise, Knowledge and Experience	Building Bridges & Community with Wipro Fellows	Lessons from Covid-19	Planning for the End-of-Year Conference and Beyond	Building Leadership Capacity
Thu, Feb 18 4-6 PM PT 5-7 PM MT 6-8 PM CT 7-9 PM ET	**Mon, Feb 22** 4-6 PM PT 5-7 PM MT 6-8 PM CT 7-9 PM ET	**Wed, Feb 24** 4-6 PM PT 5-7 PM MT 6-8 PM CT 7-9 PM ET	**Sat, Mar 6** 8-10 AM PT 9-11 AM MT 10 AM-12PM CT 11 AM -1 PM ET	**Wed, Mar 10** 4-6 PM PT 5-7 PM MT 6-8 PM CT 7-9 PM ET
Zoom Link Mtg. ID: 930 4137 4586 Pw: 585515	Zoom Link Mtg. ID: 925 3979 4787 Pw: 757062	Zoom Link Mtg. ID: 985 5704 4051 Pw: 966158	Zoom Link Mtg. ID: 922 4036 7536 Pw: 945158	Zoom Link Mtg. ID: 920 5835 1712 Pw: 758068
Session Leaders: Pam Pelletier (UMB, MA, and FL) Cynthia Dwyer (MO) Jamillah Rawls (NJ)	**Session Leaders:** Ratna Narayan (TX) Eric Lewis (CA) Mary Goffredo (NJ)	**Session Leaders:** Meera Chandrasekhar (MO) Cheryl Mack (MO) Gary Frankel (NJ) Chris Dazer (TX)	**Session Leaders:** Anne Gurnee (project evaluator) Arthur Eisenkraft (MA) Mike Szydlowski (MO) Leana Peltier (NY) Danielle Moore (TX)	**Session Leaders:** Tammy Moriarty (CA) Lesley Kirkley (FL) Susan Bartol (NJ) Faith Milika (TX)

Leadership Conference Schedule

All materials from each session were compiled in a Google Drive Folder for participants to access at any time, regardless of their attendance throughout the conference. In the sections below, we

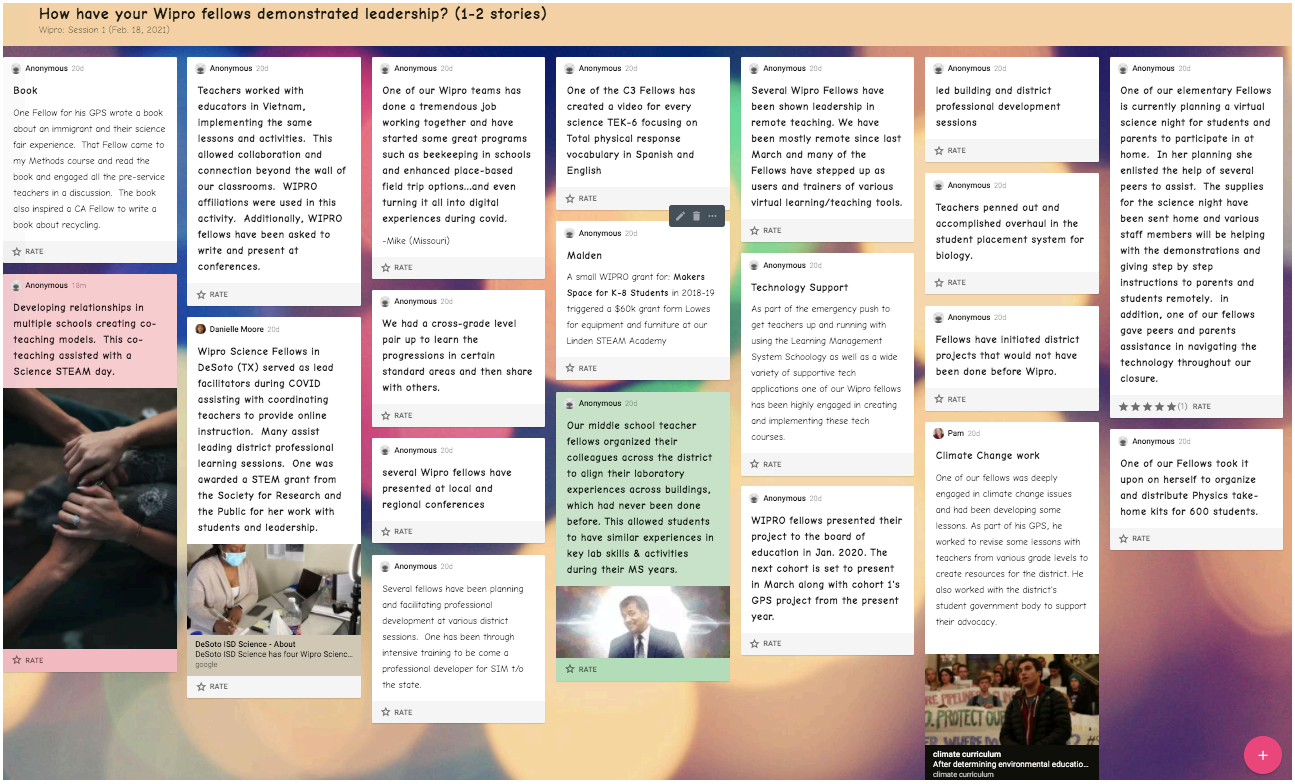
highlight the takeaways from each session and bring to light the impact that IHE leaders and DSCs had in their communities during a time of uncertainty.

Session 1: Sharing District Science Coordinators' Expertise, Knowledge and Experience

Led by Pam Pelletier, (UMB, MA, and FL), Cynthia Dwyer, (MO), and Jamillah Rawls, (NJ), Session 1 of the leadership conference highlighted the importance of District Science Coordinators (DSCs) as they navigated the virtual world. District Science Coordinators play an important role in the Wipro SEF program, recruiting and selecting fellows, attending meetings, and actively engaging in the planning and implementation of the program. In a COVID-19 pandemic world, the DSCs roles were stretched and looked different than normal to account for the unknowns of virtual learning from teachers and fellows in their district. In this session, we wanted to ensure that all voices were heard, and DSCs could reflect on the many hats they have had to wear over the past several months. This session was structured for 3 small group discussions, all of which would lead into a larger group reflection. In the first small group discussion, DSCs were put in breakout rooms with 3 or 4 other participants and asked, "What are some of the successes and challenges you've had, and what potential or future opportunities would help you, in your role as a DSC?" Some exciting successes included "crossing boundaries," "growing as leaders," "collaborating," and "building relationships," while the challenges encompassed the feeling of being stretched too thin with a "lack of support and unity" thus forcing DSCs, teachers, and fellows to go into a "survival mode." Moving forward, DSCs had some excellent ideas for growth in their communities:

- Continuing collaboration beyond districts to include states and roles as well
- Contributions from teachers so that they can see the value in what they do
- Creation of a platform or site to share ideas and resources
- Concentrated effort to build community and improve organization
- EQUITY - similar opportunities for learning
- Pull in past fellows as teacher leaders in district (even if cohort is over)
- Optional year 3 involvement

In the second small group discussion, DSCs reflected on the fellows in their district and shared examples of their demonstrated leadership. Examples ranged from developing relationships in schools to creating resources for districts and leading professional development sessions and beyond presenting to the board of education. An incredible feat of the fellows was that their roles as leaders stretched beyond just their schools and districts. Wipro fellows are leaders across the country and stepped up to the plate when challenged. A few more examples of demonstrated leadership are displayed below:



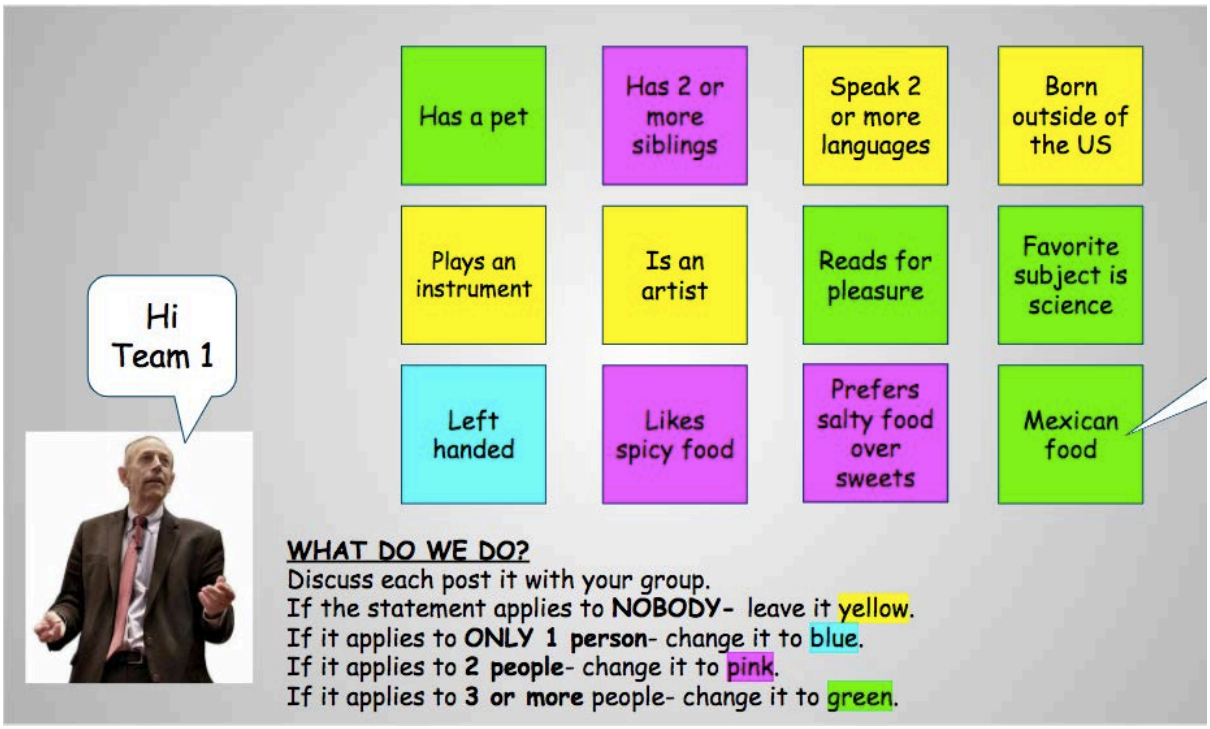
As we looked to the third small group discussion and future sessions in the conference, the final question that DSCs had to answer was "How can District Science Coordinators use Wipro Fellows as "wonderful assets" to support and further the district's work?" The most popular results included:

- DSCs helping the principal recognize and celebrate the GPS work and other work of Fellows.
- Mentorship of new teachers
- Fellows as science champions at the elementary level
- Creation of a leadership team - committee to promote science
- Holding mini workshops- rooted in research including a partnership with University

Having results rooted in collaboration and teamwork, the conference moved forward to session 2 and gave DSC's and other participants the chance to gain knowledge in building the bridges and growing relationships with their Wipro fellows.

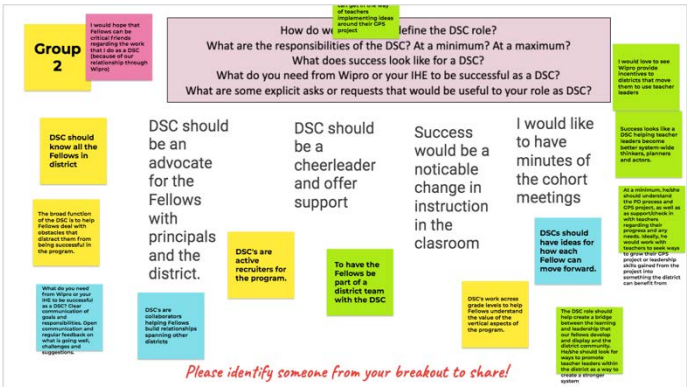
Session 2: Building Bridges & Community with the Wipro Fellows

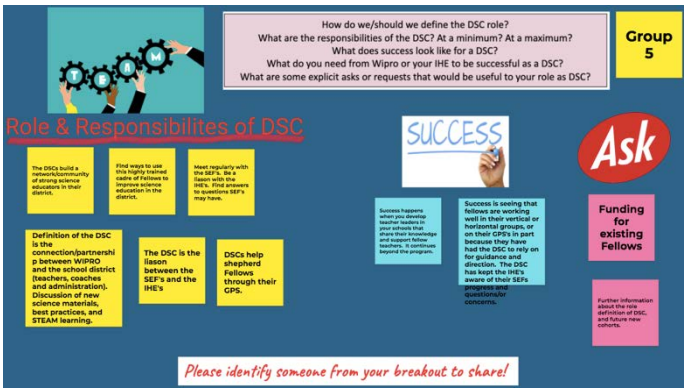
Led by Ratna Narayan, (TX), Eric Lewis, (CA) and Mary Goffredo, (NJ), session 2 focused on building community amongst the Wipro fellows by first attempting to build community amongst the Wipro DSCs who attended the session. DSCs and other attendees were split into groups and given talking points (on virtual post-it notes) for potential commonalities among group members. Groups were asked to change the color of the post-it's as they applied to the members of each group. Instructions and sample experience are displayed below:

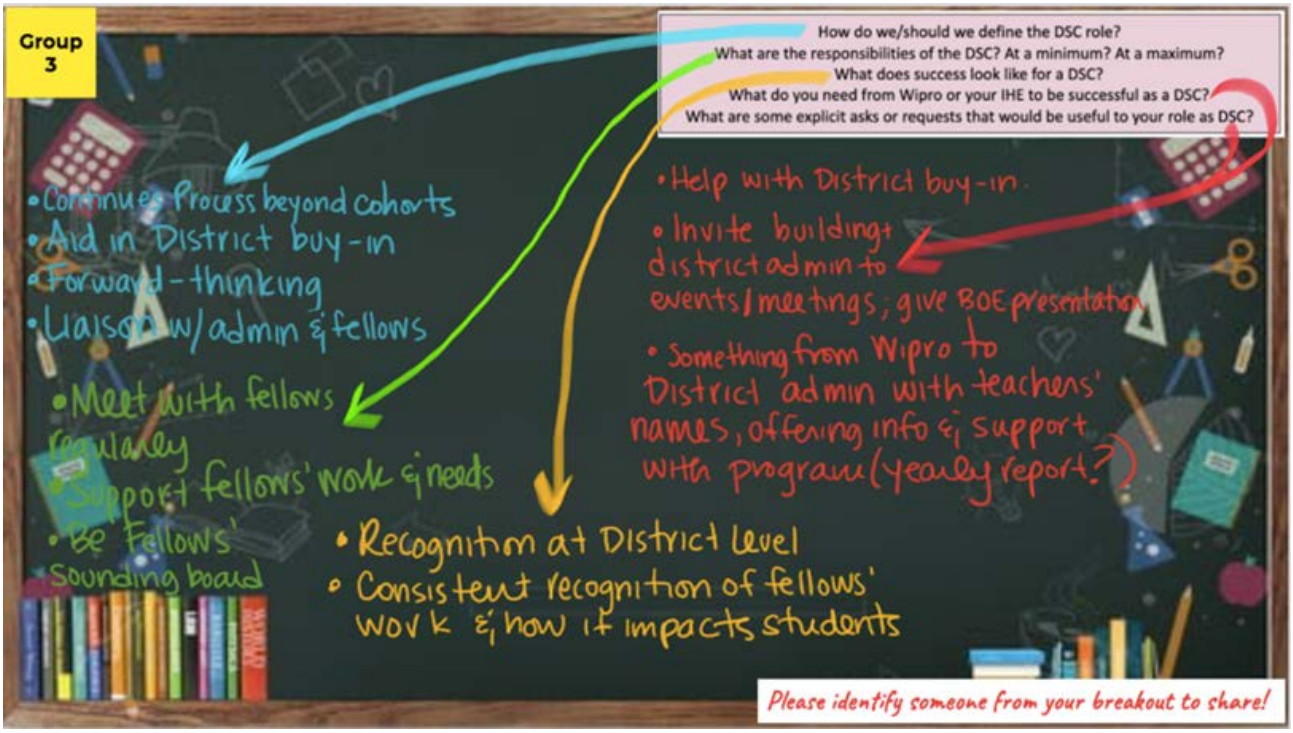


This experience brought DSCs and other attendees closer together as a community but also gave them a stress-free distraction from their typical workday.

Furthering their sense of community as DSCs, attendees were asked to collaborate on Jamboard and come up with a "picture board" describing the overall DSC role and responsibilities in addition to what success looks like in that role. DSCs were described as "cheerleaders," "support systems," and "liaisons," the glue that brings the Wipro SEF program and fellows together. Their success is measured by the impact they have on their Wipro fellows in creating teacher leaders who are system-wide thinkers, planners, and actors. Some of the wonderful Jamboard creations are displayed below.


Group 2
How do we define the DSC role?
What are the responsibilities of the DSC? At a minimum? At a maximum?
What does success look like for a DSC?
What do you need from Wipro or your IHE to be successful as a DSC?
What are some explicit asks or requests that would be useful to your role as DSC?
DSC should know all the Fellows in district
DSC should be an advocate for the Fellows with principals and the district.
DSC should be a cheerleader and offer support
Success would be a noticable change in instruction in the clasroom
I would like to have minutes of the cohort meetings
DSC's are active recruiters for the program.
To have the Fellows be part of a district team with the DSC
DSCs should have ideas for how each Fellow can move forward.
Please identify someone from your breakout to share!

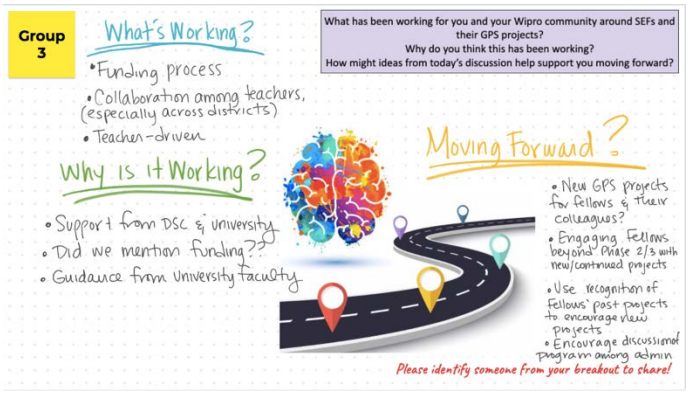

How do we/should we define the DSC role?
What are the responsibilities of the DSC? At a minimum? At a maximum?
What does success look like for a DSC?
What do you need from Wipro or your IHE to be successful as a DSC?
What are some explicit asks or requests that would be useful to your role as DSC?
Group 5
Role & Responsibilites of DSC
SUCCESS
Ask
Funding for existing Fellows
Definition of the DSC is the connection/partnership between WIPRO and the school district (teachers, coaches and administration). Discussion of new science materials, best practices, and STEAM learning.
The DSC is the liason between the SEF's and the IHE's
DSCs help shepherd Fellows through their CPS.
Please identify someone from your breakout to share!


Group 3
How do we/should we define the DSC role?
What are the responsibilities of the DSC? At a minimum? At a maximum?
What does success look like for a DSC?
What do you need from Wipro or your IHE to be successful as a DSC?
What are some explicit asks or requests that would be useful to your role as DSC?
•Continues Process beyond cohorts
•Aid in District buy-in
•Forward-thinking
•Liaison w/admin & fellows
•Meet with fellows regularly
•Support fellows' work & needs
•Be Fellows' Sounding board
•Help with District buy-in
•Invite building+ district admin to events/meetings; give BOE presentation
•Something from Wipro to District admin with teachers' names, offering info & support with program (yearly report?)
•Recognition at District Level
•Consistent recognition of fellows' work & how it impacts students
Please identify someone from your breakout to share!

Session 2 concluded with a reflection of the session and the community-building aspects that have been working for the fellows in each district. The "what's working" included:

- Mutual respect for everyone's role
- Bringing mentors in-house for GPS
- Streamlining the funding process
- Taking ownership over GPS

Results from this reflection were shared on Jamboard and some of the lovely displays are featured below:



DSCs and other attendees left this session with a newfound sense of community and positive mindset moving forward with new ideas to incorporate into their districts.

Session 3: Lessons from COVID-19

Led by Meera Chandrasekhar, (MO), Cheryl Mack (MO), Gary Frankel (NJ), and Chris Dazer (TX), session 3 focused specifically on the lessons DSCs, teachers and fellows learned over the past COVID-19 pandemic year. Attendees reported a variety of science instruction delivery methods including in-person, hybrid, and all virtual. Breakout room 1 asked attendees to compose a list of inequities that were prominent throughout the pandemic. The themes that arose from these inequities included:

- Evaluations for teachers
- Wi-fi access

- Access to necessary materials and devices
- Support system for students and teachers
- Quiet spaces for students to work
- Socioeconomic disparities
- Health issues and concerns

DSCs were then asked to reflect on their greatest challenges during the pandemic, some of which continue to persist even now. The list of challenges was long and disheartening but allowed DSCs and other attendees to further their sense of community by sharing in their struggles.

Jumping in quickly with little or no support Scrambling to acquire devices for students and teachers Working with students in more than one modality Keeping student engagement Trying to do the same thing online that was done in person. Teacher technology comfort Realizing how little science is actually taught at the elementary level Discovering how to prepare for the future when not all standards were met Finding student support with technology at home Putting additional pressure on teachers who have parents watching the instruction Concerns relating to state assessments (Lack of) consistency in school schedules, spaces, accessibility, and materials Transitioning lab experiences to a virtual setting. Discovering how to maintain safety at home doing experiments Lack of personal connections when students (or teachers!) do not put their cameras on Teachers unable to build the same connections with students that happen in person Figuring out what was needed for teacher PD Learning how to support new teachers in unprecedented times Extension of inequities from breakout room 1 Ensuring that teachers still feel valued Lack of teacher care

Attendees could have used more time for this breakout session as they reflected on their challenges. The list could go on forever considering teachers lacked support, encouragement, and resources during an unprecedented pandemic that no one was prepared for. Despite the challenges, attendees were also able to recognize that there were some positives that came out of this experience. In the same groups, they discussed the strategies and resources that they would like to retain moving forward even when all instruction is back to in-person. Ideas are listed below:

The relationship built with parents Using parents as a resource (teaching partner)

Fellows stepping up to become leaders among their peers. (use of technology and instructional strategies)
Virtual field trips by museums, aquariums, etc.
Companies with good simulation-type resources
Videos that were produced so that students could still see phenomena--even if it was virtual
Nearpod, interactive presentation materials, "real-time" formative assessments
Social emotional check-ins
Google classroom
Chat features, Google Doc, or Jamboard to see contributions by the entire class all the time.
The ability for everybody to get up to speed on a technology so quickly.
Teacher collaboration
Ability to flip (more technology integration) your classrooms
More asynchronous learning
Virtual Conferences - more time efficient, engaging, and present for zoom.
Continue to use various virtual resources (Padlet, Jamboard, Google Earth, Formative, Nearpod/Peardeck)
Inclusion of more voices from students who were more inhibited in person via chat feature
Virtual science notebooking
Lack of traffic!!

Overall, this session was an excellent culmination of the good and bad of the COVID-19 pandemic. Attendees were able to reflect on their struggles but also recognized that there were some good features that came out of the virtual experiences that the pandemic presented. The Google Drive folder from this session will serve as a reference for DSCs, IHE leaders, fellows and teachers who are looking for new ideas to enhance their classroom experience whether it be virtual or in-person.

Session 4: Planning for the End-of-Year Conference and Beyond

Led by Arthur Eisenkraft from UMB, Anne Gurnee from Anne Gurnee Consulting, and District Science Coordinators Mike Szydlowski (MO), Leana Peltier (NY) and Danielle Moore (TX), this session explored the issues that surround the end of year conferences. Each year, the Wipro SEF program puts together an end-of-year conference to celebrate the accomplishments of the fellows. In past years fellows and IHE leaders have attended other site's conferences as guests. During this conference, H-CCLS teams (Year 1 of the Wipro SEF program) present their course of study and lessons learned during the semester. In addition, fellows (Year 2 of the Wipro SEF program) showcase a project (GPS) that they have been working on during the year.

With all conferences moving to remote, this session gave an opportunity for participants to begin the planning process for the end-of-year conference in addition to some takeaways from virtual conference successes. The session began with participants being assigned to a small group where they were given one conference element (Past Conferences, H-CCLS, GPS, Keynote, or other

elements) to discuss amongst their group. They were asked to compile a list of pros and cons to report back to the larger group. Findings are shown below and separated by element.

Past Conferences – The pros and cons of what worked or did not work in conferences of the past whether it be virtual or face-to-face.

Past Conference Formats (Any conference)	
Face-To-Face	**Virtual**
Positives	**Positives**
More participation from Wipro Fellows, DSCS and district administrators,	More people are able to attend
Able to see more of people's expressions, moods, etc	ugh
Food	Super easy commute
More camaraderie	Recording of sessions to go back and revisit ideas
Putting names with faces and building relationships among the family of Wipro	Very little cost
Can get more deeply into conversations since many things can be happening at the same time - the conversations can overlap and get deeper faster.	Easier logistics (breakout rooms, etc)
Informal conversations	
More satisfying	This is building on something that we're all doing anyway right now. And we're learning new ideas from each other with new tools, new strategies, etc.
traveling to new places to meet new people.	More administrators/principals seem to be able to attend the virtual conferences
Undivided attention	Ability to watch sessions at a later time
Negatives	**Negatives**
No ice cream	Multiple conferences (meetings) scheduled simultaneously.
expensive needs a LOT of planning	Very difficult to stay on task
Expensive - both money and time	Keels my brain after a few hours
Expenses (Travel, lodging, food, conf. fees etc.)	Needs LOT of planning

Fewer administrators/principals tend to come to face-to-face sessions (at least at our site)	distracting, I can multitask
	Difficult to get deep into content - even discussion that are given more time are hard to push below the surface level of problem solving/discussion.
	There are more barriers to getting some things done easily b/c not everyone has the same tech abilities - either by training or by internet speed.
	Participants are multi-tasking more
	Virtual Etiquette
	More difficult logistics
	Sometimes it feels like the synchronous portion of the conference is too long (difficult to stay fully engaged for 3 hours

HCCLS Presentations

Year 1 fellows share the results of their Horizontal Collaborative Coaching and Learning sessions. Each team of 3-4 fellows makes a 15–20-minute presentation followed by warm and cool feedback.

HCCLS	
Assign each member an A, B or C (duplicates are ok) for the next session.	
Synchronous	**Asynchronous**
Pros	**Pros**
Fellows made a video of their presentations ahead of time (asynchronous) but the warm and cool, was synchronous. In the synchronous portion they started with a brief overview of their projects.	Could be created ahead of time.
Presentations can be recorded and shared	Sessions could be viewed "On -Demand"
"Real Time" presentations with time to ask questions	
There can be "social" sessions	Ability to be recorded and shared.
Can have a keynote	Ability to edit and refine ahead of time so lower pressure for the Fellows
Gives the Fellows practice in making presentations -- leadership skill	
Cons	**Cons**

A lot of time on Zoom	People need to set aside time ahead of the conference to view and respond to the presentations
Scheduling	Not sure the Fellows read the feedback
Inability to edit or change during session	No together time
Finding a time when everyone is available	Lack of interaction with "audience"
Time zone problems	
Aligning time zones	

GPS Projects

In year two fellows complete an independent project which is presented at the end of the year conference in a poster session.

