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

WIPRO SEF

YEAR 8
QUARTERLY REPORT
December 2020

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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.

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 September 2020 through December 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.

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	Phase II	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 site visits were cancelled, and network meetings were moved to Zoom and increased in frequency.

The seven Wipro sites have each experienced a wide variety of changes in their partner school districts. In some locations school has been all virtual since spring while in others, school has been in person until Covid rates were too high and then they were forced to return to virtual instruction. What is most significant for the Wipro SEF program is that the program has been a positive experience in middle of an incredibly stressful year. One fellow put it best, Wipro SEF is a "Lifeline amid the chaos."

VCCLS presentations will begin in December and continue through mid-January. Sites have chosen the format for these presentations and each presentation will have visitors from across the Wipro SEF community.

UMass Boston is currently planning a virtual leadership retreat for February. A tentative agenda was shared with all the sites and suggestions were gathered from the entire group. Currently the thought is to have 4 or 5 virtual two-hour sessions throughout the month of February giving participants the opportunity to attend those sessions that most interest them and that fit best with their individual schedules.

CALIFORNIA- STANFORD UNIVERSITY

V-CCLS Course of Study- Cohort 3

Cohort #3	V-CCLS Course of Study		Site location: CA
Team name & Members	**Disciplinary Core Idea**	**Research Article Topic**	**Title of Research Article and Citation**
Group 1: Biology Robert Coverdell-Meneses Stephanie Yue Brittney O'Brien	Ecosystems: Interactions, Energy, and Dynamics LS2.A Interdependent relationships in ecosystems LS2.C: Ecosystem Dynamics, Functioning, and Resilience	Developing/leveraging online/collaborative games to increase engagement and understanding in a science classroom-	Barton, A. C. (2002). Urban science education studies: A commitment to equity, social justice and a sense of place. Foster, A. (2008). Games and Motivation to Learn Science: Personal Identity, Applicability, Relevance and Meaningfulness. Journal of Interactive Learning Research, 19(4), 597-614. Waynesville, NC: Association for the Advancement of Computing in Education Wilson, N. C. (2020). New Barriers to Technology Integration and Digital Education Equity: Fostering Agency and Engagement in Technology-Based Activities. In Next Generation Digital Tools and Applications for Teaching and Learning Enhancement (pp. 122-136
Group 2: Earth Science Emily Stollmeyer Nicholas Guttadauro Jenny Degraaff	Geology/Water Erosion/Drought/Plate Tectonics ESS2.A Earth materials and systems	The use of modelling to assess understanding and examine previous conceptions	Gouvea, J., & Passmore, C. (2017). Models of'versus 'Models for. *Science & Education*, *26*(1-2), 49-63.
Group 3: Biology Thomas Fulwiler Jaclyn Diaz	LS1.A Structure and function	Constructing explanations using claim, evidence, and reasoning	Grooms, J., Enderle, P., & Sampson, V. (2015). Coordinating scientific argumentation and the Next Generation Science Standards

Victoria Lanterman			through argument driven inquiry. *Science Educator*, *24*(1), 45-50. Sampson, V., & Gerbino, F. (2010). Two instructional models that teachers can use to promote & support scientific argumentation in the biology classroom. *The American Biology Teacher*, *72*(7), 427-431.
Group 4: Physics Yichang Liu Adrian Tamayo Julie McKinley-Reed	PS2.A Forces and Motion PS3.A Definitions of energy PS3.B Conservation of energy and energy transfer ESS2.B Plate tectonics and large-scale system interactions ESS2.A Earth materials and systems	Supporting all of our students as well as our English Language Learners (ELL) through using models and participating in whole class discussions.	Starr, M., & Krajcik, J. (2013). Developing+ using models to align with NGSS. *Science Scope*, *37*(1), 31. Acher, A., Arcà, M., & Sanmartí, N. (2007). Modeling as a teaching learning process for understanding materials: A case study in primary education. *Science education*, *91*(3), 398-418. Justi, R. (2009). Learning how to model in science classroom: Key teacher's role in supporting the development of students' modelling skills. *Educación química*, *20*(1), 32-40.
Group 5: Chemistry/Physics Alex Johnson Laura Spanier Margaret Poor	PS3.B Conservation of Energy and Energy Transfer	Increased student engagement via age-appropriate technology use and strategies for successful student collaboration	Brown, C. J., Hansen-Brown, L., & Wu, P. (2010). Building a virtual learning community to engage online students; a model for instructors: Report of phase I of an ongoing study. *Journal of Information Systems Technology and Planning*, *3*(4), 1-8. Chen, P. S. D., Gonyea, R., & Kuh, G. (2008). Learning at a distance: Engaged or not?. *Innovate: Journal of Online Education*, *4*(3).