GPS	
Assign each member an A, B or C (duplicates are ok) for the next session.	
Synchronous	**Asynchronous**
Pros	**Pros**
Ability to clarify any questions	Easy to watch and convenient
	No commuting
Able to meet the people and talk about what went well	Easy to provide and record feedback on GPS
Ability to focus on certain posters - GPS	Can view all GPS
You can take a photo of poster you want to refer to	The IHEs set up great conferences that are scaffolded, focused, and have tools for collaborating and sharing.
	I can review the posters whenever I want (late night/early morning)
Food.	Get to read other people's comments on GPS
Have the opportunity for Fellows to make mini workshops about their projects	
	Get to keep the posters to refer to
	Easier to share GPS posters from other sites
	Easier for other sites to attend your GPS
Cons	**Cons**
	Not able to ask questions in real time

People were tired at the end of day and did not give GPS posters their full attention	It's still harder to go deeply into conversations. Conversation patterns are stunted and we're not great at doing this online yet...
Travel time can be exhausting	
Feedback is all oral and not recorded	
Not possible to see all posters in a limited time	

Keynote Speakers

In the past sites have sometimes included a keynote speaker as part of the end of the year conference. This group discussed whether or not a speaker should be included and brainstormed possible speakers.

Keynote	
Assign each member an A, B or C (duplicates are ok) for the next session.	
Poll	
Presenter	**Article Link**
Has to have energy in virtual environment	
Hard when combining with all our other presentations	
Great opportunity to address equity in STEM	
Good year for inspiration, encouragement, deep thinking	
Teachers like to hear about science content and ways to connect it with their curriculum; Example from FL conference - Tracy Fanara https://www.facebook.com/InspectorPlanet/	
Having a keynote depends on what the structure is in the full conference	
Ideas:	
Jonathan Osbourne	
Heidi Schweingruber	
Roni Ellington	
Kate McNeill	

Conference Format – How the conference will run and what works best for everyone.

Conference Format

Assign each member an A, B or C (duplicates are ok) for the next session.
Poll
Format Suggestions (i.e., overall conference format - times/days, pacing, guests? individual sites, pairs, all sites, etc.)
Assigned what speakers to go see. Have a choice of who to see. Ideas they can use, not just your friends
TX format network and interaction,
Virtual NOT all day. Break it up, NSTA couple of hours a night, a few hours a day, synchronous parts with presentations themselves asynchronous. Discussion in person, BUT they need to watch the session.
Weekends/ evenings? time zone problem, class, during the day?
HCCLS 20 min, GPS 10-15 minutes time allotted, format consistency
Interface (Missouri science conf) cisco WebEx very interactive
Wix build site
Favorite parts interact with others, hard to replicate, social hour interaction
Software program that allows you to mingle in a room Ask Dr E
Learn from small conferences , connect
Feedback mechanism
Fellows made a video of their presentations ahead of time (asynchronous) but the warm and cool, was synchronous. In the synchronous portion they started with a brief overview of their projects.
Social time
Have the opportunity for Fellows to make mini workshops about their projects

Other Elements- any other ideas or incentives to get others excited about the conference – this is where food comes into play!

Other Conference Elements	
Assign each member an A, B or C (duplicates are ok) for the next session.	
(i.e., informal science ed inclusion, social connection facilitating ideas, data collection/distribution, food/goodies?)	
Miss social interactions	Zoom interactions at the end
Food...how can we incorporate this?	Find similar chain...have a collaborative zoom dinner with private room reservation
	Order food to each other's homes
	Dinner ahead of time (a way to connect personally...allow deeper connections professionally
	Dinner ahead...challenging, logistically

	*order ahead could be easier...with time difference and large group
	*time differences
Data collection	Grounding documents...easy to access for all
	Pre-made with tabs (able to drop in chat)
	Single place to relocate information, recording thinking and processing together
Social	Other days...over the week... virtual bar, trivia night with prizes :)
Social night at each location	How do we encourage people to attend....free drinks (reach out to participating establishments)
	Home delivery of beverages
	Each cite host one night... each night would be at a different location
Informal science	Informal science could allow us to use their space and arrange an activity
Games	Imbed "games" ...could be ongoing, asynchronously. Like a place to hang out
Contest	Drop in one of the games, one activity, etc... PRIZES :) Fancy dress show :)
	Short video contest
	Some kind of exhibition floor
Must haves	
Could haves	Have a topic for discussion so it motivates attendance - e.g, how to use movies in class, good science books they have read, faves on Netflix, racial equity.
Don't need to have	Easy to use platform

Within each small group, participants were assigned a letter (either A, B, or C) that determined their trajectory. Participants discussed ideas for what the end-of-year conference "Must Have" versus what it "Could Have." Some incredible ideas came about for the "Must-Have's" including:

- Social Interaction
- An exciting topic for discussion to motivate attendance – e.g. how to use movies in class, good science books to read, Netflix favorites, racial equity, etc.
- An easy-to-use platform
- A combination of asynchronous and synchronous components
- Social Hour

- Straightforward way for fellows to upload their presentations (with access for all Wipro SEF members).
- Equitable review process for all fellow projects
- Schedule breaks!
- Opportunities for small group discussions with all conference participants

The list of "Could Have's" was also extensive and included many thoughtful ideas:

- Mini workshops by fellows about their GPS work
- Breakout sessions of interest
- Games
- Choice of events/sessions to attend (not required to attend all)
- Leveraging informal science partners to increase social opportunities
- Each site taking ownership of a night during the conference to host a hybrid event at an informal space (restaurant or bar)

Before the end of the session, participants had an opportunity to take a mental break from brainstorming and play a quick fun game on Kahoot! an online learning platform that has been implemented in many classrooms. Kahoot allows teachers, or any user, to create a quiz-type game. They can choose the design of the question (poll, multiple choice, word cloud, etc.) and give students or any participants a code to gain access to play the game. Codes can be used on the Kahoot site which can be accessed by any device. At the conclusion of this session, participants left with a plethora of ideas to carry into future end-of-year conference planning sessions.

Session 5: Building Leadership and Capacity

Led by Tammy Moriarty (CA), Lesley Kirkley (FL), Susan Bartol (NJ), and Faith Milika (TX), the final conference session was built around leadership. One of the goals of the Wipro SEF program is to create a community of teachers and leaders. To accomplish this goal, fellows within the Wipro SEF program are asked to identify opportunities where they can take on a leadership role within the district or amongst their peers. Fellows work with experts in adult learning and leadership to develop the skills that will allow them to motivate other teachers to become leaders and join in on the professional continuum.

It is important for DSC's, who play an active role in the planning and facilitation of the Wipro SEF program, to understand what it means to be a leader so that they can best support their fellows on their journey to becoming teacher leaders. This session began with small group discussions on the definition of leadership. Each group was given a definition to discuss amongst their small group. There were six different definitions used which ranged from general leadership to teacher leadership including:

1. Teacher Leadership can be defined as "the process by which teachers, individually or collectively, influence their colleagues, principals, and other members of the school community to improve teaching and learning practices with the aim of increased student learning and achievement" (York-Barr & Duke, 2004).

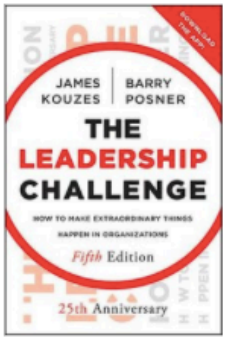
2. “Leadership involves the identification, acquisition, allocation, coordination, and use of the social, material, and cultural resources necessary to establish the conditions for the possibility of teaching and learning” (Spillane, Halverson, & Diamond, 2001).
3. “We believe teachers are leaders when they function in professional learning communities to affect student learning; contribute to school improvement; inspire excellence in practice; and empower stakeholders to participate in educational improvement” (Childs-Bowen, Moeller, & Scrivener, 2000).
4. Educators establish a compelling and inclusive vision for professional learning, ensure a coherent system of supports to build individual and collective capacity, and advocate for professional learning by making both the impact of professional learning and their own learning visible to others (Learning Forward, draft Standards for Professional Learning, 2020).
5. Teacher leadership, as a means to improving schools, “is a powerful strategy to promote effective, collaborative teaching practices in schools that lead to increased student achievement, improved decision making at the school and district level, and create a dynamic teaching profession for the 21st century” (Teacher Leadership Exploratory Commission, 2008, p. 3).
6. Leadership is notoriously difficult to define but it usually involves the exercise of social influence, often in the service of some collective end such as organizational productivity (Firestone & Martinez, 2007).

The leaders of this session felt that leadership was a practice that could be learned, developed, intentional. With that in mind, they provided participants with two resources to enhance their definition of teacher leadership. The first resource was an excerpt from *The Five Practices of Exemplary Leadership* by James M. Kouzes and Barry Z. Posner (2003). The second was an article entitled “Defining Teacher Leadership: A Framework” by Judith Warren Little, Rebecca Cheung, & Elisa Stone (2018). Summarized results of each can be found below.

What are ways people describe leadership practices?

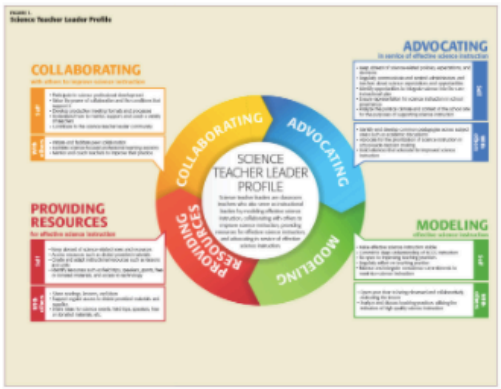
Kouzes & Posner

- Model the Way
- Inspire a Shared Vision
- Challenge the Process
- Enable Others to Act
- Encourage the Heart



Warren Little, et al

- Collaborating
- Advocating
- Providing Resources
- Modeling



With the idea of leadership as a practice, the session moved on to focus on identifying what to focus on by differentiating between two different types of challenges: technical versus adaptive. Leaders of the session noted that "one of the biggest mistakes a group can make is to try to solve an adaptive challenge with a technical solution." They provided a rubric to address each type of challenge and an example to go along with the descriptions

Technical vs. Adaptive Challenges

Technical	Technical and Adaptive	Adaptive
Definition of the challenge is clear	Definition of the challenge is clear	Definition of the challenge, solution, and implementation is not clear
There is a solution and someone (leader) can provide it	There is a solution but it requires new learning	Solutions are variable and requires new learning
Responsibility for implementation falls on followers.	All are responsible for implementation of solution	All are responsible for implementation of solution

School Example:

- **Technical Challenge**- all of our department group work needs to have a place where everyone can have access to the resources.
- **Technical and Adaptive**- there is a new curriculum to be implemented, but the teachers do not really know how to use it yet.
- **Adaptive**- a teacher in the math department does not have the same idea about teaching their students in terms of believing what students are capable of.

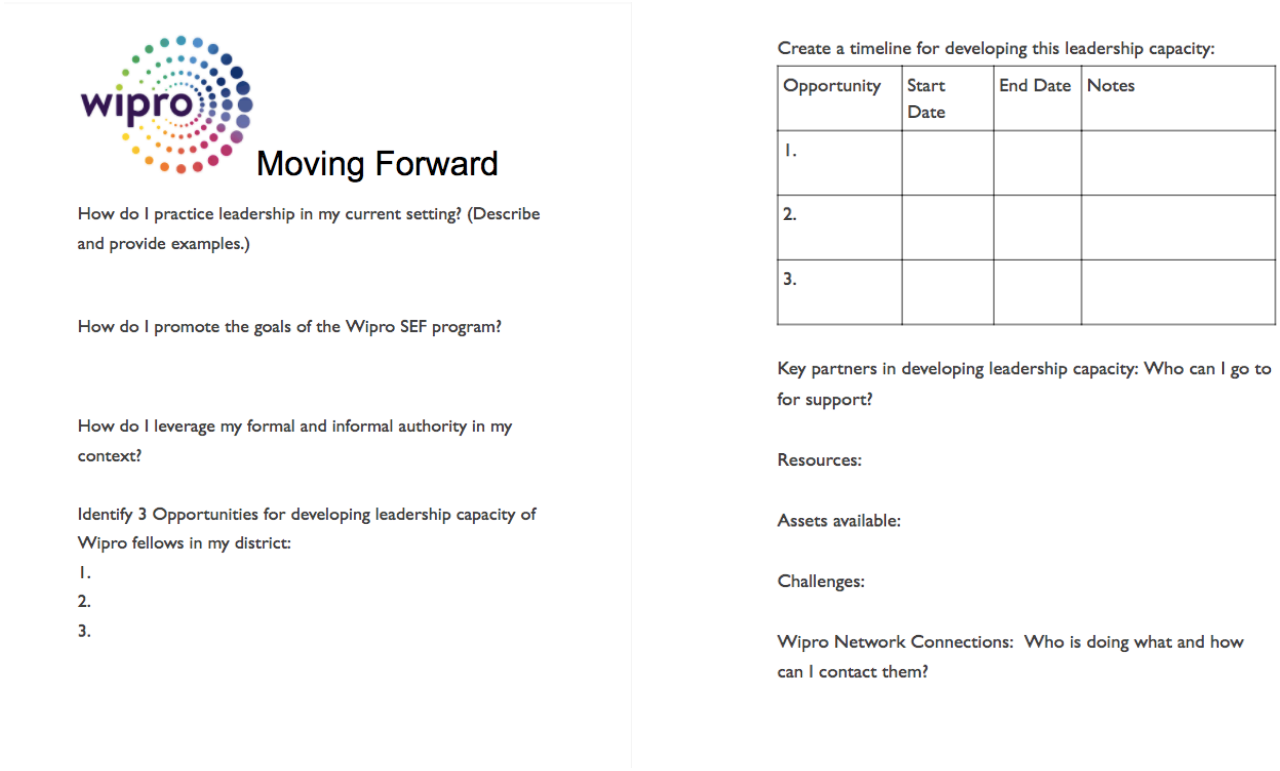
Participants then had the opportunity to reflect on some of the challenges they were facing in their districts. Moving forward, the leaders of the session transitioned to discuss how the power dynamic is at play with leadership roles and how we can still manage to work with others despite this dynamic.

When we think about work with other people (individuals and groups), it is important to understand some of the dynamics that happen when people come together. Part of the dynamics involve the idea of authority. Who has authority? Is it given, taken, or earned? Participants shared examples of people who had authority in their districts and then discussed to different types of authority:

1. **Formal authority**- authority provided by an organization to an individual enabling this person to carry out certain actions. Examples include individuals with titles such as Principal, Department Chair, Grade Level Lead, etc.
2. **Informal authority**- authority provided by group members to an individual; individual may lead others to achieve a goal or accomplish a certain task.

Each types of authority come with both affordances and challenges. While most authority is given to an individual by an institution or groups, self-authorization is a term that "refers to the fact that some people do not wait for someone in authority to "authorize" them to engage in activities that promote the general welfare. These people authorize themselves." (Umpleby, S. A.,1986). Different moments call for different types of authorization. Participants in this session were given the opportunity to reflect on some of these moments after discussing the definitions.

This session provided participants with a wide array of ideas regarding leadership. Not only were they given resources to help define leadership, but also the opportunity to reflect on how these descriptions were displayed in their district settings. At the conclusion of the session, participants were given two chances for reflection, both individual and overall take-aways. This reflection included a shift toward how the ideas that were presented during the session could be integrated into their ideas of leadership in the Wipro SEF program. The document displayed below was given to participants as a journal reflection:



wipro

Moving Forward

How do I practice leadership in my current setting? (Describe and provide examples.)

How do I promote the goals of the Wipro SEF program?

How do I leverage my formal and informal authority in my context?

Identify 3 Opportunities for developing leadership capacity of Wipro fellows in my district:

1.
2.
3.

Create a timeline for developing this leadership capacity:

Opportunity	Start Date	End Date	Notes
1.			
2.			
3.			

Key partners in developing leadership capacity: Who can I go to for support?

Resources:

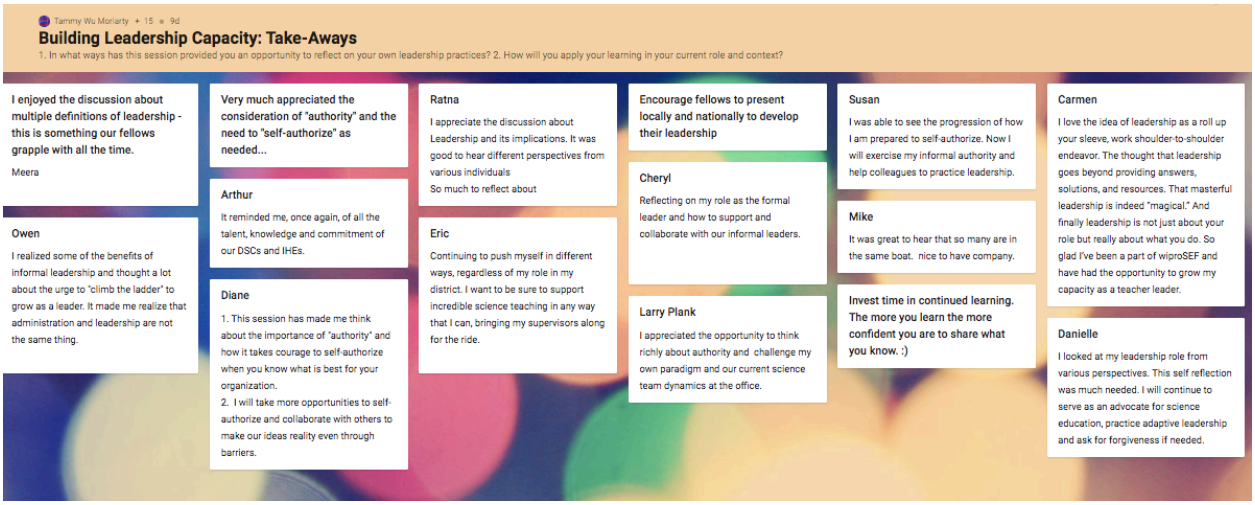
Assets available:

Challenges:

Wipro Network Connections: Who is doing what and how can I contact them?

To summarize the take-aways participants were given a link to padlet to respond to the following questions:

1. In what ways has this session provided you an opportunity to reflect on your own leadership practices?
2. How will you apply your learning in your current role and context?



In Summary:

Despite the fact that the Wipro SEF Leadership conference looked a bit different than years past, it provided immense opportunity for DSC's and other participants to engage in a reflection of the past year. In a time of uncertainty and panic, it is important to recognize and celebrate the work that has been accomplished, the ideas that have proliferated, and the progress that had been made despite the chaos that the COVID-19 pandemic presented for districts across the country. This conference will serve as a reference for future virtual conferences but also as a resource for district members to access and use to make progress as they continue to achieve the goals of the Wipro SEF program with their own fellows. We thoroughly enjoyed putting this conference together and are feeling inspired by the incredible work of our districts. We hope that the future of the Wipro SEF program is filled with leaders who continue to inspire others.

Meeting Evaluation and next Steps

One of the indicators of the success of the conference was that many of the participants continued to participate through the 5 sessions of the conference. Participants thought that the conference helped to build a regional and national network. Anne Gurnee's complete report is in the appendix. A few highlights are shown below:

Satisfaction Comments:

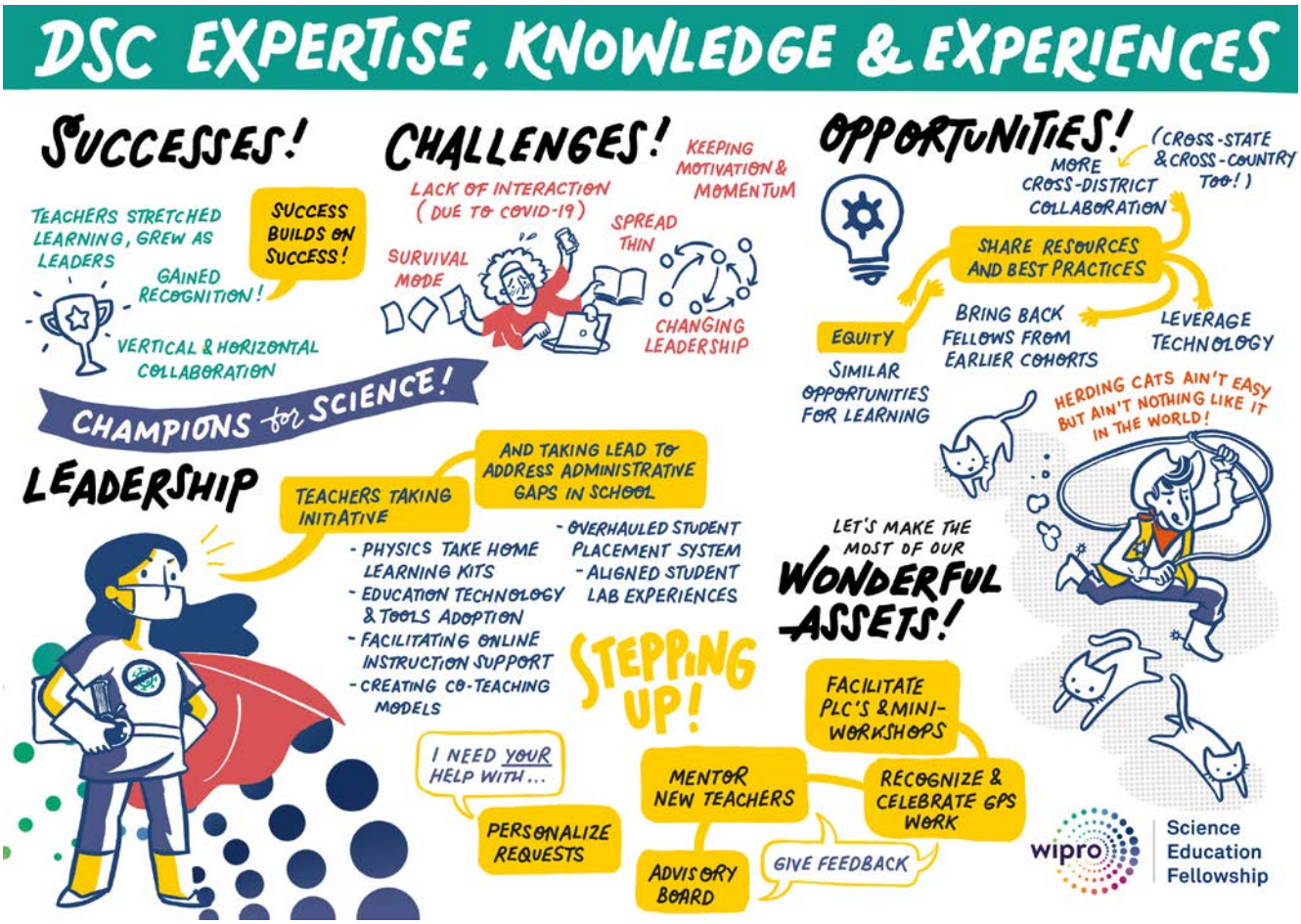
Session 1
Loved the conversation... As a presenter I was a bit reluctant to be part of the group, at first, feeling like I should be visiting all groups... but I just stopped and LISTENED and remembered why we were ALL there... to share and learn from each other.
I felt that mixing the groups up throughout would have added more to the experience.
Enjoyed hearing how other districts are using their fellows. Was able to get a few ideas I hope to implement in my district.
Great opportunity to connect with other DSC's. I was able to take-away many ideas .
Session 2
The presenters were wonderful and very engaging. They made me want to participate.
I really enjoyed collaborating with other DSCs and Wipro Community members and hearing their different perspectives.
I really enjoyed breaking down the questions asked in the breakout rooms and then coming back to share in the large group. The breakout rooms allowed us to all share our ideas intimately instead of being overwhelmed in the large group.
Well organized. I really appreciated the anchor doc, making a virtual experience interactive/engaging (aka remembering the human)
It was good to hear perspectives from DSCs across the country
Very thoughtfully planned out and resulted in excellent conversations across sites.
Gained ideas of how to increase collaboration among regional DSCs and fellows.

Session 3
This was a loaded topic and may have benefited from being spread across two sessions
Enjoyed discussing the successes and challenges that were involved in virtual learning
I felt that a lot of the time was sharing how other schools are currently teaching and it seems like those conversations were had before.
Nice to hear that there are so many similarities between states, but also how we are each traveling a unique path
Good conversations! Getting started was a bit slow.
Session 4
I think it was clever to ask us what things we need and can do better before the conference happens. It was a great use of time since we were all together and would benefit from the brainstorming ideas that were discussed today.
Great conversations and fun way to provide feedback around the future conferences.
Session 5
The discussions in my small group were rich and soulful. My mind was blown with the ideas that each participant offered.
Great opportunity to self reflect.
Great session... really found the focus and structured opportunities for discussion and reflection valuable.
I have done a lot of learning before around teacher leadership and really appreciated this experience in connecting my work with Wipro to this learning.

Visual Representations of the Conference

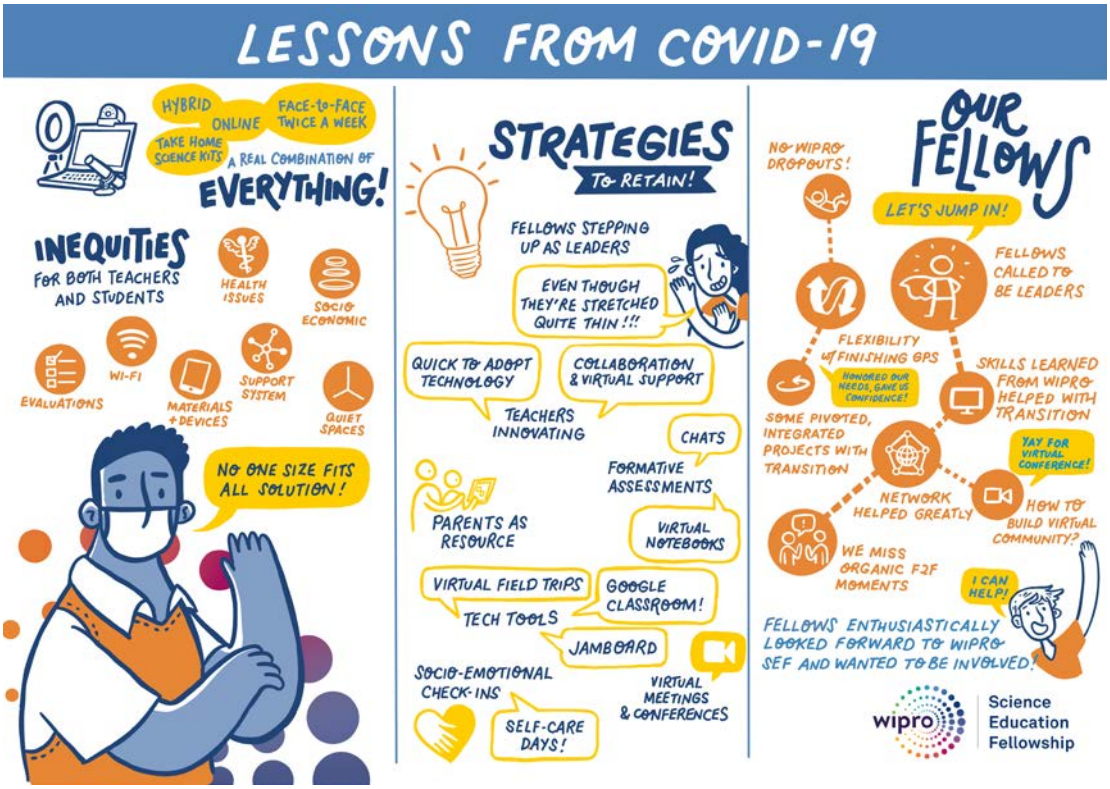
In addition to the formal evaluation of the conference, the essence of each session was captured in a visual representation. The artists who produced these representations listened intently to each session and then drew a visual that represented the key thoughts and ideas expressed by the participants.

Session 1 Sharing District Science Coordinators' Expertise, Knowledge and Experience



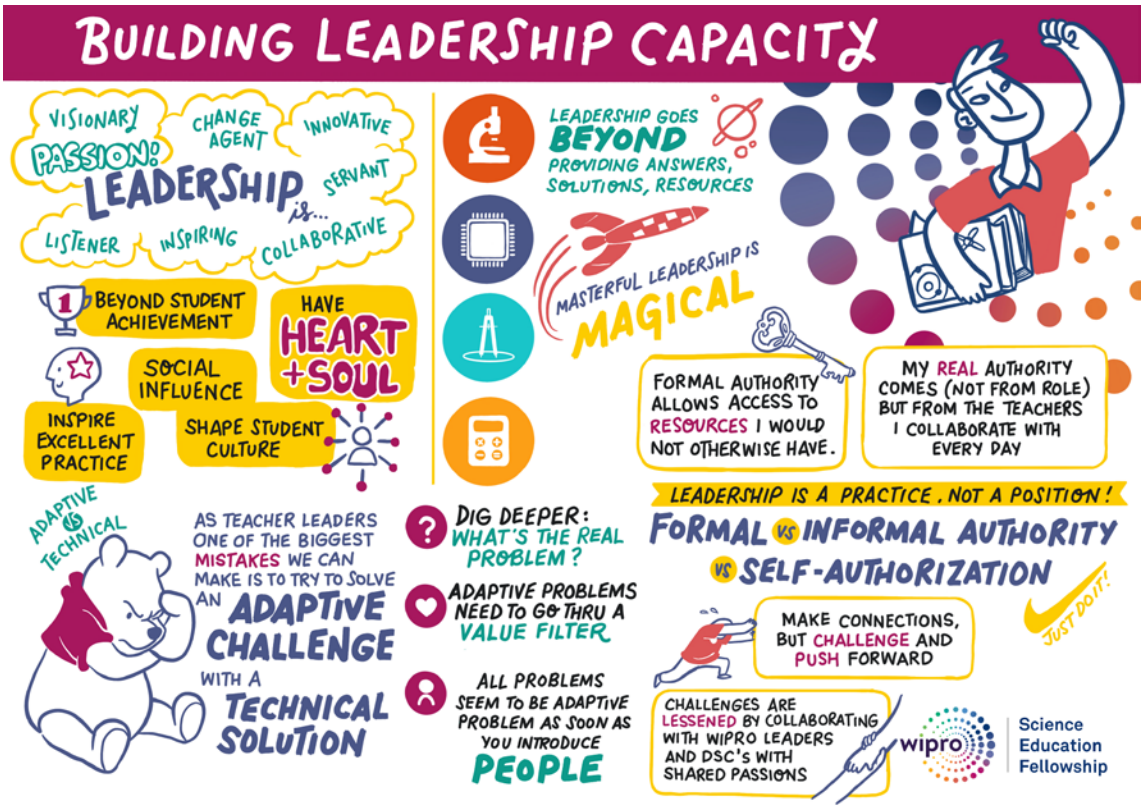
Session 2 Building Bridges and Community with Wipro Fellows

Session 3 Lessons from Covid-19



Session 4 Planning for the End-of-Year Conference and Beyond

Session 5 Building Leadership Capacity



End of the Year Conference Plans

A decision was made for all sites to hold their virtual end of year conference together. It will take place in early June and have both synchronous and asynchronous sessions. The conference responsibilities will be divided between the four active Wipro SEF sites- CA, MO, TX and FL. MA will oversee the conference and NY and NJ past Wipro fellows and current DSCs will be invited to participate.

Vertical Collaborative Coaching and Learning in Science (V-CCLS) Presentations

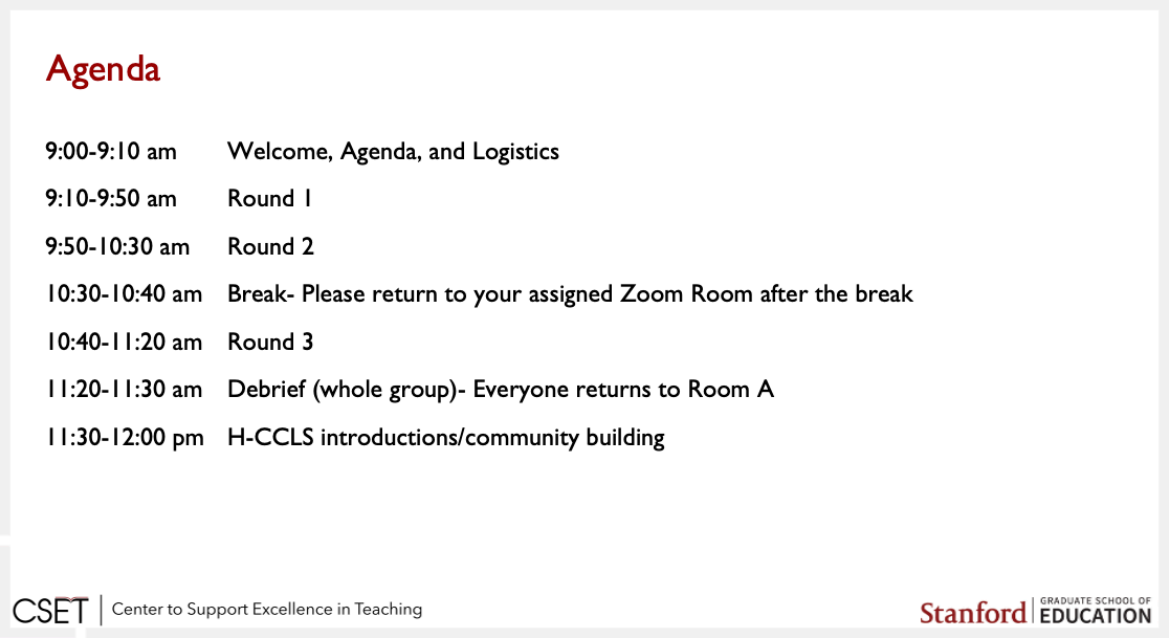
This year, the CA Wipro SEF Program held its Vertical Collaborative Coaching and Learning in Science (V-CCLS) Presentations for Cohort 3 virtually. See below for the V-CCL group assignments and areas of focus.

CA Wipro SEF Cohort 3, V-CCLS

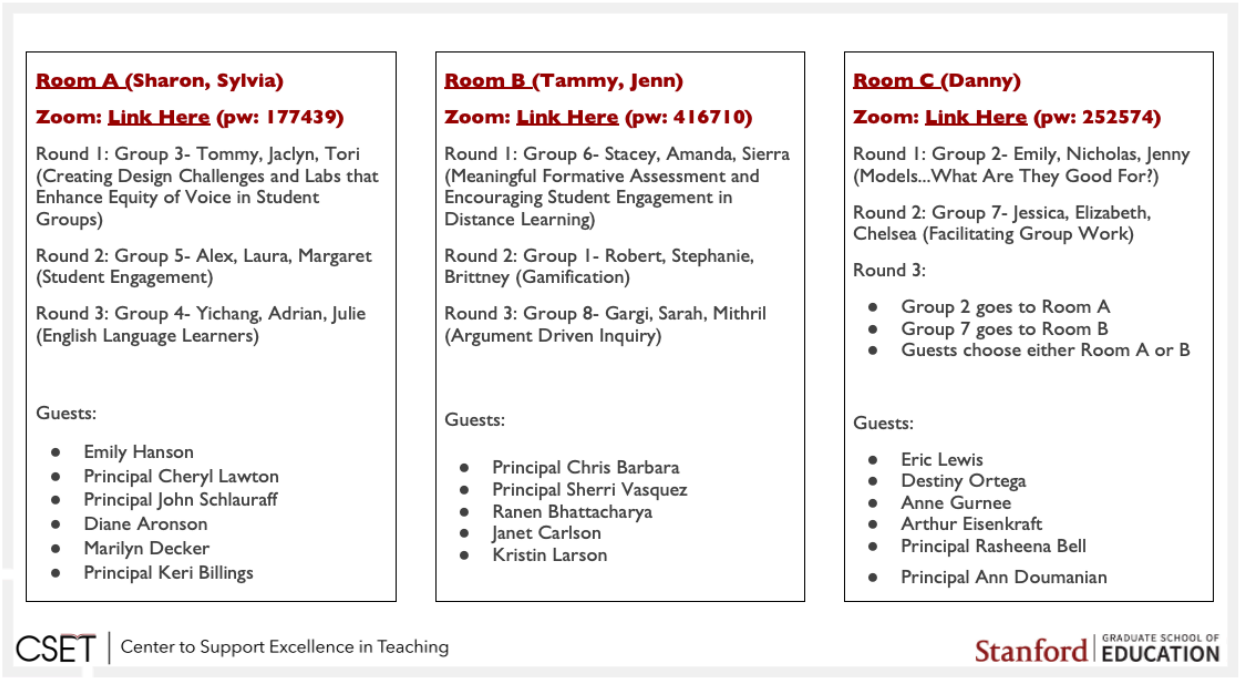
	Course of Study	**Content Focus**	**Team Members**
Biology	Leveraging Games for Engagement and Learning	Interdependent relationships in ecosystems	**Group 1: Biology** Robert Coverdell-Meneses Stephanie Yue Brittney O'Brien
Earth Science	The use of modeling to assess understanding and see previous concepts.	Earth materials and systems	**Group 2: Earth Science** Emily Stollmeyer Nicholas Guttadauro Jenny Degraaff
Biology	Creating Design Challenges and Labs that Enhance Equity of Voice in Student Groups	Structure and Function	**Group 3: Biology** Thomas Fulwiler (Tommy) Jaclyn Diaz Victoria Lanterman (Tori)
Physics	Supporting English Learners in Science	Conservation of energy and energy transfer	**Group 4: Physics** Yichang Liu Adrian Tamayo Julie McKinley-Reed
Chemistry/ Physics	Increased student engagement via age-appropriate technology use and strategies for successful student collaboration	Conservation of Energy and Energy Transfer	**Group 5: Chemistry/Physics** Alex Johnson Laura Spanier Margaret Poor
Biology	Meaningful Formative Assessment and Encouraging Student Engagement in Distance Learning	Structure and Function. (All organisms have external parts that they use to perform daily functions.)	**Group 6: Biology** Stacey Rader Amanda Lim Sierra Vance
Biology	Facilitating group work	Interdependent Relationships in Ecosystems	**Group 7: Biology** Jessica Paulsen

			Elizabeth Reiff Chelsea Alvarez
Chemistry	Argument driven inquiry	Physical Science	**Group 8: Physical Science** Gargi Verma Sarah Huggins Mithril Cox

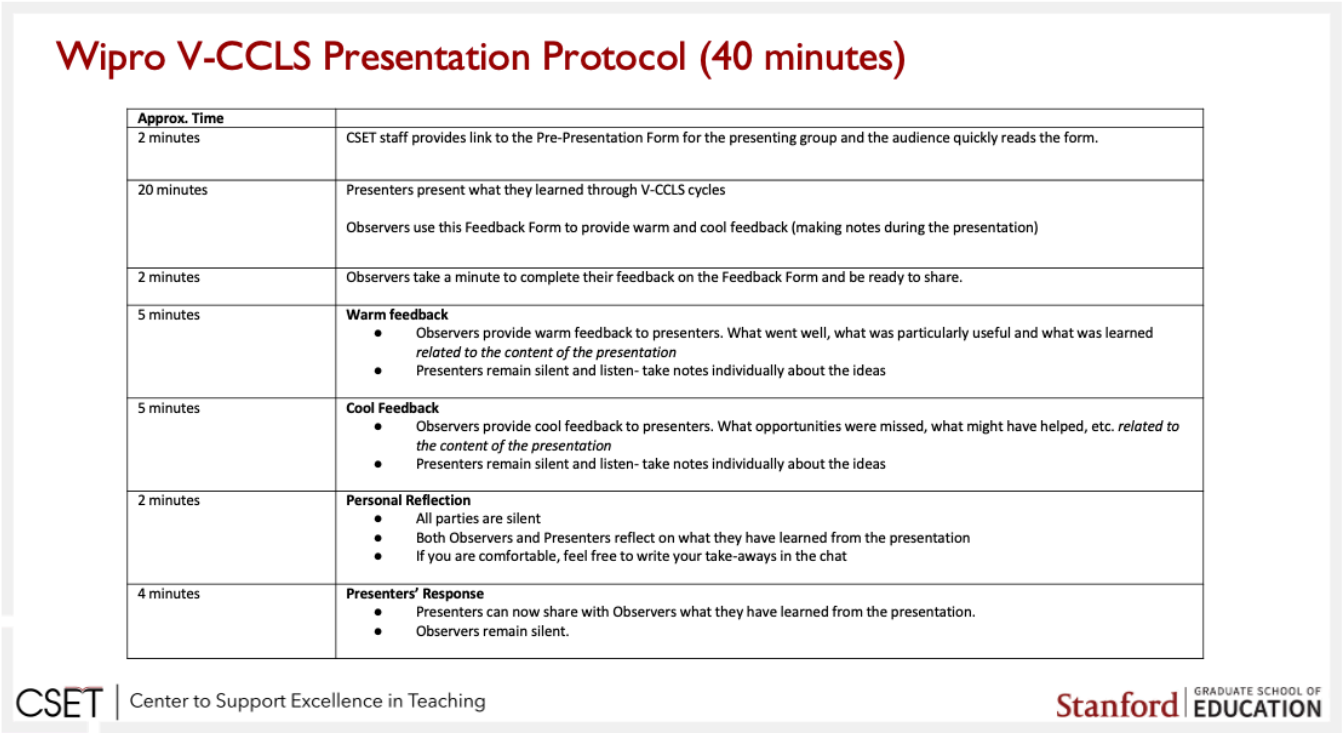
The CA Wipro leadership team created a simple, streamlined way for fellows to upload their Pre-presentation forms and presentations by having each group link their work to a master document prior to the day of the presentations. The presentations were held on Saturday, January 16, 2021 from 9am-12pm with the following simple agenda:



The team was very pleased with the attendance at this event which included all of the Cohort 3 fellows, seven school principals, District Science Coordinators, the CA Wipro leadership team, and other members of the Wipro IHE team. The attendees were divided into three breakout groups that balanced the number and types of attendees.



For each round of presentations, the individual rooms implemented a feedback protocol that incorporated warm and cool feedback and time for presenters' reflections. The protocol used is shown below.



Overall, the event was quite successful, and both the CA Wipro Leadership Team and Cohort 3 fellows felt it was a wonderful learning experience, despite the fact that the session was virtual. In

fact, one of the benefits of the virtual presentations was that we had more school principals in attendance than we have ever had in the past. After speaking with some of the principals, the CA leadership team discovered that principals were more likely to participate in virtual presentations rather than in-person events because of its convenience. They indicated that even though they desired to participate in the past, driving to Stanford University on a Saturday was difficult to do with personal responsibilities at home. The leadership team also noticed that all school principals remained for the entire session.

Fellows Reflections on the V-CCLS Teams

Unfortunately, we did not take an official survey asking fellows about their V-CCLS experience. Instead, we had an informal discussion after the guests left the presentations about their experience. All said that they had a positive experience and felt like it was well worth their time and efforts. However, our team was able to get a little feedback from guests that attended the V-CCLS presentations.

Here's what a few of the guests said:

I just want to thank you for providing these opportunities. This is like my second or third time going through and it's so refreshing to see the elementary, middle…progression. You know, we, we have a lot more in common than we have differences and but also how it pushes the thinking of the students, if you will, and the teachers to be like, "oh, how does that work for middle school versus elementary?" I had been in high school for many years prior to now. I'm in elementary and I often thought like, gosh, I wish my high school teachers could see what elementary teachers are doing and vice versa. This is an excellent model for that. Thank you. (Principal K.B.)
Yeah, I just, I want to add this was my first Wipro experience and I will say that it was well worth the time spent learning from you. You know, as a principal, we want to model that continuous learning and just the collaboration with each other. And I think this is an excellent example of that. I really appreciate all of you. I've learned a tremendous amount in these two hours. Even though it's a Saturday, you were able to make this time very worthwhile and I learned a lot from you. I appreciate you all. Thank you. (Principal J.S.)
This is, I guess, my second or third event like this and I feel like I'm figuring it out now. But something that Tammy said earlier that I didn't consider is that this is not like an end. This is a beginning stage and I that this seem so summative and like I can't believe that there's still so much more you can do with this. And that's really exciting and really interesting and I love the feedback. I felt like the feedback and Group B was awesome and exciting. Thank you. (IHE guest)

V-CCLS Team Presentation Artifacts

In order to organize and collect all of the V-CCLS Presentations, the CA Wipro Leadership Team asked all V-CCLS groups to link their presentations to an organizing document (see screen shot of

this document). The team was able to access all of the presentations from this document and we will store the presentations in our shared Google Drive folder.

Group #	Group Members	Science Content	Course of Study	Presentation Title	Pre-Presentation Form *Please make a copy of the following template, complete the form as a group, and insert your link below.*	Presentation Link *Please insert the link to your group's slide deck below.*
Group 1	Robert Coverdell-Meneses Stephanie Yue Brittney O'Brien	Ecosystems: Interactions, Energy, and Dynamics LS2.A Interdependent relationships in ecosystems	Leveraging Games for Engagement and Learning	Gamification	Link Here: Form	Link Here: Presentation
Group 2	Emily Stollmeyer Nicholas Guttadauro Jenny Degraaff	Geology/Water Erosion/Drought/ Plate Tectonics ESS2. A Earth materials and systems	The use of modeling to assess understanding and see previous concepts.	Models...What Are They Good For?	Link Here: Form	Link Here: Presentation

2.

Creating Horizontal Coaching and Learning in Science (H-CCLS) Teams

The CA Wipro Leadership Team created H-CCLS groups by dividing Cohort 3 into elementary, middle, and high school grade bands first. Then, we made groupings that were intentionally mixed districts (to the best of our ability). The team also took into consideration the personalities of the group members so that each group would be a well-balanced team. Each group was asked to name their first, second and third choice NGSS Science and Engineering Practice (SEP). Based on what they submitted, the leadership team was able to assign different SEPs to most groups while still honoring either their first or second choice. It is important to note that the CA Wipro Leadership Team allowed a few groups to investigate the same SEP because that is what the group was most interested in exploring. The Leadership Team thought that their desire to explore a particular SEP was more important than making sure that the groups had different SEPs. Please see the table below for the group assignments and research articles chosen by each group.

H-CCLS Teams- CA Cohort 3 Course of Study

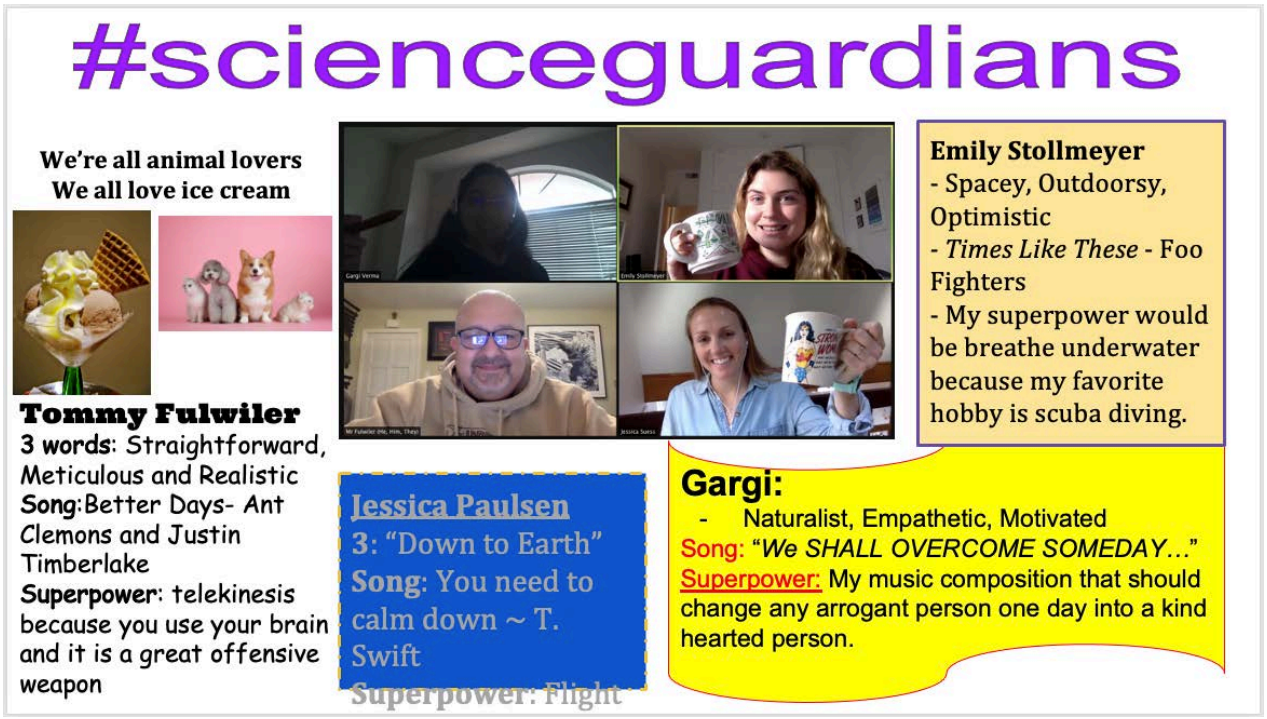
Cohort #3	**Course of Study**		
Team name (include grade span)	**Science/ Engineering Practice**	**Title of Research Article(s)**	**Research article citation**
Group 1 Yiichang Liu Alex Johnson Robert Coverdell-Meneses Stacey Rader	Analyzing and Interpreting Data	Use of First-hand and Second-hand Data in Science: Does data type influence classroom conversations? Student performances on the science processes of recording data, analyzing data, drawing	Barbara Hug & Katherine L. McNeill (2008) Use of First-hand and Second-hand Data in Science: Does data type influence classroom conversations? International Journal of Science Education, 30:13, 1725-1751.

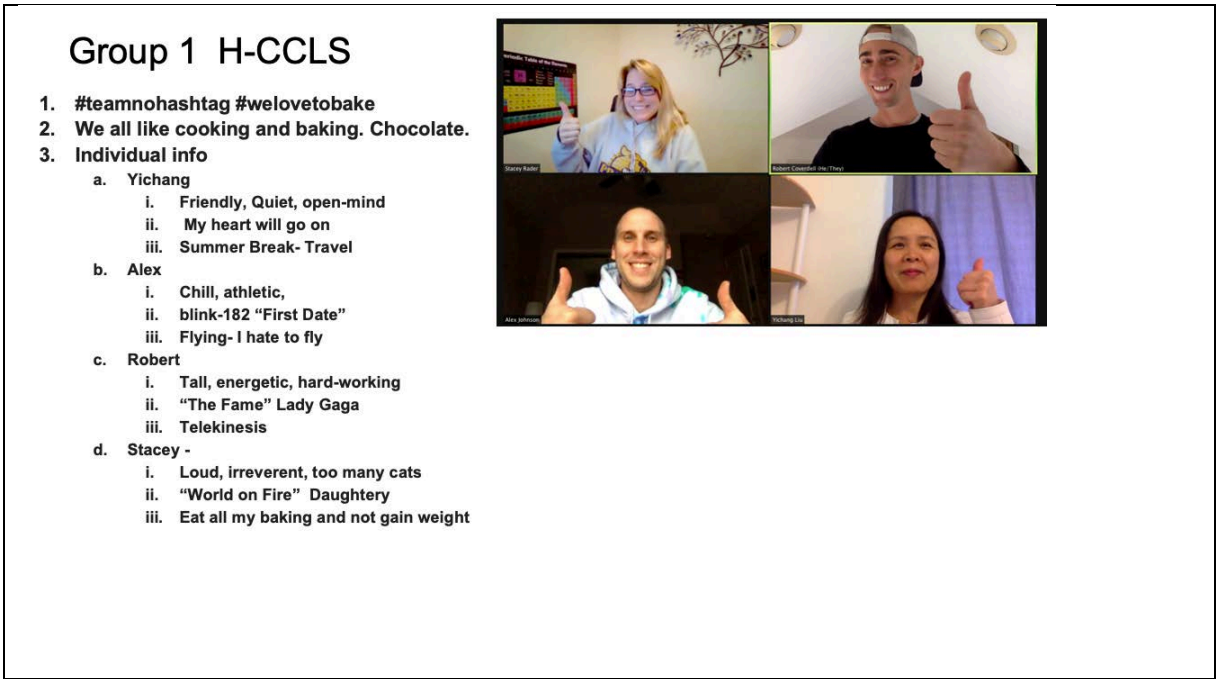
		conclusions, and providing evidence.	Germann, P. J., & Aram, R. J. (1996). Student performances on the science processes of recording data, analyzing data, drawing conclusions, and providing evidence. *Journal of Research in Science Teaching: The Official Journal of the National Association for Research in Science Teaching*, *33*(7), 773-798.
Group 2 Jessica Paulsen Emily Stollmeyer Gargi Verma Tommy Fulwiler	Obtaining, evaluating, and communicating information	Teaching Students to Evaluate Source Reliability during Internet Research How high-school students find and evaluate scientific information: A basis for information literacy skills development Becoming Critical Consumers and Producers of Text: Teaching Literacy with Web 1.0 and Web 2.0 Engaging learners in scientific practices related to obtaining, evaluating, and communicating information RADAR: An approach for helping students evaluate Internet sources Students Evaluating Internet Sources: From Versatile Evaluators to Uncritical Readers	Sanchez, C. A., Wiley, J., & Goldman, S. R. (2006). Teaching students to evaluate source reliability during Internet research tasks. Julien, H., & Barker, S. (2009). How high-school students find and evaluate scientific information: A basis for information literacy skills development. *Library & Information Science Research*, *31*(1), 12-17. Handsfield, L. J., Dean, T. R., & Cielocha, K. M. (2009). Becoming critical consumers and producers of text: Teaching literacy with Web 1.0 and Web 2.0. *The Reading Teacher*, *63*(1), 40-50. Bell, P., Bricker, L., Tzou, C., Lee, T., & Van Horne, K. (2012). Exploring the science framework: Engaging learners in scientific practices related to obtaining, evaluating, and communicating information. *Science Scope*, *36*(3), 17. Mandalios, J. (2013). RADAR: An approach for helping students evaluate Internet sources. *Journal of information science*, *39*(4), 470-478.