			McBrien, J. L., Cheng, R., & Jones, P. (2009). Virtual spaces: Employing a synchronous online classroom to facilitate student engagement in online learning. *International review of research in open and distributed learning*, *10*(3).
Group 6: Biology Stacey Rader Amanda Lim Sierra Vance	LS1.A Structure and Function. All organisms have external parts that they use to perform daily functions.	Checking for understanding- Using formative assessment through student involvement and engagement	ACowie, B., & Bell, B. (1999). A model of formative assessment in science education. Assessment in Education: Principles, Policy & Practice, 6(1), 101-116.
Group 7: Biology Jessica Paulsen Elizabeth Reiff Chelsea Alvarez	LS2: Ecosystems: Interactions, Energy, and Dynamics LS2.A: Interdependent Relationships in Ecosystems	Facilitating effective group work.	Michaels, S., & O'Connor, C. (2012). Talk science primer. *Cambridge, MA: TERC.* An, H., Kim, S., & Kim, B. (2008). Teacher perspectives on online collaborative learning: Factors perceived as facilitating and impeding successful online group work. *Contemporary issues in technology and Teacher Education*, *8*(1), 65-83. Osborne, J. (2010). Arguing to learn in science: The role of collaborative, critical discourse. *Science*, *328*(5977), 463-466.
Group 8: Chemistry Gargi Verma Sarah Huggins Mithril Cox	Physical Science	Arguing from evidence to create critical thinkers who can be active, informed participants in their local and global communities	Osborne, J. (2010). Arguing to learn in science: The role of collaborative, critical discourse. *Science*, *328*(5977), 463-466.

Leadership team Reflections on the V-CCLS Course of Study Process

"Our CSET Leadership Team wanted to rollout the V-CCLS process in a way that was centered on helping Cohort 3 fellows take ownership of their learning and reflect on their practice, even in the midst of the stressful pandemic context. We framed every aspect of the work as something that would help them in their current work rather than as an "assignment" that had to be completed. We gave plenty of examples of Cohort 1 and Cohort 2 V-CCLS work and created a step-by-step process for them.

All V-CCLS teams are currently on schedule and will be ready to present their work in mid-January. We intentionally created smaller groups (groups of 3) so that this would ensure that they would be completed with all three video cycles and debriefs.

There were several actions that the CA Leadership Team took to support V-CCLS teams. First, each fellow was assigned a one-on-one coach who checks in and meets regularly with the fellow. This allows for more personal interaction, trust, and relationship between the CSET Leadership Team and each fellow. During these check-ins, the coaches are able to assess each fellow's experience in their V-CCLS groups as well as support them on any personal goals they might have for themselves. Next, each V-CCLS groups consists only of 3 members and included an elementary, middle school, and high school teacher (to the best of our ability). This would allow for easier logistics and planning and give each group plenty of time to complete their video cycles. Finally, the CA Team has continued to add to the curated list of research articles. Fellows were also explicitly taught how to find research articles on Google Scholar. Fellows were told to give the Leadership Team the names of any articles that they couldn't access so that the Leadership Team could use Stanford accounts to acquire them. This seemed to work well for the fellows and many of them have found articles that we will now add to our curated research article list. "

Posting and recording classroom videos and the videos of the debrief meetings

CA Fellows are continuing to use Torsh Talent to upload their videos, share with each other, and give each other feedback. Each group then meets via Zoom to conduct their debrief sessions, which also allows for easy video recording of their meetings. Each of the groups are given a Form Log for them to upload the links to their videos, lesson plans, and feedback documents. See below for an example Form Log.

Robert, Stephanie, Brittney	
October 2020	
Instructional Video (*Robert*) Video Directions VCCLS_Coverdell-Meneses_Robert_2020_October_Classroom Tagging Guidelines	**Reflection Video** (Facilitator: *Brittney*) Video Name: VCCLS_Coverdell-Meneses_Robert_2020_October_Reflection

Blank Form 1
• Form 1 from Stephanie
• Form 1 from Brittney
 	
Lesson Docs:
• Lesson Plan from Robert
• Student Work from Robert
  ○ Shifting Demographics
  ○ FAMILY FEUD
  ○ Google Form Responses:
	• Blank Form 2: Form 2 from Robert
	