			Kiili, C., Laurinen, L., & Marttunen, M. (2008). Students evaluating Internet sources: From versatile evaluators to uncritical readers. *Journal of Educational Computing Research*, *39*(1), 75-95.
Group 3 Adrian Tamayo Sarah Huggins Laure Spanier	Arguing from Evidence	A learning progression for scientific argumentation: Understanding student work and designing supportive instructional contexts Establishing the norms of scientific argumentation in classrooms Coordinating Scientific Argumentation and the Next Generation Science Standards through Argument Driven Inquiry	Berland, L. K. and McNeill, K. L. (2010), A learning progression for scientific argumentation: Understanding student work and designing supportive instructional contexts. Sci. Ed., 94: 765-793. Driver, R., Newton, P., & Osborne, J. (2000). Establishing the norms of scientific argumentation in classrooms. Science Education, 84(3), 287-312. Grooms, J., Enderle, P., & Sampson, V. (2015). Coordinating Scientific Argumentation and the Next Generation Science Standards through Argument Driven Inquiry. *Science Educator*, *24*(1), 45-50.
Group 4 Elizabeth Reiff Nicholas Guttadauro Amanda Lim Stephanie Yue	Developing and Using Models	The Modeling Toolkit: Making Student Thinking Visible with Public Representations	Windschitl, M., & Thompson, J. (2013). The modeling toolkit: Making student thinking visible with public representations. *The Science Teacher*, *80*(6), 63-69.
Group 5 Jenny DeGraaff Tori Lanterman Chelsea Alvarez	Developing and Using Models	The Modeling Toolkit: Making Student Thinking Visible with Public Representations	Windschitl, M., & Thompson, J. (2013). The modeling toolkit: Making student thinking visible with public representations. *The Science Teacher*, *80*(6), 63-69.
Group 6 Brittney O'Brien Mithril Cox Julie McKinley-Reed	Constructing Explanations	Elementary students' views of explanation, argumentation, and evidence, and their abilities to construct arguments over the school year	McNeill, K. L. (2011). Elementary students' views of explanation, argumentation, and evidence, and their abilities to construct arguments over

			the school year. Journal of Research in Science Teaching, 48(7), 793-823.
Group 7 Margaret Poor Sierra Vance Jaclyn Diaz	Analyzing & Interpreting Data	Students' Successes and Challenges Applying Data Analysis and Measurement Skills in a Fifth-Grade Integrated STEM Unit	Glancy, A.W., Moore, T. J., Guzey, S., and Smith, K. A. (2017). Students' Successes and Challenges Applying Data Analysis and Measurement Skills in a Fifth-Grade Integrated STEM Unit. *Journal of Pre-College Engineering Education Research,* 7(1), 5.

Because of the virtual nature of the Wipro Program this year, the CA Leadership Team thought that it was very important to help the groups build community before engaging in deep work together. During the H-CCLS rollout, each group was asked to create a group slide that would be presented during the next monthly professional learning session. The group slide included words they would use to describe themselves, what they had in common, their favorite songs, and their superpower if they could have one. Here are some examples of what they created:





Fellows' meetings

The monthly meetings for Wipro Cohort 3 Fellows have gone very well considering the virtual nature of this year's work. The focus of the meeting have encompassed everything from student engagement during distance learning to learning how to create conceptual flow graphics (CFGs) as a process and a product. Please see the agenda for the monthly Cohort 3 meetings below.

Cohort 3 Monthly Professional Learning Sessions

Date	Focus of Meeting	Link to Slide Deck
February 4, 2021	Conceptual Flow- Part One H-CCLS Group Work time	Slide Deck
March 11, 2021	Conceptual Flow- Part Two - CFG Work_Robert, Stephanie, Brittney - CFG Work_Emily, Nick, Jenny - CFG Work_Tommy, Jaclyn, Tori - CFG Work_Yichang, Adrian, Julie - CFG Work_Alex, Laura, Margaret - CFG Work_Stacey, Amanda, Sierra - CFG Work_Jessica, Elizabeth, Chelsea - CFG Work_Gargi, Sarah, Mithril HCCLS Group Work Time	Slide Deck Padlet Gots and Needs
April	Applying what we have learned this year about Reflective Practice as we move back into in-person school. (tentative)	N/A
May	Preparing for H-CCLS Presentations (tentative)	N/A

Cohort 1 Fellows

The CA Wipro Team has not had much formal contact with Cohort 1 after our "End of Year" conference that took place in October, 2020, although the team has definitely kept in contact with many of them informally. The CA Leadership Team is planning to host a "virtual happy hour" for Cohort 1 fellows to gather and connect in the coming weeks as well as send a spring note with a small treat (Starbuck's gift card) to wish them well. The CA Wipro Leadership Team would like to do better in terms of involving Cohort 1 Fellows in the current program, but the stress of the pandemic has affected our bandwidth to do that well. When the pandemic lifts and it is safe to meet in person again, the team is hoping to host a celebration at Wipro Technologies in Mountain View. Until then, however, there is a hold on all planning.

Featured District Science Coordinators

Coordinators who were part of the Leadership Conference planning and facilitation are highlighted here.

Eric Lewis, National Board-Certified Teacher in San Francisco Unified School District (SFUSD)

I have loved supporting my Wipro Science Education Fellows (SEFs). As a former high school teacher that now supports middle school science, it has been a pleasure to also connect with our elementary school teachers through science. I'm so impressed with the projects my SEFs have completed and by the incredible cross-level discussions around science. The VCCLS projects are always so interesting and inspiring.

What changes have you seen in your teachers because of their involvement in Wipro SEF?
There are so many leaders in this group - which is exactly what we want to see. I have seen firsthand how our SEFs have taken their experiences from their Wipro PDs and meetings and brought this to other teachers in our district - both in their own schools and beyond.

I love camping and hiking. Here I am hiking around in Mendocino, CA during a camping trip.

Has your relationship with your university partner changed as a result of the program?
I have been so pleased to get to work with my IHE. While Stanford has always been a great partner to SFUSD, Tammy and Sharon are two of my favorite people of all time. I feel confident that I can rely on my university partners when I need support - both for Wipro-related work and NON-Wipro work. Regardless, my work with Wipro has spawned additional opportunities for collaboration and has deepened my relationships - both personal and work-related with Stanford colleagues.

Were their parts of the leadership conference that you found valuable?
I really enjoyed working with my two partners in leading session 2 of the Wipro Leadership Conference. Collaborating over three different time zones with people that I never worked with before was never so easy. Ratna and Mary were amazing, and we were able to get things done quickly and efficiently. I also appreciated meeting with other DSCs and helping to define what we might need to be more successful in the future.

Are their aspects of the program that you would like to continue? What kinds of funding would you need to do so?

I love the work that Wipro has supported with our SEFs. It would be wonderful for this kind of project to continue indefinitely. I also appreciate the opportunities to collaborate with colleagues across the nation. Also, we as a profession need to continue to support our new science teachers in the ways that Wipro has done. We lose too many teachers because the job is too hard, the pay is too low, and the PD is too inconsistent. What we're doing with Wipro is helping to cultivate expertise and excellence among our science teachers/science teaching in our districts.

Anything else you would like to share

This has been a great experience. I hope that it will continue!

A brief bio including Eric's role in his district

Eric Lewis is a National Board-Certified Teacher in San Francisco Unified School District (SFUSD) who prepares middle school science teachers to enact SFUSD's Science Core Curriculum. Eric started his career over 20 year ago teaching at Mission High School in SFUSD where he taught Biology, Physiology, Health Careers, and Earth Sciences. In recent years, Eric has been in charge of the National Board Certification Support Program in SFUSD and was the high school science content specialist for SFUSD. Eric is a teacher-in-residence at San Francisco State University, is on the Community Advisory Panel for KQED, has been a region director for CASE (formally CSTA - the California Science Teachers Association), and has been a Mentor Teacher with the Exploratorium's Teacher Institute. Being a Wipro District Science Coordinator has been a highlight of his work for the past two years. Eric's passions are ensuring that teachers are treated as professionals, promoting rigorous and engaging science for all students, going on great hikes, reading, and spending time with his family.

Vertical Collaborative Coaching and Learning in Science (V-CCLS) Presentations

The spring 2021 VCCLS mini conference presentation and launching of HCCLS group of Cohort 3 were held virtually on an online zoom platform. The conference began asynchronously on Saturday, January 2nd at 9.00 am and ended synchronously on Saturday, January 9th at 12.00 pm.

The asynchronous session began on January 2nd where attendees watched VCCLS presentations via Dropbox. Conference attendees were invited to provide warm and cool feedback and ask questions of the Fellows using the link provided in each presentation folder on Dropbox. The synchronous session was held on January 9th. Fellows provided brief (5 minutes) reviews of who they are and what their work was that was shared in their video presentation. They also provided an introduction of group members and where/what do they teach, their Course of Study and brief review of key learnings/highlights from the work. Virtual "poster session" –Attendees watched Flipgrid presentations of cohort 1 GPS projects and left comments via Flipgrid.

Success and challenges:

Tampa Bay Wipro SEF is provided feedback from Pam Pelletier about its different activities. This section paraphrases her feedback for the January mini-conference.

Pam noted that the leadership team took care to provide this worthwhile opportunity for the Fellows' learning. Materials were organized well and accessible, the event was well coordinated, and that the Fellows all shared in productive ways. She added Fawnia was "great at keeping the feedback cycles on time and the Fellows on task." Pam added that it was great to have some time to look at the GPSs between the sessions to break them up. She also commented favorably on the provision of ways to gather and send the feedback to each group electronically was a wonderful addition to the conference!

Pam reported that as expected, each presentation had strengths and areas for improvement. She found the chat box was distracting during the warm/cool feedback part of the presentations. She also noted only 10 cohort 1 Fellows shared their GPS projects on Flipgrid. This is an issue that the Tampa team was aware of and that they believe was due to the changes in Fellows' schedules because of the pandemic. The team does not expect this to be an issue for cohorts 2 or 3.

VCCLS mini-conference attendance

- Cohort 2 Fellows: Sherri Alvarez, Teresa Buckman, Karen Bulino, Richard Card, Jennifer Cogan, Carrie Donatelli, Julie Fine, Brett Goodrich, Jennifer Griffone, Bhagyashree Kulkarni, Tara McClintick, Cayla Repass, Daniel Rice, Ann Salazar, Latasha Seay, David Seis, Sonila Toska, Anita Ventura, Michele Wiehagen.
- Cohort 3 Fellows: Gina Choate, Kellie Delgado, Kathryn Laubach, Yasmeen Leon, Chelsey Swats, Mishell Thomas-King, Ileana Bermudez Luna, Nicole Holman, Kelleigh Weeks, Lora Darby, Kimberly Fox, Laura Lacy-Carlson, Andrea Blomeley, Andrea Smoley, Nicole Caltabellotta, Roshaun Reno, Dawn Avolt, Christina Macurdy, Laurie Vaughn-Grantges
- Wipro SEF: Pam Pelletier, Arthur Eisenkraft, Marilyn Decker
- District Science Coordinators: Lesley Kirkley, Larry Plank, Fawnia Schultz
- University of South Florida: Allan Feldman, Nancy Islam, Karl Jung, David Rosengrant

Overall, the Tampa Bay team was pleased with the day. The Fellows' presentations were professional, and they accurately portrayed what they had accomplished in their V-CCLS groups. They demonstrated teacher learning, engagement, collaboration, and camaraderie. The warm and cool feedback was provided in an open and honest manner. The presentations were improved over last year. The Cohort 3 Fellows were provided with the suggestions that were received from the Boston Wipro team and they did an excellent job of incorporating those into their presentation. This included making the presentations more interactive and sharing with the audience examples of actual student work to engage with. There was the expectation that there would have been more visitors from the school districts. Fellows were encouraged to invite their principals, and an invitation was provided to them to share. The Tampa leadership team needs to be more proactive about this both for the V-CCLS presentations and the spring conference.

V-CCLS Presentations

	Course of Study	**Content Focus**	**Team Members**
Biology 1	Collaborative learning in the science classroom	Fundamentals of life: A collaborative journey into learning	Gina Choate, Lora Darby, Roshaun Reno, Chelsey Swats
Biology 2	Guiding questions for inquiry	Water is the medium of life	Nicole Catabolletta, Andrea Smoley, Kellie Delgado, Michell Thomas-King

Chemistry	Claim evidence reasoning	Process skills	Ileana Burmudez-Luna, Kat Laubach, Kim Fox, Laurie Vaughn-Grantges
Physics	Inquiry and using simulation	How forces affect matter	Dawn Avolt, Laura Lacy-Carlson, Yasmeen Leon, Charles Turner
Earth Science	Tools for collaboration for learning online	How does water sustain life on earth	Environmental/Earth – Andrea Blomeley, Christina Macurdy, Kelleigh Weeks, Nicole Holman

Fellows Reflections on the V-CCLS Teams

Kim Fox provided these reflections, "that participating in the V-CCLS provided her the opportunity to improve her ability to see progression of standards/ building of concepts, to see instructional practices facilitated at differing grade bands, and to see her instruction through the lens of teachers at other grade levels."

Laurie Vaughn-Grantges reported:
"Wipro has challenged me this year! It has kept me motivated to keep moving through this year of double-duty teaching. Teaching teenagers to ponder, analyze, and then respect results are essential to their path of becoming productive citizens in our world. We have learned so many strategies that can be applied to online and F2F students. I've met some very intelligent, talented colleagues, who I have had the privilege to work with. I've learned more technology through my Wipro colleagues than ever before. I feel like a more resourceful teacher and am so proud to influence others at my school by sharing innovative science teaching, learned through my fellowship."

Laura Carlson reflected: "I have always loved science and being in this program has made me a better teacher. I have been given many tools in order to pass my love of science off to my students and other team members at my school."

Kellie Delgado reported:
"I absolutely loved worked with my V-CCLS group. It was refreshing to see the high school teachers in the group dealing with similar content and behavior concerns, as those of us who teach in Elementary. We learned many new teaching strategies from each other and created a teacher bond. I look forward to our friendship, outside of the Wipro Program."

V-CCLS team presentations

Everything is collected and stored in Dropbox.

Creating Horizontal Coaching and Learning in Science (H-CCLS) Teams

Fellows were assigned to their new HCCLS groups to ensure cross district groups and to get them working with new people in those groups. In the afternoon of the January mini-conference they were given instructions about the new course of study and were sent into breakout rooms to discuss the science and engineering practices they would be interested in examining. Each group selected a different practice to focus on. After the practices were identified, HCCLS teams were provided time to select a pedagogical focus, identify articles, and set their schedule for debrief meetings for the semester.

H-CCLS Teams

Cohort #	**Course of Study**		
Team name (include grade span)	**Science/ Engineering Practice**	**Title of Research Article**	**Research article citation**
Elementary 1	Obtaining, evaluating and communicating information	The Effects of Using Interactive Student Notebooks and Specific Written Feedback on Seventh Grade Students' Science Process Skills	Mallozzi, F. & Heilbronner, N. (2013). The Effects of Using Interactive Student Notebooks and Specific Written Feedback on Seventh Grade Students' Science Process Skills. *Electronic Journal of Research in Science and Mathematics Education*. *17*(3), 1-24.
Elementary 2	Planning and carrying out investigations	Rebecca's in the Dark: A Comparative Study of Problem-Based Learning and Direct Instruction/Experiential	Drake, K. N., & Long, D. (2009). Rebecca's in the dark: A comparative study of problem-based learning and direct instruction/experiential

		Learning in Two 4th-Grade Classrooms	learning in two 4th-grade classrooms. *Journal of Elementary Science Education, 21*(1), 1-16.
Secondary 1	Engaging in argument from evidence	The DRiVe Inquiry Framework	Alexander, E., Pardo, R., Lindsay, S., & Rees, C. (2018). The DRiVe inquiry framework. *Alberta Science Education Journal. 45*(3), 29-33.
Secondary 2	Analyzing and interpreting data	Facilitating argumentation in the laboratory: The challenges of claim change and justification by theory	Walker, J. P., Van Duzor, A. G., & Lower, M. A. (2019). Facilitating argumentation in the laboratory: The challenges of claim change and justification by theory. *Journal of Chemical Education, 96*(3), 435-444.

Fellows' meetings

Date	**Focus of Meeting**
February	Deep dive into one science and engineering practices
March	Deep dive into one science and engineering practice and issues of equity
April	Preparing to share our work and launching the GPS. Continue exploring equity in their work
May	TBD because this would have been the end of the year conference. Most likely it will be used for the Fellows to share their H-CCLS learnings in depth with both cohort 2 and 3.

Cohort 1 Fellows

In the fall, one of the cohort 1 Fellows, Jessica Strauss, made a presentation about her GPS project to cohort 3. This was a way to share her learning, help her development as a teacher leader, and to give an example in depth of a GPS project to cohort 3 Fellows.

In addition, Jessica Strauss has worked with Dr. Rosengrant on an international project through OAS ITEN. The Inter-American Teacher Education Network (ITEN) is an initiative of the Organization of American States (OAS) that works with Ministries of Education or other governmental teacher education institutions of OAS Member States and classroom teachers to advance the teaching profession in the Western hemisphere. Together, Dr. Rosengrant and Jessica is working with teachers through Sam Sharpe College in Jamacia. We have developed this website: https://sites.google.com/view/steminquirydatabase/home through the first year of work. A possible expansion for the second year is the addition of podcasts of simple demos and experiments teachers can do in their classrooms. This work can then be shared to the current cohorts and their projects.

Cohort 2 Fellows

At the March 2021 joint cohort 2/3 meeting, Karen Bulino, a cohort 2 Fellow, gave a mini workshop on inequities in grading practices. This was a way to share her learning and help her development as a teacher leader.

In the 2021-22 academic there are plans to have a series of virtual presentations by the Fellows for them to share their learnings with a wide audience of teachers.

GPS Progress

Site location (State)	Cohort #
Florida	2 & 3

GPS Progress

The GPS project was introduced to cohort 3 at the January meeting. This will ensure that they have ample time to think about both the personal and professional goals and how they can impact their school and their classroom with the GPS projects.

Cohort 2 Fellows meet with cohort 2 at every other meeting. Part of those meetings are discussions relating to the GPS projects in affinity groups. Their expectations are

constantly reviewed. For example, in the March meeting, which just occurred, a GPS presentation and poster from cohort 1 was shared with cohort 3. The site leaders showed them one of the GPS presentations from Cohort 1 which included her poster. The guidelines for the portfolio including the rubric for assessing it was reviewed. Timely reminders and providing the rubric were done from what was learned with cohort 1. In addition, members of the leadership team (faculty, DSCs, Graduate Student, and Pam) act as mentors with the GPS Fellows. This allows the leadership team to stay in closer contact and to answer any questions faster along the way. During team meetings the Fellows' progress with their GPS projects are discussed so that everyone is apprised of any possible situations needing to be addressed. This has helped the cohort to stay on task their assignments.

The team's work with Cohort 2 is being formatively evaluated as they progress through their GPS project. There will be a final evaluation of the work with cohort 2 to see if there is anything additional that needs to be done to enhance the work with cohort 3.

Cohort 2 Fellows complete monthly reflections as part of their GPS projects. A member of our team looks over and identifies any issues that we need to address whether they are professional or personal; and shares that information with the appropriate team member, who then reaches out to the Fellow.

As a whole the cohorts have been progressing nicely. There are a few issues with some of the Fellows. One Fellow is having an incredibly challenging time at their school and may be switching. Two of the Fellows are on medical leave because the school wanted them to go back into the classroom even though they were in the high-risk category for Covid. They were recently vaccinated and will be returning to their classrooms soon. We have also had one teacher leave the District where he was teaching due to their Covid situation. That individual will not be receiving any funding from the project, but we are allowing him to continue since their work revolves around the GPS project they had already started.

Celebration plans for GPS Fellows

The Tampa Bay team is planning on doing some type of celebration for our GPS Fellows. It may be part of the national conference. The team would like to have a face-to-face event for all Fellows once it is safe to do so.

Planning for End of the year Poster session and H-CCLS Conference

H-CCLS/Poster Session Presentations/Conference

The Tampa Bay team is currently waiting to hear what the final arrangements will be for the national conference. If each site does a separate conference, the Tampa Bay conference

would be similar to the October conference but improved based on what has been learned since about doing virtual events.

Additional Information - Good news from Fellows

Teresa Buckman (Cohort 2) was recognized at a recent celebration of teachers of sustainability at USF sponsored by the Stavros Center and funded by the Coca Cola Foundation. She was recognized for her work in elementary sustainability instruction. She has also been nominated for a Science Superhero award in her District.

Andrea Smolley (Cohort 3) is the Land O Lakes High School Teacher of the Year.

Gina Choate (Cohort 3) received the Hillsborough Association of Elementary Science Teachers (HAEST) Building scientists award for her class's STEM FAIR project "How can we keep penguins cool at the South Pole".

Photos of the signs Kenny Coogan's (cohort 1) class made for the USF Botanical Gardens as part of his GPS project.

Jennifer Cogan’s (cohort 2) elementary schools students in their garden:

Featured District Science Coordinators

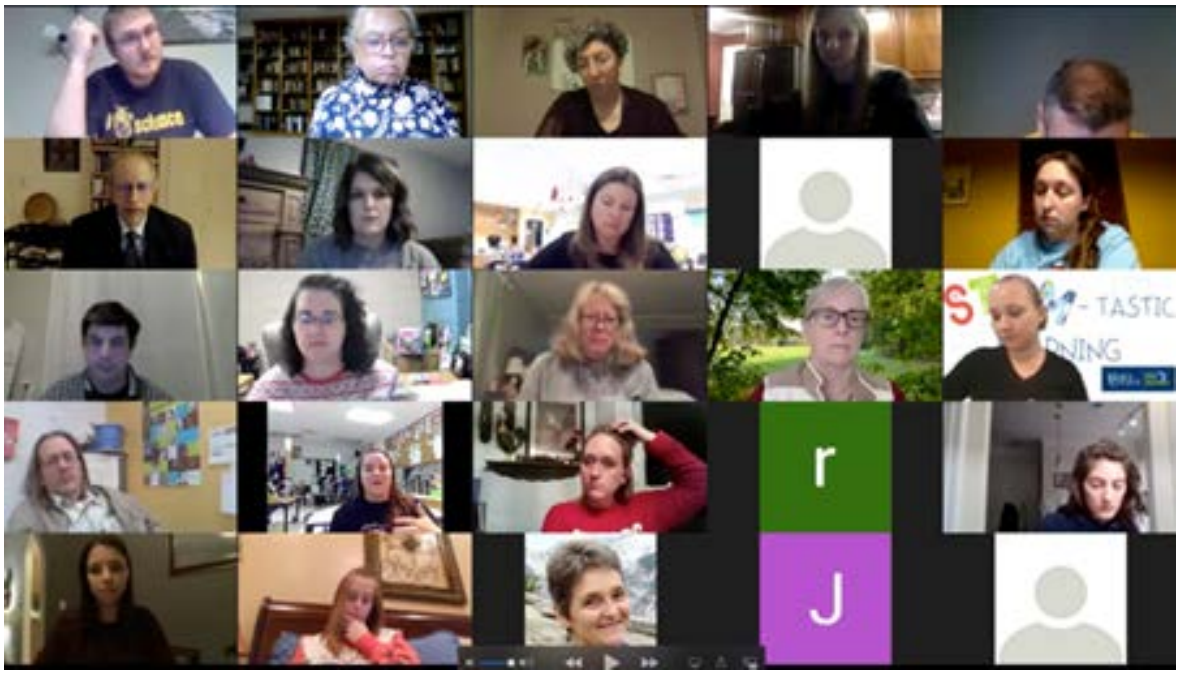
Coordinators who were part of the Leadership Conference planning and facilitation are highlighted here.

Lesley Kirkley, Senior Instructional Specialist K-8 Science, Pasco County Schools, Pasco, Florida

Lesley Kirkley holds a master's degree in Curriculum and instruction and currently serves students and teachers in Pasco County Florida in the role of Senior Instructional Specialist for K-8 Science. Lesley was a classroom teacher in the state of Florida for fourteen years prior to shifting her focus to developing science curriculum and supporting science teachers in Pasco County. Mrs. Kirkley holds a degree in Undergraduate Degree in Natural Science focusing her undergraduate studies on Microbiology. Lesley serves on the development and facilitation team for the state's standards-based professional development STEAMposium Summer Conference. Lesley has also had the opportunity to facilitate for NABT/BSCS Biology Teacher Academies across the country. Lesley is currently working on curriculum development for the Guy Harvey Ocean Foundation, Department of Environmental Protection, and the Florida Dairy Council. During her twenty years as an educator, she has remained passionate about the importance of Science education to promote scientific literacy for global citizenship. A second passion for writing led Lesley to fulfill her dream of becoming an author by co-writing an AP Biology Teacher's Guide for Cengage Publishing.

Lesley has found the two most significant impacts of serving as a DSC in the WIPRO SEF project to be the deeper connections made with the University Partners at the University of South Florida and the relationships built between teachers from the neighboring two counties. Prior to participation in WIPRO, communication between the science teams and teachers across counties was minimal. The opportunity to expand the professional community for both district staff and teachers is vital and WIPRO has been a vehicle to achieve this expansion. WIPRO provides a structure to help educators develop and grow their leadership practices while surrounded by a supportive community. The WIPRO Leadership conference was truly an extension of this work for the DSCs and WIPRO Partners across the country. The conference provided an easy, flexible and efficient way for those involved in WIPRO SEF to connect, network and learn.

Vertical Collaborative Coaching and Learning in Science (V-CCLS) Presentations



VCCLS Presentation Participants

Guests: Cynthia Dwyer (DC, Boonville), Arthur Eisenkraft (MA), Chris Hubbuch DC, Fulton), Marilyn Decker (MA), Kristen Larson (Program Coordinator NY), Anne Gurnee (Evaluator), Amy Crane) Principal, McIntire Elementary, Fulton), Mike Szydlowski (DC, Columbia) Kacie James (Maries Co R-2), Bethany Morris (DC, Hallsville), Courtney Jones, Gary Verslues (Jefferson City), Kati Boland (Principal, Fulton High School)

Cohort 3 Fellows, U of Missouri Wipro Staff (Kate Kelley, Dorina Kosztin, Marcelle Siegel, Meera Chandrasekhar and Ritesh Sharma (grad student)

The event was held virtually, with all participants signing in via Zoom. One V-CCLS team had a pre-recorded video, while the other three teams spoke during the Zoom meeting, with one team member in charge of operating the PowerPoint slide deck. Following each presentation, the other participants were called on to give warm and cool feedback. A total of 10 minutes was allocated for the feedback. Participants could also use a Jamboard to ask questions. During the 10-minute feedback period all participants were called upon to provide either warm or cool feedback (sometimes both, depending on the time available). Presenters also responded to Jamboard questions or warm/cool feedback.

VCCLS presentation by Earth Science team

VCCLS presentation by Chemistry team

V-CCLS Presentations

	Course of Study	Content Focus	Team Members
Biology	Teachers Talk About Their Moves	Living and Nonliving	Kayla Eads, Tyler Helton, Chelsea Simon, Erin Snelling, and Christie Zoeller

Chemistry	5 E's with a Tech Twist	Chemical Change	Josie Hess, Jennifer Bacon, Melissa Baker, and Brandy Albrecht
Physics	Model Based Inquiry	Force and Motion	Robin Bishop, Natalie Dixon, Nicole Golden, Steve McMullin, and Amanda Sauerwein
Earth Science	Mind Mapping with the Mapsters	Impact of water in system	Rex Beltz, Katy Canote, David Ganey, Melanie Manning, and Rachel Walk

Fellows Reflections on the V-CCLS Teams

Feedback about the VCCLS presentations was collected during the January meeting using a Google form.

What worked well in the VCCLS process?	What did you learn in the VCCLS process?
Organization of our group, getting to bounce ideas and gain insight into what future grade-levels needed from us at the lower grade levels.	How to be more purposeful in my questioning and selecting students.
Working with other teachers	Some new ways to teach science
My group! They were super helpful and supportive!	I got to see inside other people's classroom! And get ideas!
Having expectations written down to use as a guide.	How a concept works in each grade level.
I liked meeting my team and seeing the vertical teaming	I learned that a particular lesson can fit for all grade levels with small changes.
Loved my team and how laid back they were.	I learned to spend more preplanning time to really make my lesson more impactful.
I LOVED getting to see similar topics being taught from elementary up to high school.	It was great to learn from others in my group since we don't get to meet vertically very often in our district.
Great group of people to work with	The differences and similarities with teaching at different grade levels.
Learning from teachers that teach higher grades than I do.	That the MBI (model-based inquiry) method takes time and to give students grace and work through the learning process of the model to show what they have learned.
Our team worked well together and made remote meetings work well.	I learned a lot about how to improve my modeling lessons.

What worked well in the VCCLS process?	What did you learn in the VCCLS process?
Communicating with my group through a group text, being flexible with each other and working together, creating a slideshow virtually over google slides, meeting via zoom.	New strategies for using the 5E model, the idea of using concept maps with elementary students, tips on presenting to peers, strategies for working with other teachers in other grade levels.
I enjoyed getting the opportunity to talk to teachers and professors from across the state of Missouri.	I learned a lot about the MBI model, concept mapping, teacher talk moves and the 5 Es. I also learned about being a leader and information about how to create Google slides.
My group worked very well together!	I learned new and different instructional strategies to use in my classroom.

V-CCLS team presentations archive

A video of the presentations, captured during the Zoom meeting, has been edited to remove extraneous pauses, and has been uploaded on the Torsh platform that we use to store and share videos.

Creating Horizontal Coaching and Learning in Science (H-CCLS) Teams

HCCLS teams were defined by grade level. During the January meeting, time was set aside for them to choose an NGSS Science and Engineering Practice, and to find a research article. Marcelle Siegel gathered sample articles and help them find others to read and choose from. HCCLS teams finalized their research papers between the January and February meetings. To do so, each member of an HCCLS team read one article, and posted a summary on Torsh. The team then came to a consensus about their article of choice and a backup article in case their choice did not qualify as a research article. Siegel then reviewed their choices, provided feedback, and approved the article. This process took about 15 days and was conducted by email or Torsh discussions.

In February, each team gave a 10-minute presentation about their research articles.

H-CCLS Teams Course of Study

Cohort #3	**Course of Study**		
Team name (and grade span)	**Science/ Engineering Practice**	**Title of Research Article**	**Research article citation**
Grades K-2 Natalie Dixon, Melissa Baker, Christie Zoeller,	Planning and carrying out investigations	Scaffolding STEM Classrooms to Integrate Key Workplace Skills: Development of	Ruder, S. M., Standford, C., &; Gandhi, A. (2018). Journal of College

Brandy Albrecht, Robin Bishop, Katy Canote		Resources for Active Learning Environments.	Science Teaching, 47(5), 29-35
Grades 3-5 Kayla Eads, Josie Hess, Rachel Walk, Nicole Golden	Developing and using models	Learning how to model in science classroom: key teacher's role in supporting the development of students' modeling skills.	Justi, Rosária. (2009). Educación Química. 20. 10.1016/S0187-893X(18)30005-3.
Grades 6-8 Jennifer Bacon, Chelsea (Simon) Jacobs, Melissa Manning, Amanda Sauerwein	Engaging in Argument from Evidence	The impact of claim-evidence-reasoning writing techniques on argumentation skills in scientific investigations.	Loch, Q. (2017). {Master's thesis, Montana State University}. ScholarWorks. Retrieved from https://scholarworks.montana.edu/xmlui/handle/1/13677.
Grades 9-12 David Ganey, Rex Beltz, Erin Snelling, Tyler Helton, Steven McMullin	Analyzing and Interpreting Data	How do Secondary School Science Students Interpret and Construct Scientific Graphs?	Hassan H. Tairab and Ali K. Khalaf Al-Naqbi, Journal of Biological Education (2004)

Fellows' meetings

Date	**Focus of Meeting**
February	Research Article Presentations
March	No meeting
April	Preparation for May/June conference, including tips for making presentation videos
May	Conference

Cohort 1 Fellows

Cohort 1 Fellows have not been directly involved this quarter. We have invited them to hear guest speakers, e.g., a talk by Richard Ferrieri at the Cohort 3 meeting. However, Cohort 2 GPS fellows report consulting / collaborating with them on GPS related projects. For example, Beth Newton has been working with Jennifer Szydlowski on her earth-science

project, which involves making a series of movies of her colleagues discussing various formations at a local state park.

No incentives have been offered for their participation.

GPS Progress

Site location (State)	Cohort #
Missouri	2 and 1

GPS Progress

Cohort 1 GPS projects are almost complete. A few Fellows still needed to do their Professional Development presentations.

Cohort 2 GPS projects have been progressing well, though somewhat slowed down by Covid-related shutdowns of schools. All districts, with the exception of Columbia Public Schools, have had face-to-face instruction since the fall. In those schools teachers have faced challenges doing projects that involve other teachers in collaborative meetings. Since early 2021, Columbia has moved to hybrid learning, which has helped move projects along.

One of the challenges that Cohort 2 fellows brought to our attention was that of fulfilling the requirement of providing professional development to teachers in their district. Difficulties included scheduling and bringing in an audience. Last week I met with district coordinators to get their advice, and to alert them to the support Fellows need on this matter. It also helped to remind them of all GPS document requirements. Following this meeting we came up with options for the Fellows, which we emailed to them, advisors and DCs. These options were also included in their GPS documentation as an addendum. The addendum is as follows:

Additional options following the discussion with District Coordinators (DC) on 2/25/21.

- The Professional Development (PD) can be offered virtually, e.g. via Zoom or Googlemeet, but should have a live, active discussion component. A mix of face-to-face and zoom attendance is also acceptable.
- Remember that it needs to be about an hour long.
- Your audience should consist of a group of teachers from your district (approx. half a dozen or more teachers is an acceptable audience size)
- DC's have agreed to help Fellows with scheduling their PD. More often than not, this will occur on designated PD days.
- The deadline to offer PD has been extended to Dec 31, 2021, so that summer/fall PD days are available.

- The Wipro project will add $100 to your current materials budget so that you can purchase materials for your audience as an incentive for them to attend.

Reflections on meetings with GPS fellows.

Site leaders provided the following reflection**,** *"We think the advising on GPS projects is going well, and all advisors have been active in meeting with their advisees. It has helped to have bimonthly meetings, to schedule time during meetings to meet with advisors, and to allow time to share GPS projects among their VCCLS and HCCLS colleagues. Fellows have been keeping their Wix portfolios updated.*

We require that all Fellows submit certain reports in order to be paid, and that the whole cohort will get paid only after everyone completes everything. This seems to have motivated any laggards to get things done. (We note that we tell them the reason for this requirement- that our office staff bears burdens from several projects, and that it is only fair to them that we batch our project's paperwork).

For the next year we will need to come up with a "reiteration plan." While we have provided and discussed all GPS requirements, fellows tend to forget things and not consult available documentation. This leads to mix-ups and "I didn't knows" that cause unhappiness among them."

Celebration for GPS fellows

Site leaders are still planning to have a celebration at school board meetings. Since their cohort 1 fellows are finally close to finishing up their PD requirement, and it looks more likely that schools will be able to go back to "normal" in the fall, the leaders hope to be able to conduct a celebration for both cohorts, if possible, during the fall semester.

Planning for End of the year Poster session and H-CCLS Conference

H-CCLS/Poster Session Presentations/Conference

Missouri is currently planning to be part of the all-site virtual conference in May/June. The details are yet to be determined. Nominally, they will have a pre-conference Zoom meeting, asynchronous presentations, and a post-conference Zoom meeting.

Featured District Science Coordinators

Several district coordinators from Missouri helped to plan and facilitate the February Leadership Conference.

Cynthia Dwyer, Chief Academic Officer

Boonville R-1 School District, Boonville, Missouri

This is my 19th year in public education with the last 4 years as Chief Academic Officer for the Boonville R-I School District in Boonville, MO. Boonville is a rural district serving approximately 1550 students. My partnership with WIPRO and the University of Missouri began with our first cohort four years ago as the WIPRO District Coordinator. Through the WIPRO program, 10 teachers have been able to grow their knowledge and enhance science instruction in our district. The majority of our fellows hold elementary teaching positions. Their involvement has helped to make science instruction a priority and increase their confidence in teaching practices. The fellows have been able to provide professional development to the district and to their colleagues. I have been able to connect with other district leaders to not only discuss science education but also other factors impacting schools today.

Cheryl Mack, Superintendent, Missouri

Education has been my lifelong calling. Throughout my 34 years in both public and private education, I have worked in many educational roles in 3 different states. I am currently the superintendent of a small rural district in Missouri, having served here for 10 years. We like to refer to our small district as CommUNITY R-VI. I believe the words from a student teacher sums up our district perfectly. "It's hard to find a school that shares your beliefs and one where you truly feel like family. I have found all of that and more while at your school. Keep up the wonderful work, you're changing lives every day, mine included."

The Wipro SEF has provided me an opportunity to once again work closely with our staff. I have found the program to be engaging and timely as we as educators constantly strive to improve our instruction to students. In addition, the fellows from our district have offered to lead professional development and work with peers concerning instruction, have presented to school board members, and continued to enhance the science instruction in our district.

I have worked with the University of Missouri on projects in the past and I am always excited when a new opportunity presents itself. Many of our students attend the university and through my work with Wipro SEF and previous projects, I am confident our students are receiving quality instruction. I am confident that our fellows will continue what they have learned as fellows and would love to see the professional development and comradery with other districts in our state and possibly across the country continue.

Springtime in education can sometimes be taxing as we wind down our school year. The leadership conference came at a perfect time to revitalize my outlook, especially this year. The opportunity to network with peers from across the United States is enlightening and invigorating. It was an inspiration to listen to the solutions educators developed to combat a difficult year of instruction. The common theme of doing what is best for students has renewed my determination as a leader. Thank you for allowing me, as a leader, and members of our staff this opportunity.

Mike Szydlowski, District Science Coordinator, Columbia Public Schools, Columbia, MO

I am the K-12 science coordinator for Columbia Public Schools in Columbia Missouri. In addition to creating the curriculum and science professional development for our district, my passion is to increase place-based education in all of our schools in an effort to connect our standards to our community.

I have most enjoyed getting to know the WIPRO fellows better Because of their involvement in this program. Several of our fellows have been able to do a carry out some very great projects even in the midst of a pandemic. This includes a greater emphasis on exploring your community, becoming a beekeeper with students, and other place-based initiatives.

I was very appreciative of the opportunity to attend all the sessions in the leadership conference. It helped put everything together and I learned a lot both about this program and about science education opportunities in general from others that attended. I would definitely attend something like this again in the future.

One aspect of the program that I really wish you could continue is an opportunity to use the Web pro fellows in our area to put on a small regional science conference for others. Teachers have lost most opportunities for science professional development due to the pandemic and now due to the loss of tax revenue. If we had a little funding to start a conference locally, I think we could really spread some wonderful learning opportunities to a far greater number of teachers.

Featured District Science Coordinators

Several district coordinators from New Jersey helped to plan and facilitate the February Leadership Conference.

Gary Frankel, Clifton Public Schools, Clifton, NJ

This school year marks my 26th in science education and my 10th year as the Science Supervisor for the Clifton Public Schools. In this position, I oversee science curriculum, resources, and professional development across all grade levels. Additionally, I observe and evaluate secondary level science teachers. Clifton participated in Cohort 1 of the Wipro SEF program. Our participants are several years removed from the original two-year program, yet many fellows have taken advantage of opportunities to do extension projects through Wipro and our university partner, Montclair State University. This leadership conference has prompted me to step back and look at the growth of these participants, from entry into the program through the present.

Personally, participation in the Wipro SEF program afforded me the opportunity to get to know and work with teachers differently than I had in the past. It also helped to inform our understanding of the Next Generation Science Standards (NGSS) which was particularly beneficial as our time in the program coincided with our shift to NGSS.

Watching the growth of the Wipro SEF fellows throughout the program and beyond has been fantastic. The fellows have become more confident, thoughtful, and accomplished in their classroom practices as well as more assertive, respected, and generous in sharing those

practices with colleagues. Several years removed from the program, many of our fellows continue to spearhead professional development and other initiatives throughout our district.

MARY GOFFREDO – District Supervisor for Mathematics and Science K-12, Kearny Public School District, Kearny, NJ

I am a District Supervisor for Mathematics and Science K-12 at the Kearny Public School District in New Jersey. Our district greatly appreciates the work the WIPRO Science Education Fellowship has done in developing our teachers as leaders in Science education. We have found that the WIPRO SEF has been particularly helpful to those teachers who are truly dedicated to teaching Science and helping students learn. We have seen those teachers offer their time freely to assist other teachers within their schools in developing a better understanding of the Next Generation Science Standards and ultimately how to teach Science effectively. One of our teachers in particular has become the "go to" person in his school for his colleague's questions regarding teaching their science units. Several of the other fellows have developed Family Science Nights to bring students and their families together to work on STEM activities, even in a virtual environment. These types of gatherings are particularly important in our district in that they assist us in welcoming low income, and English Language Learning families together. They help to build parental confidence in their ability to assist their children in learning and welcome them into our school community.

Montclair State University, our university partner, has provided us with many opportunities for the professional development of our teachers in the past. Our district's participation in the WIPRO Science Education Fellowship has truly been one of the best opportunities they have provided us. We completed WIPRO Phase 3 in the Fall of 2020. We miss our connection with them and hope to be included in future grants and fellowships with them as they become available. Montclair State University and their WPRO leadership team has been a tremendous help to us in developing our science program across the district.

Going forward we would like to see the WIPRO fellows who have shown the interest to act as teacher leaders within our district receive additional funding to continue the work they have done with our teachers, students, and families. We are very thankful to the WIPRO Corporation for the assistance they have provided us through the WIPRO Science Education Fellowship.

Susan Bartol, Elementary Science, Montclair, NJ

Susan Bartol teaches grades 3-5 Science in Montclair NJ. She has been with the district for 16 years and served as co-district coordinator for one year. During her time with Wipro, she has developed a makerspace for her school and created a day-long immersive science day experience to replace the school's traditional science fair. Over time, through the Wipro program, Susan has honed her feeling of authority and increased risk-taking endeavors. She has garnered the respect and trust of her colleagues as a result of participation in the Wipro program. Montclair State University continues to support and nurture relationships among the fellows and the university. Susan believes the key to the success of the Wipro Science Education Fellowship is the continued connection and desire for growth between and among fellows and the higher education organizations.

Jamillah Rawls, Heywood Avenue School, Orange, NJ.

My name is Jamillah Rawls and I am a 4th grade math/science teacher at *Heywood Avenue School*, Orange, NJ. I have been teaching for 16 years, and the joy of watching students learn in an environment they most treasure has been my greatest joy. My experience with **WIPRO** has been developing a '*paradigm shift*' in the way we educate our students about science. The biggest challenge I faced was understanding the roles and responsibilities of the NGSS. Wipro helped by educating leaders and administrators to lead the way. Over the past six years working with *Montclair State University* has been so rewarding. We have built a relationship that extends beyond the classroom. I would like to thank Dr. Jackie and her team for an amazing six years learning and growing through the WIPRO program. This leadership conference was needed because teachers and administrators coming together on any platform is always a powerful moment. No *voice* left behind, that was the focus with the conference. How can we make learning better, how can we continue to support science teachers, and what can we do to support you/district science leaders? Knowing you have a friend out there that cares - that's the WIPRO story. I needed to be developed in science leadership. Wipro came at the right time and created the impact in science learning. Thank you, WIPRO, for an amazing six years of science learning.

Phase II Activities

Most of the GNY Fellows remain under constant pressures from their school districts to juggle online, hybrid, and in-person teaching schedules that are continuously changing and, therefore, limit their ability to plan for Phase II projects. As the GNY site moves into the Spring, there seems to be some promise of consistency for the 2021-22 Academic Year. Mercy College hopes that this will prompt Fellows to return to their previous Phase II proposals or to seek funding for new proposals. One GNY Fellow, Carmen King, has started a new Phase II project proposal rooted in her work with our Center for STEM Education's Saturday STEM Academy. Mercy College anticipates her mini grant application in this quarter.

Documentation of Fellow's work

In February, the Center for STEM Education reached out by sending "Valentines" to all of the Fellows to share with them some guidance in writing Phase II proposals. Below is an image of the flyer we sent them. The Center is continuing to collect their responses using a Google Form for collecting Phase II project ideas. After implementation, Mercy College will ask Fellows for evidence project implementation including field notes, student materials, and collected data sources.

Featured District Science Coordinators

A district coordinator from New York was an active participant in the February Leadership conference and another helped to plan and facilitate the February Leadership Conference.

Carmen King, New Rochelle, NY
Carmen King is one of the GNY District Science Coordinators who attended the Leadership Conference and has demonstrated a sustained commitment to Wipro over the years. In the Leadership Conference, Carmen offered her insight into community outreach during Covid-19. In Session 2 of the Conference, she shared her experiences this year with making parents her "co-teachers" for science education at home. Here, she explained how she called on parents to make connections to STEM with their children outside of school to support their interests and motivation in STEM education. This was a powerful contribution to the Leadership Conference and highlighted her strength as a science leader even in light of a global pandemic.

Additionally, Carmen has dedicated her time to support the Mercy College Center for STEM Education's Saturday STEM Academy. This year, Carmen designed and implemented a course for Grades 3 and 4 called, Chemistreats, that allows students to work with everyday ingredients to explore chemical and physical changes. This hands-on class has been a major success with students and parents. This course has been an overwhelmingly positive experience for students who reported that it was an "amazing" class and that they "loved making ice cream with my group…it was so much fun". Another student said "So you can *make* butter? I never knew!" Parents also explained that their children "had a lot of fun and learned things above [their] grade level".

A clip from Chemistreats in March.

Leana Peltier, Tarrytown Union Free School District, Tarrytown, NY

I am a veteran biology teacher of 23 years. I have been in my district for the past 20 years. I was afforded the opportunity to be a Cohort 1 Wipro Science Fellow and after completing my second year, I took on the role as the district science coordinator. I enjoyed helping the members of Cohorts 2 and 3 work collaboratively in their vertical and horizontal groups and bring to fruition their final GPS projects.

Beyond Wipro and as a direct result of my leadership experiences, I designed and facilitated my own vertically aligned science professional learning community (PLC) within my district. I was able to secure both outside and internal funding for three years. I have led a group of middle and high science teachers and teachers from each of our elementary schools, in a collaborative and supportive community, focused on understanding and implementing the Next Generation Science Standards (NGSS) Science and Engineering Practices (SEP) and inquiry teaching and learning. Subsequently, my group has presented their work at conferences, including ASTE-NE (Association for Science Teacher Education).

Below are a series of pictures that highlight the teachers engaged in authentic science experiences which they later would analyze through the lenses of inquiry and SEP.

I continue to enjoy a strong relationship with Dr. Meghan Marrero, Dr. Amanda Gunning, and Mary Ushay of Mercy College.

Spring Conference

Mercy College is not planning a Spring conference this year, but the Fall K-12 STEM Teacher Conference is scheduled for October 2021.

TEXAS- UNIVERSITY OF NORTH TEXAS DALLAS

GPS Progress

Site location (State)	Cohort #
Texas	Cohort 2 Cohort 3

Cohort 2

Cohort 2(C2) have completed their GPS portfolios and Dr. Narayan has graded them and submitted grades to the university. Problems Cohort 2 faced were all Covid related, mainly with having to remodel their projects as Covid hit and having to move from face to face to online instruction. Many C2 Fellows got Covid, had family members who got Covid, lost their jobs, expired, in some cases, all of those. Also due to Covid and quarantine restrictions, several of the informal sites closed and informal science educators were laid off and/or moved to other positions leaving the C2 Fellows without access to the site or guidance from their informal science educator. Yet despite these setbacks, the C2 fellows persevered and completed their GPS and the Wipro Fellowship.
As of the time of this report, one of the C2 Fellows has not yet turned in her Wix Portfolio. Dr. Narayan is working with her to get it completed.

C2 GPS Portfolios

Please see pad let link below for details.
https://padlet.com/ratnarayan/1sc814hnw5mrnu7c

Each of the C2 Fellows who have completed the Wipro SEF program are being sent a beautiful, printed Certificate to their residence by mail. Kendra has worked extremely hard on these. The certificates are embossed with a foil border, golden seal of excellence, and is housed in a red folding certificate jacket with matching gold foil border.

Dr. Narayan plans to craft an individual email about what the Fellow has done in the last 2 years and send it to their Superintendent, principals and other district administrators, the District Science Coordinator (DSC), and the Fellow. The email will also have an electronic certificate of completion for each fellow much like what they received in the mail. This has NOT YET HAPPENED. Dr. Narayan is just too overwhelmed at present; however, it will happen, hopefully soon!

Cohort 2 Certificate of Achievement in jacket sample photo

The C3 Fellows

One of the C3 Fellows, Amanda Cortez, withdrew from the C3 Wipro SEF program due to family reasons.

Cohort 3 GPS Progress

The process

The GPS for the Wipro SEFs consists of three projects, the district related goal, the personal goal, and the informal task. Due to Covid, the informal task was on hiatus until it was apparent that Covid was not going anywhere for a long time. Site leaders spoke to the fellows and DSCs and the remaining informal science educators and made the decision to scrap the informal project for safety reasons. Site leaders spoke with Dr. Eisenkraft and crafted a new goal to replace the informal task for the GPS.

The new task is called the Leadership and Innovation task and focuses on both those aspects. Fellows were asked to generate ideas of projects they would be able to pursue that involved other people and had leadership and innovative aspects in them. As part of the task, each fellow must be able to identify and describe the leadership and innovative components in their projects. Dr. Narayan asked all the fellows to present their preliminary ideas at their first cohort meeting of 2021 in January.

Below is the link to the zoom recording of the class meeting.
https://untdallas.zoom.us/rec/share/uMbBeGpVqdZN6RBaBpxXvTDGPtu0DFfcXT6EgREcSbpD-Dl1c2-B_SgYPsGZnFGM.N3J0hvqS8BPd6kSp
The ideas presented were very good, but several questions remained. Moreover, the situation had changed for many fellows both with Covid and the Texas' snowmageddon and their initial ideas needed modification.

Questions needed to be asked and answered such as: What exactly were their district and personal goals? Their leadership innovation task? Which of their projects was their poster to be presented at the Wipro conference? What did the poster involve, and which was their PD? Where would the PD be presented? What were timelines to hold them to?

The Wipro SEF grant ends on August 31st, 2021. Dr. Narayan is determined that the C3 Fellows complete their GPS projects and Wix portfolios by then. To achieve this, every month they will have something due on their Wix. This will take the pressure off them in June/July before the completion of the grant.

The first step in achieving this was to set up individual hour long zoom meetings with each fellow. During this meeting, we discussed all 3 projects and how they fit together- if they did, modified whatever needed to be, and set some deadlines. After the meeting, each fellow got the video recording of the zoom meeting as well as the notes document Dr. Narayan was typing in.

Their next meeting will be on March 29th and each of them WILL have something relevant to one of more of their projects entered on their Wix portfolio.
Some C3 Fellows are not very comfortable using Wix , hence Site leaders will arrange that C1 Fellow Raino Bhatti, and C3 Fellow Julien Yacho be available to help fellows who have problems with Wix. Raino and Julien will be compensated for their efforts in assisting the fellows with Wix.

C3 GPS projects

Please find below a brief description of the C3 GPS Projects. The table is long and detailed and reflects progress as per this current time. With the situation so bad and unpredictable, this can change, however it is a good starting point for me, the C3 Fellows, and the DSCs.

<table>
<tr><th>Name of Fellow</th><th>Personal Goal</th><th>District Goal</th><th>Leadership/innovation goal</th></tr>
<tr><td rowspan="2">Julien Yacho</td><td colspan="2">Both the Personal and District goal are focused on Julien's Total Physical Response (TPR) project. Please find descriptions of both below</td><td rowspan="2">This project involves creating a virtual word wall / website. Julien is working on this project with Sherry T, both are teachers at different schools and grades in Irving ISD. Their 3rd, 4th & 5th graders working in groups are creating</td></tr>
<tr><td>Poster and PD
Poster presented at Wipro Conf, PD at Southwest conf and District.
To determine how</td><td>To develop and learn how to use Total Physical Response (TPR) based lessons to aid in bridging</td></tr>
</table>

	elementary teachers in Irving ISD use the TPR videos and the impact the TRP videos have on their students	students from Spanish to English. This project will focus on using scripted hand motion videos in English and Spanish using vocabulary from the Science TEKS in K-5. Julien has created English and Spanish TRP videos for each and every Science TEK from KG to 5th Grade.	presentations based on structures and functions or ecosystems, creating pre/posttests. Documents uploaded to a website where everyone has access, and the project is student led. Due on Wix in March
Shelby Allen	To get google certified levels 1 and 2 and develop a PD for K-6 science teachers with grade wise examples (PD) Learn: document examples what did you learn in the google cert Apply: develop a PD K-6 science teacher with grade wise examples Video, SW conference June 29th 30th	Both her District Goal and Leadership Innovation project are STEM based.	
		To set up an afterschool STEM/ Science club for all 4-5 students (Poster) Wipro conference (May. June). She is at a technology and stem school and is doing this project in conjunction with a C1 Fellow at a different school in the same district, also with the Perot Museum. They have 50 kids involved from 4th and 5th grades.	To set up an online STEM night March 30th 6-8 pm via google meet for pre-K - 5th grade students and their families. The focus is on STEM careers. She will create videos of students dressed up as different STEM career professionals. Families will be sent fliers with links to the videos and have different links for activities that tie into the particular STEM career. Approximately 300 families will also receive bags with materials for each activity. Her Co Teachers will also help conduct the event. She will add material to Wix as she completes her projects

<table>
<tr><td rowspan="2">Olaide Ajakaye</td><td colspan="2">Her personal and district goals are related to Hands-on Minds-on learning</td><td rowspan="2">Develop Social Emotional Learning (SEL) corners for students in her school. Classrooms have SEL corners, teacher recommended, or student asks to be sent to the corner. There are activities the student will do there that are content related. Calms the students down, revisit and reflect on how they feel, don't miss out.
Olaide will work with classroom teachers, admins and SEL specialists.
Due on Wix in March</td></tr>
<tr><td>To learn about Hands-on Minds-on learning on a cross-curricular level and develop a PD for K-6 regarding the cross curricular implementation of Hands-on, Minds-on learning (PD) to be presented on June 29th -30th (southwest PD conference)</td><td>To determine the impact of hands-on minds-on activities on the science learning of 5th grade students

Participants: 5th grade 18 students, (Poster to be presented at Wipro conference)</td></tr>
<tr><td>Tiffanie Johnson</td><td colspan="3">All three projects overlap to some extent. The website students create for the Leadership innovation project on Matter will contain student samples of nontraditional and Collins writing.</td></tr>
<tr><td></td><td>Learn how to use non-traditional forms or writing in a 5th grade science class.

Application in your class: provide specific examples of how you will integrate non-traditional forms or writing in a 5th grade science class.</td><td>Use questioning to activate prior knowledge to build science content knowledge through Collins Writing. (poster in May June Wipro conference poster and video) (PD for K-5 SW Conference June 29-30th)</td><td>Needs a title.
Leadership and innovation project focused on four 5th graders and their development as leaders. This project involves the entire class. Building a website for 5th grade science starting with matter. Students have to collaborate to build a website, google uploading pics, videos, create their own videos about matter. Drawing their own illustrations, Collins writing to it
Whole class will see the website and give feedback.</td></tr>
</table>

			Due on Wix March 22nd
Tamesha Brown	The Personal and the Leadership / innovation goal are related to each other.		
	To determine how differentiation supports individual student needs, cross curricular (PD for K-5 SW Conference June 29-30th) Dealing with all grades pre k to 7 grades ,7 PBLs every 6 weeks, cross curricular PBLS, 460 students. Small sample of students of each grade with different needs, GT, sped, LIP, ELL, working with teachers to talk about different strategies teachers implement. Data from assessment Common assessment, weekly snapshots	What impact does participating in hands-on activities with the DeSoto ISD-Perot Museum partnership have on 5th grade students' perception of STEM? (poster in May June Wipro conference poster and video)	The Science-Social Studies PBL Project-Weather. Partnered with Kindergarten teachers. 6-week project, students journaled every day. Final product: Quilt Due on Wix March 22nd
Linda O'Bryan	Learn about endangered species (insects)and to apply that knowledge to my 4th grade classroom (PD) Focus on Texas	Learn about how elementary teachers incorporate technology in their classes. Elementary students' perceptions about technology. Teachers: identify teachers, construct a survey, google forms, survey monkey., zoom, what is their idea of tech, how do they incorporate it, specific examples (SC, math ELAR and	Alternate energy sources. Find/ create an alternate energy source that is renewable. Use leadership skills. 4th grade, 4 kids, gen pop. Explain what they learned about being a leader. Provided supplies to create source. In time of covid why leadership is important Due on Wix March 22nd

		SS)lesson plan pics description. Where did you learn this from? How do your kids respond? What type of tech do your students like to use and why? 34 students survey them: What is tech, when you learn Sci/ math what tech do you use? Do you like using tech and why? Does it help you learn the content? Why is learning with tech important? Does covid and vaccines have anything to do with tech? STEM (poster in May June Wipro conference poster and video)	
Sherry Thompson	To learn about STEAM and how to implement it in an elementary classroom (PD for K-5 SW Conference June 29-30th)	Both her District Goal and Leadership Innovation project are related to the Word Wall project	
		To determine the impact of student created word walls on the retention of science content during online learning (poster in May June Wipro conference poster and video) and (PD for K-5 SW Conference June 29-30th)	Virtual Word Wall Forum with Julien (C3 Fellow at another school, Irving ISD) Life science Texas Essential Knowledge and Skills (Teks) Vertically aligned, 2 different schools, 3-5th grades , 19 in 4, 16 in 5th. Due on Wix march (PD conference)

Markus Burkhalter	To learn more about motivation of young males of color and apply those strategies district wide to the Lancaster ISD My Brother's Keeper Club. (PD video June)	To determine the impact teaching integrated thematic units has on 1st grade student's content knowledge (poster May Wipro Conference video (PD SW PD conference June 29/30) 4 thematic units	The Apper Integration project. Apper is an app. The project involves helping teachers, students, and parents. Trying to get all the interfaces on one platform / app. Google classroom, class dojo, go guardian, Clever, etc. started off 1st grade trying to implement for 2-3rd grades. Due on Wix March 22nd
Marsha Bolden	To learn how teachers within the district and outside the district effectively integrate technology in IPC classrooms.	To learn about STEM and incorporate examples of STEM in the high school biology curriculum (poster May Wipro Conference video (PD SW PD conference June 29/30)	Collaborating with chemistry teacher (C1 Fellow) to design a working app for the Biology EOC for struggling students. App complete in March
Maria Soto	To learn about and implement PBLs in an elementary science classroom (PD)	Close reading in Science (Poster already created)	Created a Wix website for all teachers. How to teacher awesome.com. blog, forum, page sharing free digital lessons for other teachers, pick it up and go digital lessons. Blog: problems and solutions Survey: posted on fb 395 respondents: 96 % teachers demo info, how they were teaching in Covid, how they deliver lessons, common practices, Research case study to be conducted.
Marquita	All three projects are related to coding		

Muhammed	To learn about Mixed reality (AR & VR) digital gaming and apply it to the 6th grade classroom (PD, school SW conf June 29 / 30th) March 22nd WIX	What impact does coding have on 6th grade student's science content retention (poster presented Wipro conference in May/June)	Coding in Science. 6th grade students use coding programs, content related to science yet cross curricular. Product: story incorporating math, English Language Arts and Reading (ELAR), science related content with coding.
Yesenia Vasquez	To learn how to implement Question Signal STEM Share Assess (QSSSA) in a virtual setting in her high school biology class. QSSSA is an ESL strategy used to help EL learners to write and speak using academic vocabulary. (Irving is 72% Hispanic) (poster presented Wipro conference in May/June)	How to effectively implement WICOR (Writing, Inquiry, Collaboration, Organization, and Reading) strategies in Life Science at the high school level. WICOR is an AVID strategy used in the secondary level. (PD, school SW conf June 29 / 30th)	Biology meets algebra, world geography and English 1. Project involved high school teachers teaching those subjects. Leads met once a month in Dec and Jan. Talked about the same goals, digital notebooks, virtual PD, and cross curricular nature of the project. Progress made pacing guide for genetics, Punnett square used in algebra and English readings. World geography used more for analysis. March on Wix

Reflections on your meetings with C3 GPS fellows.

What is going well?

Dr. Narayan shared the following reflection, "*I am happy with the individual meetings I had with C3 fellows regarding their GPS projects. It was much needed, and I believe relieved the stress and answered several questions the Fellows had. We will have class as a group at the end of March and then meet one on one as well. "*

Communication with the C1, C2 and C3 Fellows

Dr. Narayan on communication with the fellows, "*With the ongoing situation in Texas, I am in constant touch with the C1, C2 and C3 fellows over the phone. One Fellow lost her father last week, few lost family members, many more fellows and/or their family members have/had Covid. I believe only 2 fellows of all of them have received their first dose of the vaccine. Many of them did not have electricity for 2-5 days and many have water damage due to the pipes freezing and breaking. The ISDS are also putting pressure on them, Texas has opened up 100% with no masks required, the state is also threatening to make the dreaded Starr test mandatory. THIS IS NOT GOOD AT ALL FOR THEIR OVERALL MORALE.*
We want our fellows to know we care for them and so we are in the process of sending them another Care Package."

"Difference Maker" stainless steel insulated mug
Front and Back

***Care Kit**: The kits will include a specially designed double insulated mug that proudly proclaims that our teachers are "Difference Makers", 2 overhead face shields, an adjustable mask extender, a 3D silicone face mask bracket, and antibacterial hand wipes and a personal note.*

Workshops at the Arboretum

The Dallas Arboretum is offering 2 ONLINE ASYNCHRONOUS workshops. Dr. Narayan has offered to pay the registration fee for either of these workshops for either or both workshops for any C1, C2 or C3 Fellows, DSC. To date, Sunday, March 7, 2021 twenty Fellows, DSCs have signed up for the workshops.

Workshop 1
Take Science Outside!
Teachers of Grades K–6
3 hours of CPE

Course content will be available via Google Classroom for completion at your own pace from March 15th – April 30th, 2021. **The course will take approximately 3 hours to complete.**

Create some green time for your students! Join this session to explore simple, easy-to-implement ideas for engaging your students in science activities outside. Emphasis will be placed on using materials that are easy to find, both at home and at school. Topics include life cycles, structure and function, interdependence, and forms of energy.

Registration includes: Four complimentary general admission tickets to the Dallas Arboretum! Teachers always receive FREE general admission so share these tickets with your guests. Tickets valid seven days a week, 9am–5pm, through December 31, 2021.

Workshop 2
Project E3 Expanding Energy Education
Teachers of Grades K–12
6 hours of CPE

Course content will be available via Google Classroom for completion at your own pace from March 15th – April 30th, 2021. **The course will take approximately 6 hours to complete.**

Project E3: Expanding Energy Education is a multidisciplinary curriculum guide for grades K–12 featuring TEKS-aligned, hands-on discovery activities related to energy themes. We often take for granted the role of energy in our lives yet meeting our species' energy needs is one of the most significant challenges facing us this century. The curriculum guides students to identify fossil fuels, such as oil and natural gas, investigate how they are formed and examine how we use these natural resources in our everyday lives. Careers in engineering are highlighted throughout the guide.

Registration includes:

Four complimentary general admission tickets to the Dallas Arboretum! Teachers always receive FREE general admission so share these tickets with your guests. Tickets valid seven days a week, 9am–5pm, through December 31, 2021.

A link to the digital Project E3 curriculum, a 1400+ page downloadable resource developed by the Offshore Energy Center in Galveston, Texas that includes over 40 activities.

Celebration plans for GPS fellows

The Texas leadership team is preparing a celebration for the GPS Fellows. It will depend on Covid and what happens over the summer and if UNT Dallas and the partnering Independent School Districts (ISDS) are face to face or online in Fall 2021.

Two ideas that Dr. Narayan is currently thinking about.

Celebration at UNT Dallas

In September 2021 there will be a formal event in their new Big Room (capacity500 +) in the new building. The purpose of this celebration is twofold: 1) to celebrate the Fellows who have completed the program 2) to thank everyone involved in the Wipro SEF program @ UNT Dallas 3) And in case they receive further funding from Wipro they will have a captive audience to recruit from.

Invitees will include Dr. Eisenkraft, Marilyn Decker, Anne Gurnee, Wipro Dallas folk, the Provost, President, Dean, C1, C2, C3 Fellows, and limited number of family members, DSCs, Principals, Informal Science partners, also people at UNTD who have worked on the grant and no one knows about.

According to Dr. Narayan there will be, "LOTS OF FOOD!"

Celebration at the ISD Board Meetings:

In September 2021, Dr. Narayan will work with each DSC to get on the September ISD board meeting. Site leaders will invite the DSC and C1, C2 and C3 fellows from the district and honor them by giving them plaques. The principals and school administrators will also be invited to attend. Dr. Narayan comments, " *I would like this to be face to face but I have no control over that. Either online or face to face, we will definitely be doing this."*

Below are <u>tentative dates for September Board meetings</u> for UNT's participating districts

<u>Grand Prairie ISD : Thursday Sept 16th 7 pm</u>
C1 Fellows: Tamara Butler, Cynthia Capocci, Lisa Godina, Lindsay Reeves, Valerie Thomas
C2 fellow: Candace Edmerson
DSC: Eileen Little

<u>Desoto ISD: Monday Sept 13th 6 pm</u>
C2 Fellows: Raisha Allen, Billy Johnson,

C3 Fellows: Tamesha Brown, Marquita Muhammed Rawlins
DSC: Danielle Moore

Lancaster ISD: Thursday Sept 30th 6:30 pm
C1 Fellows: Meisha Medford, Latanya Spragin
C2 Fellows: Myesia Morrison
C3 Fellows: Shelby Allen, Markus Burkhalter
DSC: Faith Mallika

Irving ISD: Mon/Tue Sept 27th/28th 7 pm
C1 Fellows: Raino Bhatti, Kelly Hancock, James Mining, Courtney Silverberg
C2 Fellows: Rocio Avilla, Tracey Craft, Ana Belmonte, Tabitha Moreno, Juan Morel, *Julia Glowacki*
C3 Fellows: Julien Yacho, Sherry Thompson, Marsha Bolden, Linda O'Bryan, Yesenia Vasquez
DSC: Chris Dazer

Cedar Hill ISD: Monday Sept 6th 6:30 pm
C1 Fellows: Jenny Morales
C2 Fellows: Matthew Gaines, Brittney Preston
C3 Fellows: Tiffanie Johnson, Olaide Ajakaye
DSC: Jeremy Hesse

Displaced Fellows (have moved):
Angela Force, LaQuaesha Williams, Maria Soto

Planning for End of the year Poster session and Conference

This will be a joint conference between the 4 Wipro sites. The Texas C3 Fellows will be presenting posters of their GPS project (district or personal goal)

Suggestions from Dr. Narayan, "*I am making these suggestions based on the Wipro SEF @ UNT Dallas conference in October 2020. https://www.wiprosefuntdallasconference.com/*

a) *It will be good to fix the dates for the conference fairly quickly, we all need to schedule for things a few months in advance, in TX with the mess of the weather/power/ water issues and the dreaded STARR test coming up, knowing the deadlines allow me to work backward and set firm deadlines for my fellows to get their work done.*

b) *With regard to dates please do not arrange the conference during the last week of June, we have the SW collaborative conference happening on June 29th and 30th.*

c) *I would like there to be a physical website (like we had Wix) that all the presentations can be uploaded to. Please don't use drop box!*

d) *The IHEs and DSCs need details as to how long each presentation needs to be and in what format and time length they need to be.*

e) *I liked the feedback mechanism we had, and it worked well.*

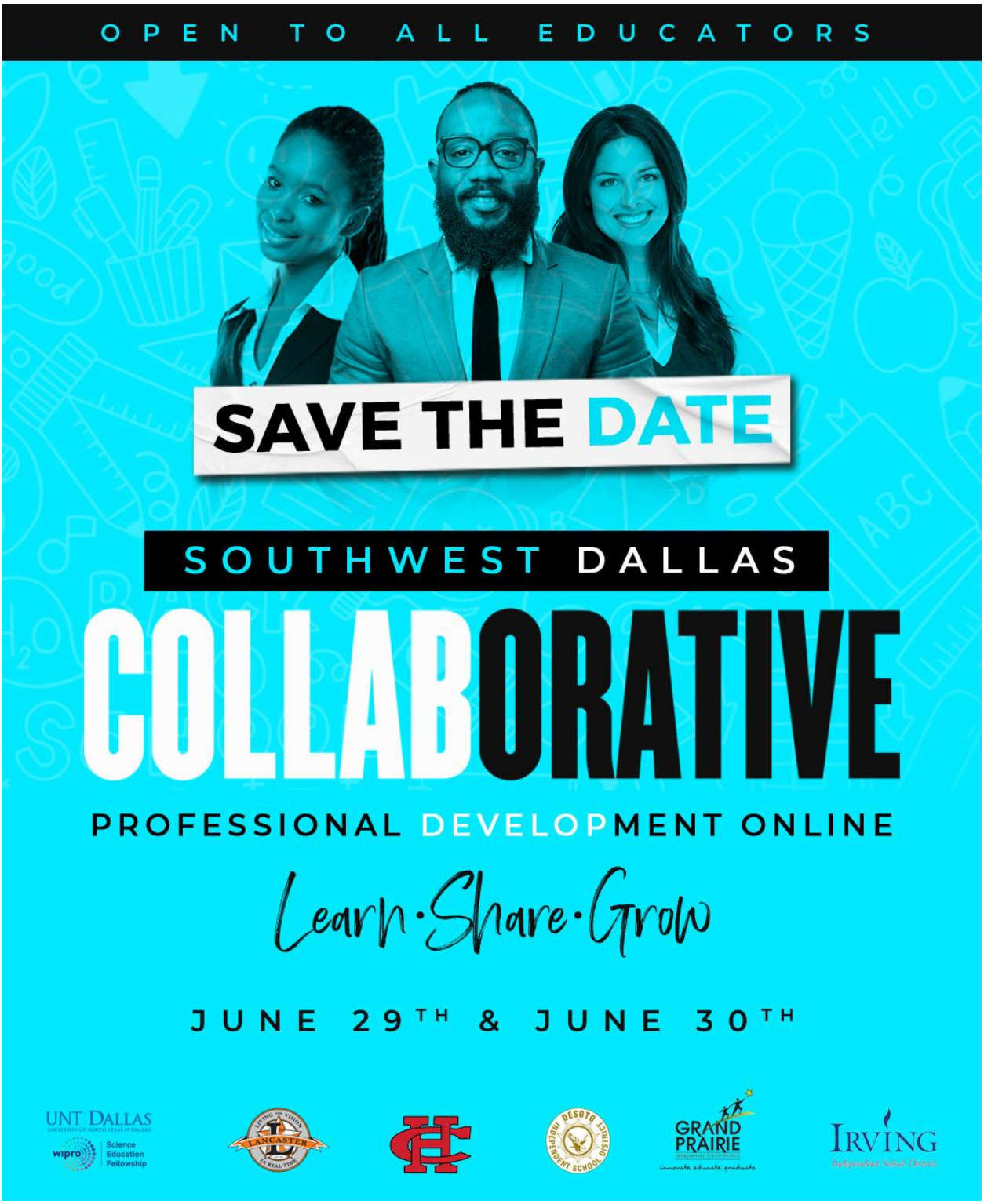
f) *My C3 fellows will have a reflection in their GPS addressing the feedback they received on their posters.*

g) *We have some really good Leadership and Innovation projects (please see table listed earlier) would you perhaps like some of them presented as well?*

h) *Dr. Narayan will not be available from May 7th to May 15th, 2021."*

Southwest Online Collaborative Conference

Last year the DSCs collaborated to offer summer online PD to all teachers. It was very successful and this year the Texas team is offering the collaborative summer professional development conference again, only this year it will be bigger and better.


OPEN TO ALL EDUCATORS
SAVE THE DATE
SOUTHWEST DALLAS
COLLABORATIVE
PROFESSIONAL DEVELOPMENT ONLINE
Learn·Share·Grow
JUNE 29TH & JUNE 30TH
UNT DALLAS
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Science Education Fellowship
LANCASTER
DESOTO INDEPENDENT SCHOOL DISTRICT
GRAND PRAIRIE
innovate. educate. graduate.
IRVING

Featured District Science Coordinators

Coordinators who were part of the Leadership Conference planning and facilitation are highlighted here.

Danielle Moore B.S, M.Ed.
District Coordinator of DeSoto ISD

As Instructional Design Leader for K-12 science instruction in DeSoto ISD, I provide curriculum and professional support to teachers and campuses in the district ensuring all students have quality, aligned science material while developing a love for and understanding of science. As the District Science Coordinator (DSC) with Wipro SEF, I have worked alongside two cohorts of amazing science educators as I learn and strengthen my practice by joining their monthly class sessions, providing coaching/feedback, designing/presenting professional development, attending graduate courses, mentoring/monitoring teaching practices, collaborating with Informal Science Partners, and enhancing implementation of science K-12 in DeSoto ISD.

A highlight of my year was completing a graduate course on differentiation at Harvard Graduate School of Education last year with Wipro fellow Tamesha Brown then designing a training to add to the Southwest Dallas Collaborative. The 2-day professional development was designed by the UNT Dallas Wipro Leadership team (including myself) to help teachers make the adjustment to virtual teaching and learning. The success of the event is directly related to the support of the Wipro SEF and the relationships made by working together to advance and enhance science education. I was recently accepted into the University of North Texas, Toulouse Graduate School and will be pursuing my Doctorate in Educational Philosophy.

An additional highlight is the growth of science education in DeSoto ISD with the support of Wipro SEF. Fellows have worked with me to design and present professional learning sessions, write curriculum, and collaborate with informal science educators to provide "hands-on", content-aligned activities and labs through virtual instruction. Serving as advocates of and leaders in science education has positively impacted both teachers and students in the district and beyond. District coordinators have collaborated with me (both on and off the clock) to discuss and troubleshoot ideas, projects, and possibilities.

Both Dr. Narayan and Kendra Brown are always available to support and provide insight which strengthen my roles as district IDL (K-12 Science) and Wipro DSC.

Faith Milika

District Coordinator of Lancaster ISD

Greetings! I'm Faith Milika, the Academic Coordinator for K-5 science in Lancaster ISD. Ten years ago, I joined the Lancaster ISD family as a 5th grade science teacher. Shortly after joining the district, they received a large STEM grant from Texas Instruments which transformed our district into the first K-12 STEM district in the state. The district's STEM initiative sparked a desire to provide students with engaging, innovative learning experiences. I decided to continue my educational journey by attending the University of North Texas at Dallas where I received my masters in Curriculum and Instruction with an emphasis in STEM education. After 9 years of teaching, I transitioned into the role of Academic Coordinator for Elementary Science. In this role, I oversee the development and implementation of high-quality science learning opportunities as well as provide instructional support to our elementary teachers.

The Wipro SEF program has been extremely beneficial to both the Fellows in my district as well as myself . As a "newbie" in my role, Wipro has provided me with the opportunity to work, collaborate, and learn from other district coordinators. One highlight of the program was the Southwest Dallas Collaborative Conference that took place last summer. The two-day virtual conference included sessions designed and facilitated by our district Fellows. The opportunity to learn and grow together was a fantastic experience. Wipro SEF has impacted science instruction in a way that no other program has. In Lancaster ISD, the Fellows have taken on various leadership roles: serving in curriculum and STEM committees, facilitating district professional development, team lead, and mentors to new

teachers. Overall, the Wipro SEF experience has been valuable in growing the pedagogy and leadership skills of our district's Fellows.

Chris Dazer, Director of Science Discovery Education, Irving ISD, Irving Texas

Chris has been teaching science since coming to Texas in 1988. Chris supervises the Science Discovery Education facilities and staff which include: The Hands-On Science Center, The Robert Scott Pohl Planetarium, The Net Zero/Omni Room Lab, and the Elise Walker Outdoor Learning Center. He is very proud to serve in a district that provides unique, meaningful science instruction and experiences for all students.

Chris has been a District Science Coordinator (DSC) since 2018. Irving ISD is working with our 3rd Cohort of Fellows. We have had 22 Fellows begin the program and most have completed the program despite obstacles such as the pandemic. IISD Fellows have successfully worked collaboratively with informal science institutions (Dallas Zoo, Perot Museum, Dallas Arboretum). The Fellows have all presented their work at the District, and State level. They continue to contribute to ongoing curriculum projects and professional development.

Chris (far left) with the Irving ISD Wipro Science Education Fellows

Teachers of the year!

In February and March of 2021, the UNT Dallas team received the wonderful news that 3 of their Fellows have been voted as "Teacher of the Year" at their individual schools. Below are their pictures along with our March Featured Fellow and awardee, Olaide Ajakaye.

2021 Teacher of the Year" at High Pointe Elementary, Cedar Hill ISD, Cohort 3 Fellow Olaide Ajakaye

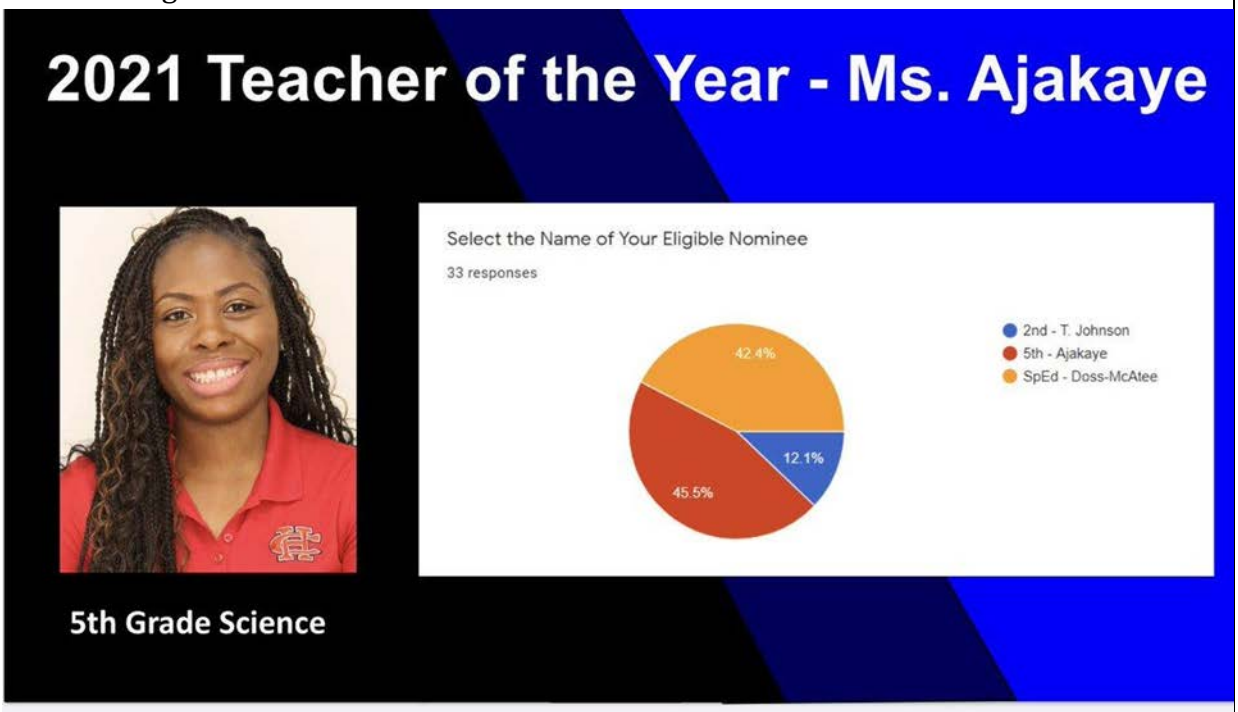
My name is Olaide Ajakaye, and I started my career as a 5th grade Science teacher in 2017 at Cedar Hill ISD. During my four years as an educator, I have been nominated as district teacher of the month, member of my district Superintendent roundtable and twice as Campus teacher of the month. My continuous desire to grow and deliver excellence to my students prompted me to apply into the Wipro Science Fellowship at the University of North Texas Dallas in 2019.

The Wipro Science Education Fellowship at the University of North Texas at Dallas is one of the best things that has ever happened to me as a Science teacher. Over the last two years I have had the opportunity of meeting and collaborating with hardworking, dedicated educators outside of my district. Under the leadership of Dr. Narayan, I have been able to research and reflect on my instructional practices as a teacher. The Wipro program has stretched my strength and I am amazed at how far I have come as an educator.

During my course of time as a Wipro fellow, I have conducted multiple researches on best instructional practices and pedagogy that has allowed me to grow and shine as an educator. In 2020, I was an approved speaker at the Science Teachers Association of Texas CAST Reimagined conference where I presented two research projects.

I love problem solving and collaborating with other educators so much that I was voted on my campus as an "Out of the Box Thinker and Teacher at the end of the 2019/ 2020

school year. To my surprise and amazement, I was elected 2021 Teacher of the Year for my campus, Highpoint Elementary School.
In Spite of all the recognition, my greatest joy is seeing my students' academic growth in science transcend into other subject areas and their personal lives. I look forward to continuous growth as an educator.



Cohort 1 Fellow, Courtney Silverberg, Teacher of the Year" at Barton Elementary, Irving ISD

Cohort 1 Fellow, Miesha Medford , Teacher of the Year at Rolling Hills Engineering Academy, Lancaster ISD

Cohort 1 Fellows

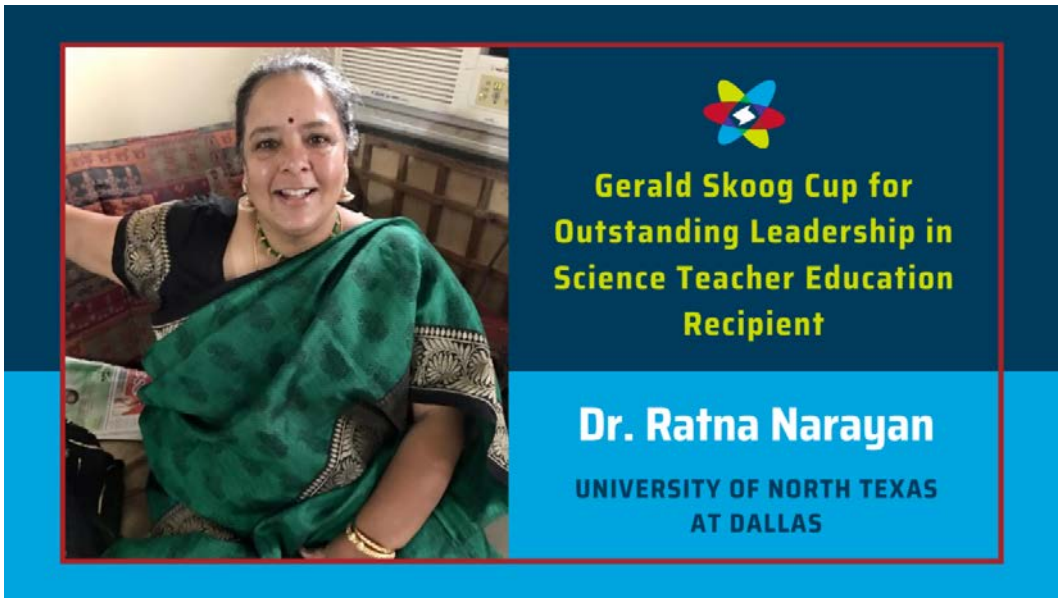
Dr. Narayan has made an effort to involve Cohort 1 Fellows, she invited them on several occasions to present to C2 and C3 fellows during their monthly meetings. She has invited them to all the conferences and events, some of them attend, some of them do not respond.

Outstanding Leadership in Science Teacher Education- Dr. Ratna Narayan

In October, the Gerald Skoog Cup for Outstanding Leadership in Science Teacher Education was awarded to our very own, Dr. Ratna Narayan. The statewide award is presented to a faculty or staff member at a Texas college or university who has demonstrated significant contributions to and leadership in the development of quality science education. The email award announcement was sent out from the Science Teachers Association of Texas (STAT) all across the state of Texas and Dr. Narayan was also recognized in the closing general session at CAST Reimagined 2020 on Saturday, November 7th, 2020.

Gerald Skoog Cup for Outstanding Leadership in Science Teacher Education

The Skoog Cup College Faculty Award is presented to a faculty or staff member at a Texas college or university who has demonstrated significant contributions to and leadership in the development of quality science education. Presented by STAT and Texas Tech University's Howard Hughes Medical Institute Science Education Program, this award is named after Dr. Gerald Skoog, the Paul Whitfield Horn Professor Emeritus of Texas Tech University.



The Texas team sent a special note to the Wipro SEF Community "*We miss seeing you all in Texas!* "

Come back soon so we can enjoy this giant salad together :)

PROGRAM EVALUATION ANNE GURNEE CONSULTING, LLC

This has been an intensive quarter. There are three distinct reports as part of the evaluation.

- Mid-Year Survey Report
- Leadership Conference 2021
- Evaluation Update
    - December 2020
    - January 2021
    - February 2021

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Mid-Year Survey Report

March 4, 2021

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Method

- Formative survey administered online mid-year in January 2021 to:
  - Texas Cohort 3, District Science Coordinators & Informal Science Education Partners*
  - California, Florida & Missouri Cohorts 2 & 3 and District Science Coordinators
- The survey was anonymous and included
  - Open-ended items
  - Likert-scale, close-ended items

*Because of the changes to the ISE partner sites due to the pandemic, data collected this year was minimal and not included in this summary report.

Overall Satisfaction

Overall satisfaction findings varied from state to state. All together, 89% of respondents were “Extremely Satisfied” or “Somewhat Satisfied” with Wipro SEF so far this year

	Extremely Satisfied	Somewhat Satisfied	Total
Site 1	34%	46%	80%
Site 2	81%	17%	98%
Site 3	57%	32%	89%
Site 4	88%	6%	94%

Fellows' Insights

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Year 1 Fellows' Program Features' Ratings

Program Feature	Site 1	Site 2	Site 3
Monthly Fellows' meetings	4.18	4.74	4.63
Research article in my V-CCLS team	4.41	4.26	4.53
Selection of common content in my V-CCLS team	4.53	4.59	4.79
Debrief meetings with my V-CCLS team	4.65	4.91	4.94
The V-CCLS protocols	4.24	4.65	4.84
Wipro SEF-related District meetings	4.00	4.67	4.50

Rating scale: 1=Extremely dissatisfied; 2=Somewhat dissatisfied; 3=Neither satisfied nor dissatisfied; 4=Somewhat satisfied; 5=Extremely satisfied

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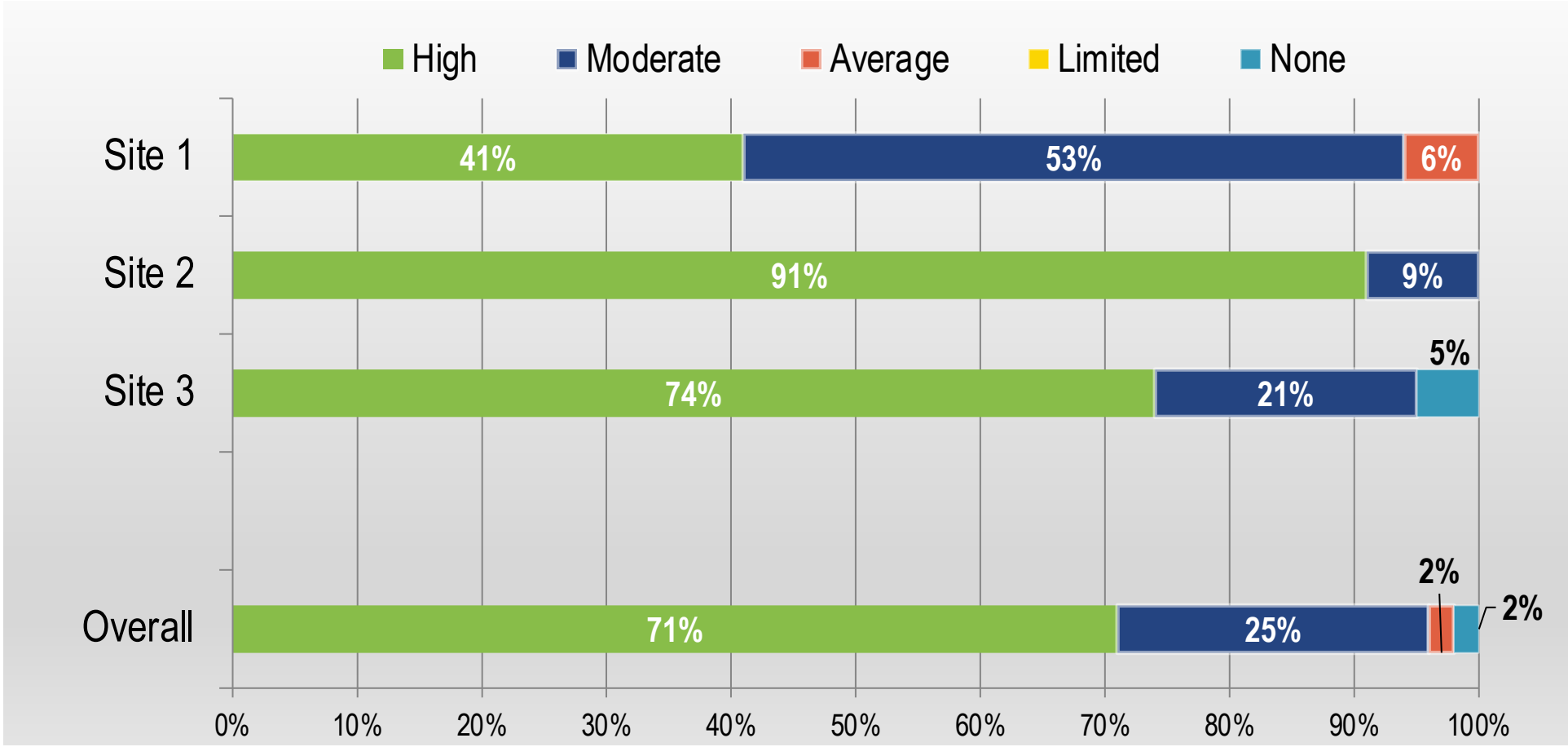
Year 1 Fellows: Value of V-CCLS Presentation Experience



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Year 2 Fellows' Program Features' Ratings

Program Feature	Site 1	Site 2	Site 3	Site 4
Fellows' meetings with University partners	4.18	4.54	4.05	4.82
GPS plan	3.94	4.43	4.21	4.80
My progress on my GPS plan	3.76	3.93	3.78	4.27
Work with my advisor(s)	4.35	4.71	4.37	4.91
Wipro SEF-related District meetings	4.00	4.33	4.06	4.80

Rating scale: 1=Extremely dissatisfied; 2=Somewhat dissatisfied; 3=Neither satisfied nor dissatisfied; 4=Somewhat satisfied; 5=Extremely satisfied

DSCs' Insights

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DSCs' Program Features' Ratings

Program Feature	Site 1 (n=7)	Site 2 (n=5)	Site 3 (n=2)	Site 4 (n=2)
Monthly Fellows' meetings	3.0	5.0	5.0	5.0
Meetings with other DSCs	3.4	4.8	5.0	5.0
Meetings with other DSCs & University staff	3.9	4.5	5.0	5.0
District meetings with Fellows	4.2	4.7	5.0	4.5
My own professional development	3.4	5.0	5.0	4.5

Rating scale: 1=Extremely dissatisfied; 2=Somewhat dissatisfied; 3=Neither satisfied nor dissatisfied; 4=Somewhat satisfied; 5=Extremely satisfied

DSCs' Professional Development Interests

- Site 1
  - Assessing classroom instruction
  - Scaffolding science instruction/assessment
  - How to best utilize the Wipro SEF cadre of Fellows
- Site 2
  - Supporting teachers in standards-based science instruction
  - Developing teacher leaders
  - Helping teachers increase their comfort with peer feedback
  - Technology support and best practices for leading meetings on tech platforms
- Site 3
  - [No specific suggestions]
- Site 4
  - Setting goals with teachers
  - Anything related to pedagogy

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Site 1

Warm & Cool Feedback

Site 1: Year 1 Fellows' Warm Feedback

- **Site 1 Year 1 Fellows reported favorably on:**
  - **Networking and collaboration (47%)**
  - **Improved teaching (27%)**
  - **Valuing the research and science aspects of program (27%)**
  - **Increased vertical (K-12) awareness (25%)**

- *"I have learned a lot from my peers and have learned some great teaching strategies to use in my classroom."*
- *"I have implemented the 5E strategy that my VCCLS group researched in almost all of my lesson planning this year and it has really improved my lesson structure and student learning. I feel like I've improved my ability to implement each step. I have tried the concept mapping strategy that another group presented on and my students did very well with it. I look forward to trying new things that I'm learning and am glad this program is opening me up to new strategies in science."*
- *"[The most successful aspect of this year so far is] the collaboration with other teachers from outside my own district and grade level.:*

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Site 1: Year 1 Fellows' Cool Feedback

- **Site 1 Year 1 Fellows felt challenged by:**
  - **Amount of work/time required (43%)**
  - **Technology (24%)**
  - **Meetings (18%)**

- *"The three hour virtual meetings seem to get very long and some things could be cut down."*
- *"Time management to get everything done and to share virtually."*
- *"The organization and programs used to share findings tend to be very confusing and is not easily accessible. There are multiple areas for things to be submitted or stored."*
- *"[Tech platform used] is not user friendly."*
- *"More breaks during the meetings, make them shorter or have 2 nights instead of one."*

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Site 1: Year 2 Fellows' Warm Feedback

- **Site 1 Year 2 Fellows reported favorably on:**
  - **Networking and collaboration (40%)**
  - **Working with IHE leaders & mentors (33%)**
  - **Leadership growth (27%)**

- *"I loved the in-person meeting during our first year where we could collaborate. That helped me immensely. This year I have really enjoyed the virtual meetings with my mentor! She is so helpful and encouraging!"*
- *"I have learned new and effective ways to teach science (technology options) and have expanded my personal learning community."*
- *"Teachers in my building come to me for assistance with project based learning and I am working on a grant for my grade level for next year! This is something I would have not done prior to this program."*

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Site 1: Year 2 Fellows' Cool Feedback

- **Site 1 Year 2 Fellows felt challenged by:**
  - **Distance (50%)**
  - **Amount of work/time required (43%)**
  - **GPS (29%)**

- *"I don't like not meeting in person and I miss learning from a group of teachers."*
- *"Due to the current conditions in which we are teaching this year, it has been rather difficult to focus on and feel engaged in the GPS project."*
- *"It has been difficult trying to meet with leaders to find out if I am on the right track for completing my project. We are all so busy with the new demands that are putting constraints on our time."*
- *"Wipro fellowship is often the last item on my mind with the demands of teaching during a pandemic"*

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Site 1: DSCs' Feedback

Warm Feedback

- *"Advisors have been great and very supportive. Despite the pandemic, fellows are still engaged and learning."*
- *"Communication has been great. [Program has been] flexible with the current state of education."*
- *"Over my time with Wipro SEF, I have grown more confident in my discussions with my teachers."*
- *"The projects that were shared [at the V-CCLS meeting] were impressive given the disruptive nature of the pandemic. Fellows did an excellent job of enacting their project and reflecting on the process/outcome."*

Cool Feedback

- *"We are struggling to figure out ways to share the information with the staff, especially during COVID."*
- *"I still feel uncertain of exactly how to help my Fellows. I check in with them, but they often say they don't need anything. Could there be a bit of guidance on what I might offer them or questions I could ask them to extend their thinking for each quarter? Just some sort of skeleton of topics would be helpful."*
- *"The organization and clear outcomes [needs improvement]. The learning seems quite low level."*
- *"Finding time to commit to the Wipro experience due to COVID and other responsibilities has been somewhat difficult."*

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Site 2

Warm & Cool Feedback

Site 2: Year 1 Fellows' Warm Feedback

- **Site 2 Year 1 Fellows reported favorably on:**
  - **Improved teaching (55%)**
  - **Increased vertical (K-12) awareness (50%)**
  - **Networking and collaboration (45%)**
  - **Improved reflection skills (32%)**

- *"Getting the chance to work with other teachers who are passionate about their own learning, and interested in expanding and deepening their practice - it is very inspiring."*
- *"I feel that this has been a year of integration, thanks in no small part to my participation in Wipro SEF. I feel like much of the learning I did in my certification program, and over the last five years of teaching is beginning to solidify for me, and I am able to use this information to inform my teaching, and to integrate it into my practice."*
- *"The reflection meetings with my V-CCLS group were great. I learned more from them than I anticipated, and really appreciated what I was able to take away and try in my classes."*

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Site 2: Year 1 Fellows' Cool Feedback

- **Site 2 Year 1 Fellows felt challenged by:**
  - **Distance learning challenges (46%)**
  - **Meetings (29%)**
  - **Amount of work/time required (27%)**

- *"The debriefing meetings should be avoided. Just filling the feedback form should be good."*
- *"More time during our whole group meetings. I understand that they are trying to work within a certain time frame, but I always feel very rushed and like I still have lots of questions!"*
- *"Just time. It's all been rewarding, but it has taken a lot of time, and this is my busiest year ever due to distance learning."*
- *"I have missed 1 & 1/2 meetings just simply because they slipped my mind. I have so many other meetings from my school because of the pandemic, It's hard to remember that there is a 10th or 15th meeting this week."*

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Site 2: Year 2 Fellows' Warm Feedback

- **Site 2 Year 2 Fellows reported favorably on:**
  - **Networking and collaboration (50%)**
  - **Improved teaching (44%)**
  - **Improved leadership (38%)**
  - **GPS (35%)**

- *"Honestly, Wipro has been the thing that has carried me through this pandemic. Before the pandemic, I felt inspired by so many of my fellows and really pushed to improve the quality of my instruction. After the pandemic, I feel like we've taken turns propping each other up and letting each other know it's okay to let things go or make appropriate compromises when our plans just don't work with distance learning. I don't know how I would've made it through this year without Wipro."*
- *"I have learned about increasing the rigor and expectations for my students, as well as the vertical alignment up through high school. I also have gained more knowledge and ideas for how to reach other teachers to foster and grow their science teaching."*
- *"In planning for the GPS, [our IHE leaders] have been responsive to our cohort. We asked for a checklist, and they provided. We asked for some GPS work time, and they built it into the meeting. I know that they are supporting us so that we do not feel lost in the process. I really like that."*

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Site 2: Year 2 Fellows' Cool Feedback

- **Site 2 Year 2 Fellows felt challenged by:**
  - **Time/amount of work (31%)**
  - **Distance learning (23%)**
  - **GPS process (23%)**

- *"My biggest challenge is time management. Teaching this year is already adding so much time to my schedule, that it is a challenge for me to spend a lot of time on my GPS."*
- *"Time. With distance learning, everything takes so much longer to plan and prep so finding time to give Wipro the attention it deserves has been a challenge."*
- *"It's mostly difficult because everything is online... doing all these Wipro meetings, doing activities with the students, making sure students even sign on so I can see them live. So I guess it's just hard to fully do everything I want to do because many science activities are only possible for students whose parents will support them in getting materials."*

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Site 2: DSCs' Feedback

Warm Feedback

- *"I have been very impressed with the work that our SEFs have been able to tackle and how well the meetings and conferences have been designed. I also have appreciated the opportunities to talk and meet with Wipro leaders and other DCs."*
- *"I just attended our VCCLS presentations and they were so great to see. I love that our fellows are working with colleagues from other districts and across grade levels. I think that this will really support their growth as science leaders in the district and will help their students, other teachers, and our district in general."*
- *"My teachers enjoy the program and are learning. Most of them are in there 10+ year of teaching and that is great that they are willing to try new things and enjoying this program."*

Cool Feedback

- *"As a DC, I want to attend as many of the meetings as possible for the two cohorts that our teachers are in. However, that comes to a LOT of meetings. I would love to hear more at our DC meetings or 1:1 meetings with Wipro folks about highlights from those meetings (or lowlights if they exist)."*
- *"Districts are so different - having a meaningful discussion with district coordinators that leads to some joint work has been challenging."*
- *" A bit of a communication challenge. There have been a few times that I have reached out to University directors and have not heard back, which I know is because everyone is so busy. Overall, feeling a bit disconnected from Fellows and University directors probably because of the time unfortunately."*

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Site 3

Warm & Cool Feedback

Site 3: Year 1 Fellows' Warm Feedback

- **Site 3 Year 1 Fellows reported favorably on:**
  - **Networking and collaboration (47%)**
  - **Improved teaching (61%)**
  - **Giving/receiving feedback (33%)**

- *"This has been one of the most enriching experiences in my career. I have been able to collaborate with teachers in other counties and in different grade levels than mine. Seeing the science connections across all grade levels and having the opportunity to elaborate to make them more meaningful for all students; has been one of the greatest take away from this program so far."*
- *"So far I have gained a lot all ready from being able to work with other teachers in my content. It has been invaluable being able to learn from my fellows."*
- *"I look at each thing presented in science with a new lens. Asking myself the best way to word questions, the student engagement and the understanding of the student. I have seen increases in scores."*
- *"Collaborating with and getting feedback from teachers in other districts and grade levels [has been the most successful aspect of the program]."*

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Site 3: Year 1 Fellows' Cool Feedback

- **Site 3 Year 1 Fellows felt challenged by:**
  - **Amount of work/time required (24%)**
  - **Distance learning challenges (18%)**

- *"Finding enough of that elusive thing called time."*
- *"I do believe that discussion-based meetings would be occurring more often in a non-Covid year. That is the biggest challenge."*
- *"The large activities keep falling at the same time as due dates for school. There isn't always a lot of lead time to some activities to try to time manage well."*

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Site 3 Year 2 Fellows' Warm Feedback

- **Site 3 Year 2 Fellows reported favorably on:**
  - **Improved teaching (44%)**
  - **Improved leadership (38%)**
  - **GPS (35%)**
  - **Networking and collaboration (33%)**

- *"I have been able to meet and collaborate with educators across my county as well as two others. I have learned about and gained valuable knowledge and resources that I have carried over into my classroom."*
- *"I have been working with [district leaders] on my GPS project and each has been extremely helpful in helping me to craft pieces for data collection, to shape my project and for guidance along the way. [An IHE leader] has been enormously gracious with his time as well. I'm so very grateful for all of the feedback, monitoring, and assistance these three have helped me throughout this program."*
- *"I have grown as a science teacher and leader in my school. This fellowship has opened my eyes to many things, including resources, planning and teaching of science, as well as best practices."*
- *"Overall, I believe the most successful aspect of the Wipro fellowship so far this year has been the opportunity to learn from my mentor of my GPS project. My mentor has a wealth of knowledge on science education, and I would like to continue to gain knowledge from [him/her} throughout my experience."*

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Site 3 Year 2 Fellows' Cool Feedback

- **Site 3 Year 2 Fellows felt challenged by:**
  - **Time (35%)**
  - **GPS (24%)**
  - **Communication (18%)**
  - **Distance learning (18%)**

- *"My GPS has constantly been altered due to ongoing changes from the district."*
- *"At times, it seems information changes which can interfere with attendance and the times that meetings end/begin."*
- *"Have a had a crazy year and I feel very behind on my GPS project."*
- *" Challenges of time/ scheduling of small group zooms and everyone being able to attend at the same time. Fellows sometimes cancelling or wanting to reschedule planned small group zoom meetings to debrief at the last minute."*
- *"Adjusting with the virtual world."*
- *"COVID has presented numerous challenges including the inability to get data and information from faculty who are eLearning. COVID cases have also created an instability in terms of who is available for attending or participating in professional development."*

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Site 3: DSCs' Feedback

Warm Feedback

- *"The virtual conferences [have been the most successful aspect of the program so far]."*
- *"Ability to continue to connect teacher leaders across districts remotely [has been the most successful aspect of the program so far.]"*
- *"The development and facilitation of virtual meetings and professional development [has helped me grow]."*

Cool Feedback

- *"Perhaps more support in helping fellows establish and carry-out their GPS projects? I feel like we have done more this year to build up the mentorship aspect of the project but it is too early to see the results."*

Site 4

Warm & Cool Feedback

Site 4: Year 2 Fellows' Warm Feedback

- **Site 4 Year 2 Fellows reported favorably on:**
  - **Improved leadership (40%)**
  - **Networking and collaboration (33%)**
  - **Support from and connection to the University (33%)**
  - **STEM Conference (30%)**

- *"I am extremely satisfied with the Wipro Science Education Fellowship as it prepares me for success in leadership roles. I have also gained an extensive network of like-minded educators who are willing to give of their talents and skills for the wholistic betterment of the children who are impacted by this program."*
- *"This program has helped me see other facets of science education especially during the pandemic and inspires me to become a contributor to science education for all levels in STEM education. I also love how [the IHE leadership] challenges me to produce my best work."*
- *"I have grown as a science educator in the development of leadership skills by hosting workshops and partnering with others outside of my environment."*
- *"The most successful aspect of Wipro has been the Science conference and the conference with other Wipro fellows."*

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Site 4: Year 2 Fellows' Cool Feedback

- **Site 4 Year 2 Fellows felt challenged by:**
  - **Distance learning challenges**
  - **Conference scheduling**

- *"The conference scheduling. It was difficult to keep up with the many changes and some conferences were scheduled at the same time."*
- *"The most important this so far that needs to be improved about the Fellowship is the support with materials being that we are in a virtual setting now."*
- *"The only challenge is dealing with the Covid - 19 constraints. I miss the face to face meetings."*
- *"Trying to balance my Wipro project with the new demands of teaching. It hasn't been easy."*

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Site 4: DSCs' Feedback

Warm Feedback

- *"The teachers who have completed the Wipro Fellowship have stepped into the roles of teacher leaders not only on their campus but at the district level. These fellows are innovative and resilient, two qualities that have been critical this year in the virtual setting. The support and motivation and experience that they receive from Wipro and [the IHE leadership] molds them into leaders not only among science teachers but for teachers of all disciplines."*
- *"[The most successful aspects of the program] is the collaboration with other coordinators."*

Cool Feedback

- *"[The biggest challenge this year has been] coordinating a time to meet with my fellows."*
- *"[Regarding challenges this year:] As usual it always comes down to time. But honestly it has been so much better this year with the virtual meeting that allow for flexibility."*

COVID Learning

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COVID-19: Learning Formats (n=61)*

	All digital	Hybrid	All in-person
Site 1	35%	18%	47%
Site 2	100%	-	-
Site 3	6%	50%	44%
Site 4	9%	91%	-
Total Responses/Rate	37%	37%	27%

*AGC regrets that due to an error in the survey logic, only Fellows in Year 2 of the program were asked the COVID-19 related questions. This information will be asked again on the Year-end Survey.

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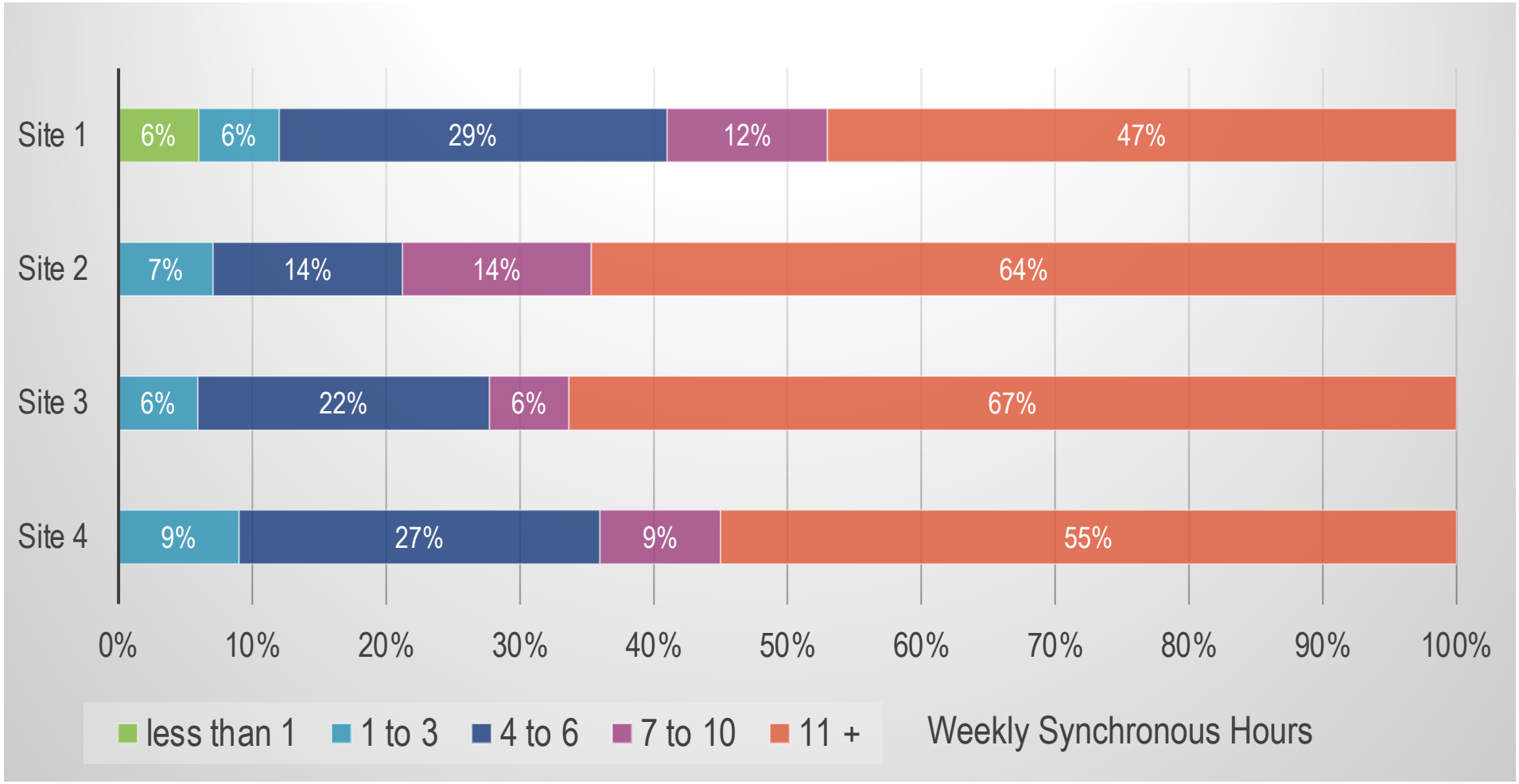
COVID-19: Frequency of Synchronous or In-person Learning Formats (n=63)



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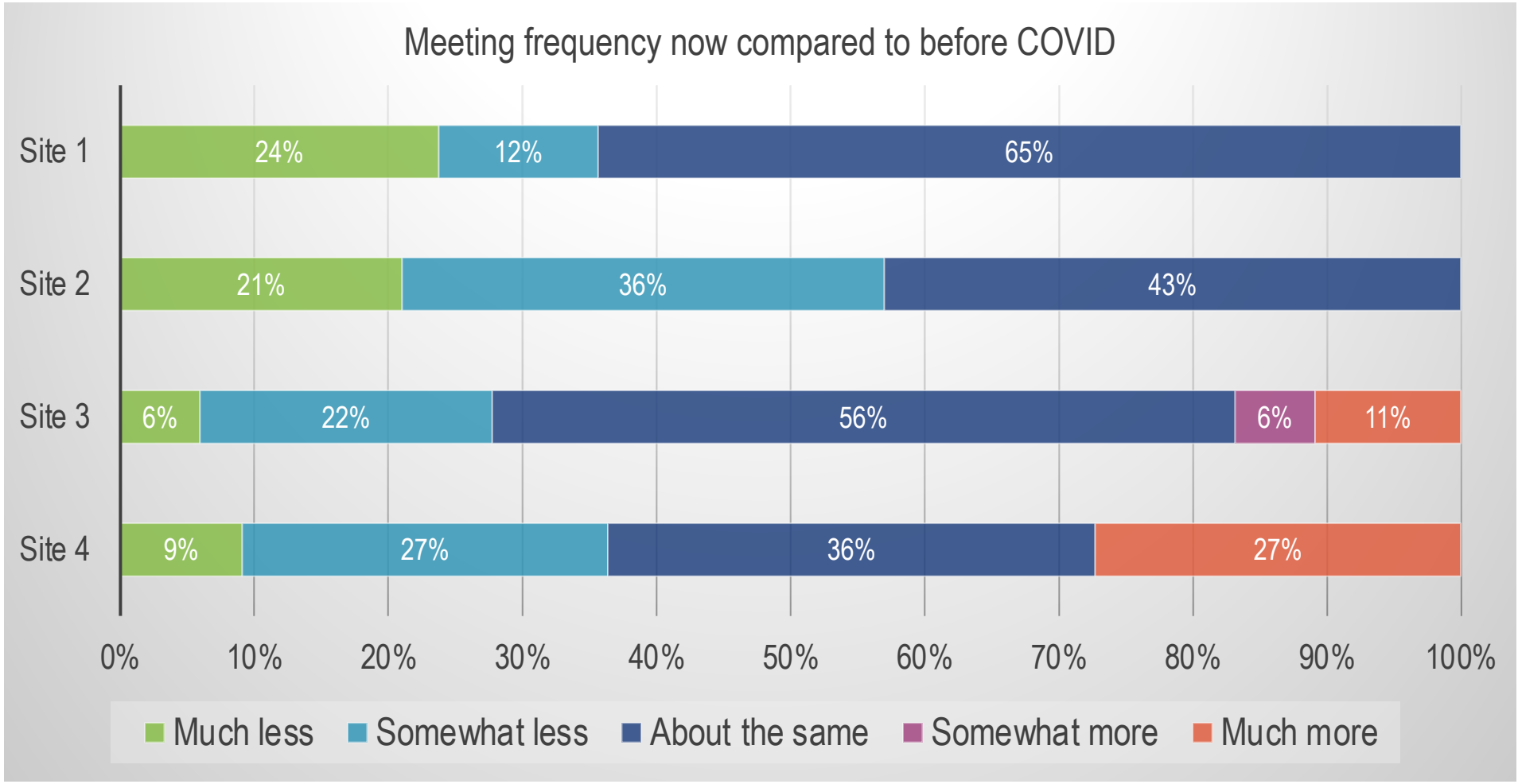
COVID-19: Frequency of Synchronous or In-person Learning Formats (n=63)



Notable Findings

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Notable Findings

- Overall satisfaction remained high for Sites 2 and 4 (94%+).
  - For Site 1, the lower overall satisfaction rate was due to fewer participants choosing “extremely satisfied” and 12% choosing ”neither satisfied nor dissatisfied”
  - For Site 3, the lower overall satisfaction rate was largely due to lower satisfaction of Year 2 Fellows (Cohort 2).
- This year saw another improvement in the Year 1 Fellows’ overall ratings of the V-CCLS presentation experience. 71% saw the V-CCLS experience as a high value compared with 56% last year.
- The challenges of COVID-19 closures and the resulting distance/hybrid learning increased stress and time constraints on all participants. However many also offered praise for the programs’ focus on network building and teacher leadership development. Some participants also valued the move to more virtual meetings which saved time and travel.

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Science Education Fellowship

Leadership Conference 2021
Survey Response Summary
3.17.21

Survey Responses

	Session 1	Session 2	Session 3	Session 4	Session 5
n=	19	20	22	13	15

Satisfaction

	Session 1	Session 2	Session 3	Session 4	Session 5
Very satisfied	13	15	12	7	11
Mostly Satisfied	4	4	8	4	3
Somewhat Satisfied	2	1	1	1	1
Neither Satisfied or Dissatisfied	0	0	1	0	0
Somewhat Dissatisfied	0	0	0	0	0
Dissatisfied	0	0	0	0	0
Very Dissatisfied	0	0	0	0	0

Satisfaction Comments:

Session 1
Loved the conversation... As a presenter I was a bit reluctant to be part of the group, at first, feeling like I should be visiting all groups... but I just stopped and LISTENED and remembered why we were ALL there... to share and learn from each other.
I felt that mixing the groups up throughout would have added more to the experience.
Enjoyed hearing how other districts are using their fellows. Was able to get a few ideas I hope to implement in my district.
Great opportunity to connect with other DSC's. I was able to take-away many ideas .
Session 2
The presenters were wonderful and very engaging. They made me want to participate.
I really enjoyed collaborating with other DSCs and Wipro Community members and hearing their different perspectives.
I really enjoyed breaking down the questions asked in the breakout rooms and then coming back to share in the large group. The breakout rooms allowed us to all share our ideas intimately instead of being overwhelmed in the large group.
Well organized. I really appreciated the anchor doc, making a virtual experience interactive/engaging (aka remembering the human)
It was good to hear perspectives from DSCs across the country
Very thoughtfully planned out and resulted in excellent conversations across sites.
Gained ideas of how to increase collaboration among regional DSCs and fellows.
Session 3
This was a loaded topic and may have benefited from being spread across two sessions
Enjoyed discussing the successes and challenges that were involved in virtual learning
I felt that a lot of the time was sharing how other schools are currently teaching and it seems like those conversations were had before.
Nice to hear that there are so many similarities between states, but also how we are each traveling a unique path
Good conversations! Getting started was a bit slow.
Session 4
I think it was clever to ask us what things we need and can do better before the conference happens. It was a great use of time since we were all together and would benefit from the brainstorming ideas that were discussed today.
Great conversations and fun way to provide feedback around the future conferences.
Session 5
The discussions in my small group were rich and soulful. My mind was blown with the ideas that each participant offered.
Great opportunity to self reflect.
Great session... really found the focus and structured opportunities for discussion and reflection valuable.
I have done a lot of learning before around teacher leadership and really appreciated this experience in connecting my work with Wipro to this learning.

Expectations

	Session 1	Session 2	Session 3	Session 4	Session 5
Expectations Exceeded	6	11	6	2	9
All Expectations Met	10	6	14	8	5
Most Expectations Met	1	3	1	1	0
Some Expectations Met	1	0	1	1	1
A Few Expectations Met	0	0	0	0	0
No Expectations Met	0	0	0	0	0

Expectation Comments:

Session 1
The group I was with was funny and honest... the struggle is real -- but we kept it upbeat. We need to share those success stories, support addressing the challenges, and work together to help their ideas for opportunities be realized.
Gained insight on ways to use Wipro fellows as leaders in our district
The expertise from DSC's at various levels provides support to me in my role. It has also helped me to grow as a new DSC.
Session 2
Building bridges and community-- yes-- I felt that we did have some time to chat-- but more would have been welcomed
I gained some great ideas to move forward with and I made some connections with other DSCs.
The session was fun. It was never boring and the time seemed to go by very fast.
I was hoping to get more help on what DSCs should be doing but probably not the avenue for that.
The session accomplished the goal of connecting across the sites.
Yes, was able to discuss what has worked in Texas as well as in other states.
Session 3
Great discussions in the breakout rooms
The collaboration was much needed and appreciated.
I enjoyed the conversations and the time went quickly.
It was great to learn about the challenges and successes across the sites... these are really amazing people doing such challenging work! So much could be learned through the sharing of experience and ideas.
Session 4
There is too much up in the air. I think given the timeline, more details are needed
I expect a lot from my Wipro meetings, and this one did not disappoint.

Session 5
I learned some new terms and ideas around leadership and I had a chance to reflect on them in my own role.
I thought it would be good... but-- it really resonated with me -- more than I expected!
Much needed opportunity to self reflect. The conversation was much needed.
The presentation was really well put together with great use of small group breakouts. Very well facilitated as well.

Agreement Statements

	Session 1	Session 2	Session 3	Session 4	Session 5
Built regional network	4.24	4.68	4.33	4.25	4.50
Built national network	4.50	4.60	4.62	4.75	4.93
Improved my leadership skills	4.00	4.16	3.90	3.64	4.40
Learned about Wipro SEF	4.47	4.35	4.10	4.00	4.00
Learned about school/district leadership	4.39	4.35	4.48	4.00	4.73
Good tech platform	4.39	4.75	4.85	4.42	4.73
Well organized session	4.72	4.95	4.76	4.75	4.87

5-point scale: 1=Strongly disagree; 2=Disagree; 3=Neither agree/disagree; 4=Agree; 5=Strongly agree

Most Important Takeaways

Session 1
I enjoyed hearing what others were doing to keep Wipro fellows engaged in leadership work.
That there have been a great many successes, large and small, and despite the challenges that they shared, they still are looking for ways to remain engaged in opportunities to continue involvement.
That my teachers are doing a lot that other districts are doing and doing it well
That there is a network of colleagues willing to help.
Good things have happened and planning for the future is necessary towards making sure that they continue to.
Being several years removed from direct participation in the fellowship program and immersed in the challenges of COVID-19, this has helped me to take stock of all the good that Fellows have done throughout our district.
I am excited about the idea of mini-conferences based on research being established for the future across our three districts.
Sharing success, challenges, and opportunities about the program.
We can try to continue vertical science collaborations.
Generally it seems we all feel the same way - we want more opportunities to utilize Wipro in our teaching practice & professional development.
Wipro has helped people see themselves as leaders with great impact
How can Universities help keep the "graduated" fellows engaged?
Look for new opportunities to use Wipro fellows as leaders
Try to run a local/regional conference using Wipro fellows past and present.
Continue to serve as a Champion for Science!
WIPRO is far-reaching and has truly impacted teachers across the country!
Session 2
Responsibilities of DSC
Similar experiences across sites with regard to the work of DSCs - helps people know that they are not going it alone
The WIPRO SEF network has expanded in a healthy and productive way throughout the nation. Excellent job.
I was told what GPS projects are.
I am inspired to help Wipro Fellows break down barriers in the district and to get their GPS projects to have impacts beyond their departments.
We are a part of a large group collaboration. Teachers and DSC's need support. Even greater things can be accomplished with a little forethought and planning
How eager people are to meet one another
That every group uses DSCs a little different.
A better sense of the role of the DSC.
How different DSC's make this work in their different settings.
Engagement and sharing ideas working on Jamboard. Getting to know you was super fun.
The dedication of all to this important work.
Ideas about the future use of fellows in the district and support for GPS projects
Collaborate more frequently with other DSC's.

Hearing the similarities and challenges from across the sites
Just hearing different perspectives on the DSC role, as a reminder that each district is unique.
Work on ways to recognizing fellows and their GPS projects at the district level.
Session 3
That covid has affected everyone
Even though there are so many obstacles, teachers are using their super powers to do all that they can to support student learning and well-being.
People are struggling across the board, but they are also growing.
How to use technology going forward, pause emotional and social conversations with students, parent partners, and do not be afraid to go back - jump into it.
Keeping the successes going with technology integration
How differently states are treating covid.
The shared experiences.
COVID may actually improve what we've learned/what we know about education and school. And we may gain a lot from it in the long run.
This has been an adjustment for everyone and fellows have greatly impacted the positive outcomes.
think outside the box to address issues and be supportive and understanding of fellows and students
The Wipro Fellows have stepped up to take on leadership roles that rose out of the tech needs/concerns across districts.
Just that I want to continue talking to other DSCs since I feel like there are so many things that I can learn from other folks.
How valuable it is to meet and share with colleagues.
Educators are heroes.
None of us are alone in this epidemic and the strategies we learned from others will help us.
Strategies or resources to keep after Covid
The resilience of all of these folks... commitment and passion for making a horrible situation work for kids...and the teachers these folks serve
Session 4
Through planning we can have a very enriching virtual conference. Planning is absolutely necessary to take on this monumental task. I am very glad we had this session.
Importance and impact of cross-site work/conference.
I think the feedback from all of the different groups will help us plan a great End of Year Conference.
Great to think about conf ideas
Learning about other district's approaches to developing leaders
What an amazing group of people -- so very thoughtful!!
Cross fertilization is key.
The difficulty of making socialization fun virtually
There could be more Wipro to come! While it may look different, there is more for us to do.
The planning piece

Session 5
To be a leader you can't just go with the flow, you need to think strategically about your actions and what traits, style, you want to utilize to empower others around you to reach for the stars.
That although my "leadership" is practiced differently from others... there is value in it...
To keep moving forward; self-authorize
Not to hurt the evaluator's feelings :-)
Self-authorization is a thing. (I better not get too drunk with my own powers. 😂)
Similarities in vastly different districts
Leadership encompasses so many aspects.
How can I lead with the authority that I have in my role as well as the authority that I am given?
Ask for forgiveness. :-)
There must be a way to identify natural/adopted leaders in the teacher community.
Keep pushing myself and encouraging teachers to become leaders from the classroom.

Recommendations for Improvement

Session 1
It's hard for me to answer this right now... I have a million thoughts going through my head. I feel incredibly badly about the tech challenge with the video and I still do not know why the slides controls, that were there the first time with the slides, was not. Me "driving" was not the smartest idea, with others having so much more practical experience running zoom sessions. It threw me--and not much does--
As I mentioned in an earlier question, I feel that mixing breakout groups would have added to the experience.
Nothing, I think it was nicely planned. I appreciated the fun break (movie chat).
None at this time.
I loved the small group format. There was ample time for everyone to share without feeling rushed. Maybe have 2 or 3 “Big” questions that you send ahead of time so that we can start thinking about them and be better prepared to speak to them during a session. (Just a thought.)
It was good, but I am new to Wipro so I didn't have anything to share and am still unclear as to what exactly led to the results people discussed.
Session 2
Maybe we could have chosen a topic of interest to our group to discuss and then share what we picked, why we picked it, and what we learned? Even a list of questions would allow us some choice.
I'm not the best person to ask as I am not very knowledgeable about Wipro. However, both this session and the last session have been focused on broad ideas of community. In general, I think both community and the projects are probably better developed if the sessions get into details of the projects and the community can help troubleshoot challenges.
Was really helpful!
The core document was fantastic. I still struggled knowing what to do/which sheet to fill out during breakout sessions. I think that was more my fault
More time! It went by very fast!
There was a lot to do, and we could have spent more time discussing the questions.
Session was engaging!
Session 3
More technology
This was great. I wouldn’t change anything.
The session itself was great but sometimes time felt rushed. Hopefully we will not have to continue the COVID conversation next year, but if so, it might be good to have two sessions dedicated to it.
Focus on specific tools that people want to keep using
It was very good.
more interactive components (similar to session 2) would be great, rather than just note-taking in a Doc.
Showing the shared google doc when groups were presenting instead of the PowerPoint so we could see the ideas being presented as each group talked about it.
It was great as is!
I would ensure that folks picked someone to share during share time (either on the notes document AND/OR with a broadcast). Otherwise, it was great. Thanks!
It appears that in all three sessions so far (including ours) -- care is not being taken to parse the groups out well... and I already mentioned.. stop screen share during debriefs/reporting out...

Session 4
Difficult to navigate between all the windows
The A, B, C -- must have, could have, don't need breakout was a bit long and that time could have been used for the last discussion...
Session 5
The content covered in the session needed more time than we had!
This session along with the others I attended were so informative and engaging. I hope there will be other occasions to participate in sessions like this in the future.
None. Truly excellent!

Session Specific Questions

Session 1: I am glad that I participated today because…
It was great to talk with District Coordinators from across the country.
it was heartwarming to hear about the successes that so many of them have had working in this program. Knowing that others share similar challenges is reassuring and I know that there are others out that that can be tapped for assistance. Even though I am not in the role and longer, I still work with many teachers/districts in different contexts -- I appreciate learning from these folks.
I had a chance to meet other Wipro district coordinators
It was good to be reminded of the great work that the Wipro Fellows have done, and more to come!
I felt refreshed in my standing within this prestigious group!
I took away some valuable suggestions and learned some new technologies.
It was nice to collaborate and build relationships with other educators bringing diverse experiences and perspectives to share.
I was able to learn new ideas about engaging, exploring, and sharing Wipro's and science education ideas.
I am walking away with some new ideas I can try in my own district and am fired up to tap my Wipro fellows to try some of these ideas.
my district has been out of Cohort 3 for so long now, and it was great to get back into this community and brainstorm for the future!
I'm new to WIPRO as a DSC and this helped me understand that I'm on the right path. It also provided a lot of inspiration for the work ahead.
I was introduced to a lot of the positive results people have had with the program
I heard how other regions are handling not only WIPRO but also COVID
I learned new ways that fellows can be used as leaders
I learned some great ideas from other coordinators that I would like to try.
gave me an opportunity to meet people in person
I'm glad I participated today because it gave me an opportunity to network with other DSC's and learn from what they are doing in their districts.
I had the opportunity to reconnect with fellow DCs from other districts and meet new fellows. I was happy to collaborate!

Session 3: Covid-19 has exposed the nation's educational inequities. Which inequities do you think a government or funding organization should prioritize in order to have a large impact on students' learning?
Vaccinating teachers
Broadband access, food availability, poverty
Free wi-fi access for everyone.
At home support services.
Emotional and Social Support
funding and time for more teacher professional development
The structural funding process is in need of significant revision.
this is a tough one - districts are giving devices and hotspots for WiFi access, but students who don't have calm, quiet, safe, etc. home environments have a difficult time, as do students with a lot of privilege but who aren't able to stay engaged. SO I would say that funding should go to BUILDING UPGRADES in districts, so that more students and staff could safely return to buildings.
Support for families.
internet access and quality
sigh that is such a big hard question
access to technology, Wi-Fi, time/space for healthy and safe learning
I think we need to continue to focus on supporting our black and brown student who - MAY have already been more impacted by Covid than other communities.
Racial inequity and making sure that science has equal teaching time with ELA and math.
E-rate for high-speed internet expansion.
access to internet
Equal access to internet and technology.
Access to stable internet and better devices--kids really need at least a decent laptop-- not a tiny Chromebook, tablet or someone's phone...

Session 4: What more would you have liked to discuss about the upcoming conference or about sustaining Wipro SEF in your district/region?
Future funding and expected program specific
The scale of the conference is looking very large
I think the discussions that we had were sufficient.
Phase 2 funding
Wanted more time for the last part that Arthur was asking about....
More details about the upcoming Wipro conference. Dates? times? site? who plans and implements? deadlines?
Just to think about a plan to sustain Wipro

Session 5: Did you learn anything new in this session that will help you practice leadership in your setting? Please explain.
Yes, I learned about informal vs formal authority and technical vs adaptive problems
Good to think about role and authority-- and how we can play to our strengths...
Technical and Adaptive challenges. Also thinking about leadership as a practice...I learned a lot preparing and facilitating the session.
Going to focus on using informal authority to develop leadership amongst peers.
I learned that there are many different lenses to look through in terms of leadership, supervision and authority
The ideas about technical challenges vs. adaptive challenges. And I have never heard of the phrased self-authorization. But, I think that will be my new favorite word!
Categories - formal, informal, self authority
I think this should be the first session of any new Wipro cohorts
I enjoyed the discussion on formal, informal and self-authorization. I believe knowing and acknowledging the differences is something that will help me in my current role.
Yes. Practicing adaptive leadership.
Interesting about technical and adaptive challenges
Yes, the emphasis on informal authority was nice, as was the idea of an "adopted leader".
I liked the additional resources for further readings. Thanks! I'll likely use them in the future.

Other Comments

Session 1
It was a pleasure planning this session with people on this presentation team. I very much enjoyed learning from them.
Thank you for all the support and education from this program.
Thanks for the hard work this took to prepare and present. It was impactful.
Thank you! (3)
Session 2
Thank you!!
This was a great session.
Great job!
Great session I really enjoyed it.
The session is much appreciated. Having the opportunity to talk with other DSC's and
Thanks to the organizers and participants!
Session 3
I look forward to attending another session. I'm sorry I'll miss the next one, but I'll definitely be at the last one.
Great session
Thank you!
Session 4
Thanks! (2)
Thank you... enjoyed thinking about the possibilities...
So much fun. Love seeing you all.
Session 5
Really enjoyed the session and will be revisiting the articles and content to help grow my leadership abilities
The entire series was terrific. This session resonated most with me...
This whole experience was amazing! I met so many more folks in WIPRO. We need to do this again.
This was a valuable experience.
Great job. Bravo!
So grateful for this work. Thank you!

Gender

	Session 1	Session 2	Session 3	Session 4	Session 5
Woman, Non-Transgender	12	14	14	8	11
Man, Non-Transgender	4	4	7	4	4
Transgender Woman/Male-to-Female	0	0	0	0	0
Transgender Male/Female-to-Male	0	0	0	0	0
Non-binary/Genderqueer	0	0	0	0	0
Prefer Not to Answer	1	2	1	0	0
Other	1	0	0	0	0

Race/Ethnicity

	Session 1	Session 2	Session 3	Session 4	Session 5
Latinx					
Black/African American	3	3	3	2	2
American Indian/Native American					
Asian/Indian	1	1		3	2
Native Hawaiian/Pacific Islander					
White/Caucasian	11	13	16	7	10
Prefer Not to Answer	2	3	3		1

Current Professional Role

	Session 1	Session 2	Session 3	Session 4	Session 5
University Teacher/Professor		2	2	2	2
University Administrator		1	1		
University Staff	2	1	2	3	1
K-12 Teacher	4	3	6	1	4
K-12 School/District Administrator	9	10	9	5	7
Other	3	3	2	1	2

Wipro SEF Program Role

	Session 1	Session 2	Session 3	Session 4	Session 5
Fellow who has completed two years in the program	2	1	2		2
District Coordinator	16	14	15	7	10
IHE Leadership Team	3	5	4	6	4
I am not formally a part of Wipro SEF - just a friend of the program.		1	1		

State

	Session 1	Session 2	Session 3	Session 4	Session 5
California	1	1	1	2	2
Florida	1	1	2	3	2
Massachusetts	3	2	4	1	1
Missouri	4	5	3	2	2
New Jersey	4	6	4	0	2
New York	2	0	2	0	1
Texas	2	4	3	4	4

Evaluation Update – December 2020

Anne Gurnee Consulting, LLC

Tasks this Month

- Submitted the Virtual Conference summary report on December 12, 2020.
- Participated in monthly call with IHE leadership held on December 16, 2020.
- Participated in/observed Missouri virtual V-CCLS Meeting on December 17, 2020.
- Contacted all IHE leads to update contact lists in advance of the Mid-Year Survey.
- Prepared the Mid-Year Survey for administration in January 2021.

What's Next?

During the month of January, AGC will be working on the following:

- Administering the Mid-Year Survey during the month of January and early February.
- Participating in/observing the V-CCLS meetings in Florida and California.
- Participating in monthly call with IHE leadership.

Evaluation Update – January 2021

Anne Gurnee Consulting, LLC

Tasks this Month

- Administered the Mid-Year survey (final state closes on February 2, 2021).
- Participated in/observed the VCCLS meeting in Florida (January 9, 2021).
- Participated in/observed the VCCLS meeting in California (January 16, 2021).
- Helped with planning for DSC Leadership Meetings in February/March including:
  - Participated in planning call on January 11
  - Offered written feedback on initial session plans
  - Administered survey to DSCs about session plans
  - Reported on findings from DSC survey
- Participated in monthly call with IHE leadership held on January 20, 2021.

What's Next?

During the month of February, AGC will be working on the following:

- Completing the Mid-Year Survey administration, data analysis and report (submitted by February 28).
- Participating in/observing the DSC Leadership meetings (as many sessions as schedule allows).
- Participating in monthly call with IHE leadership.

Evaluation Update – February 2021

Anne Gurnee Consulting, LLC

Tasks this Month

- Closed the Mid-Year survey and completed analysis of data. Submitted Mid-Year Report on March 1, 2021.
- Participated in/observed Session 1 (February 18), Session 2 (February 22) and Session 3 (February 24) of the Wipro SEF Leadership Conference.
- Led planning for Session 4 of Leadership Conference.
- Created Leadership Conference survey and administered for first 3 sessions.
- Participated in monthly call with IHE leadership held on February 17, 2021.

What's Next?

During the month of March, AGC will be working on the following:

- Leading the development of Session 4 and assisting with its implementation.
- Participating in/observing Sessions 5 of the Leadership Conference.
- Beginning planning for year-end evaluation activities including the year-end survey, interviews and focus groups.
- Participating in monthly call with IHE leadership.