	• Form 3 from Stephanie
	• Form 3 from Brittney
	• Form 3 from Robert

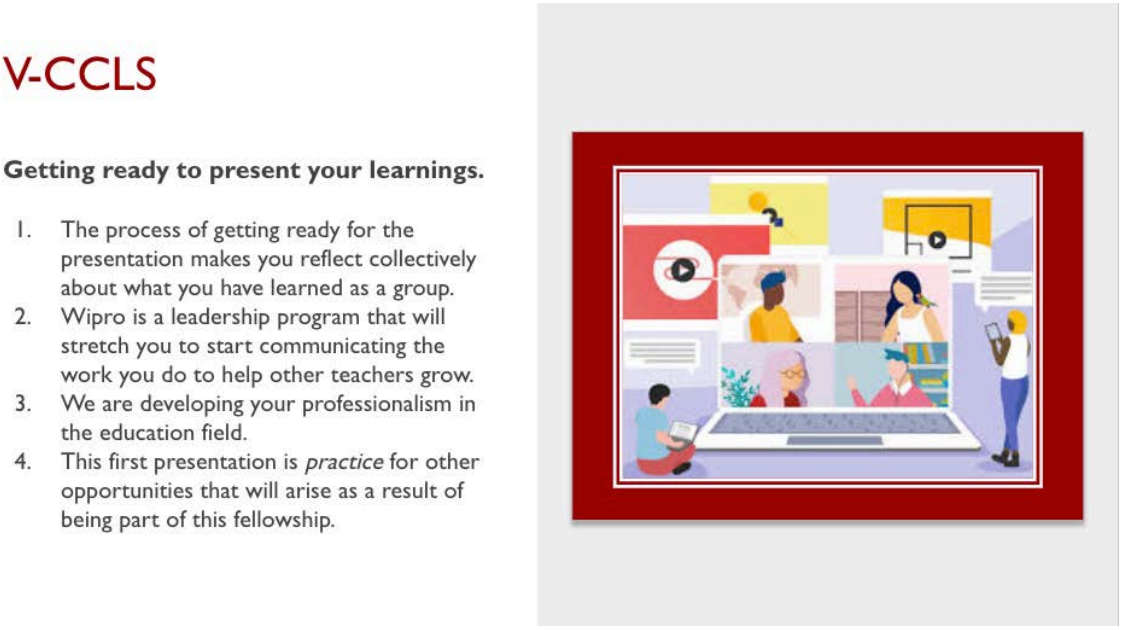
November 16th, 2020 @3:30	
Instructional Video (*Stephanie*) Video Name: VCCLS_Yue_Stephanie_2020_November_Classroom	**Reflection Video** (Facilitator: *Robert*) Video Name: VCCLS_Yue_Stephanie_2020_November_Reflection
• Form 1 from Robert • Form 1 from Brittney Lesson Docs: • Lesson Plan from Stephanie • Student Work from Stephanie (see tabs)	• Form 2 from Stephanie Blank Form 3 • Form 3 from Stephanie • Form 3 from Brittney • Form 3 from Robert

Conference plans VCCLS Presentations

The CA Team is planning on having V-CCLS Presentation for our Cohort 3 on Saturday, January 16, 2020 from 9am-12pm. Presentations will be held virtually and synchronously. This means that groups will present during the session (not pre-recorded) and the audience will provide feedback during the session. V-CCLS groups will be divided into smaller breakout groups so that each group will present to about two other groups as well as the CSET Leadership Team, District Coordinators, and possibly other visitors such as school principals.

District Coordinators and the fellows' principals will be invited to the V-CCLS Presentations. Fellows' family members are also invited should they wish to participate.

The CA Leadership Team framed the rationale for V-CCLS presentation as an opportunity for fellows to practice communicating their learning to others.
Here is a slide showing how the CA Team framed the work:



The importance of this day has been emphasized as a learning experience as well as an event. The CA Team is still planning on how to make this day more "special" since it must take place in a virtual setting.

Monthly meetings- Cohort 3

Reflections on the September to December meetings

From the Leadership team, "Given that this year was unique because of the COVID-19 pandemic, the CA Team feels proud of the work that has taken place in the Wipro Fellowship. The CA Team worked hard to create a supportive community of learners and made decisions about where to focus the time spent in professional learning sessions. Because virtual professional learning sessions have been shorter than if they were to take place in-person (1.5-hour sessions rather than 3 hour sessions), the CA Team had to make choices about what to include as well as what to leave out. Here are some of the areas that were highlighted during the sessions:

a. Build Cohort Community
b. Build V-CCLS Group Community
c. Provide a space to share and reflect on distance teaching and learning
d. Provide a space for fellows to reflect on their practice
e. Promote teacher leadership

If given the opportunity to have another Cohort next year, the CA Team would adjust the professional learning sessions to reflect whatever context the fellows are facing at their school sites. If sessions were to return to in-person learning, the CA Team would like to incorporate much of the 5E and conceptual flow work that was done in previous years as well as take a deeper dive into equitable teaching practices in science. "

Supporting the 3 Pillars of Wipro SEF

The CA Team addressed each of the Wipro Pillars in the following ways for Cohort 3 between September-December 2020:

Adult Learning

- Facilitated discussions about distance learning & sharing best practices
- Facilitated discussions about equity in schools
- Facilitated discussions about being authentic with students, especially during COVID and distance learning

Reflective Practice

- Fellows engaged in reflective practice as they participated in their V-CCLS work, including video sharing & participating in the feedback protocols
- Professional learning sessions continued to emphasize the importance of the reflective process and helping each other improve on instructional practices

Leadership

- The CA Team explicitly named that Wipro is a teacher leadership program and that program elements are designed to further their capacity to practice leadership. For instance, fellows were explicitly told that it was important for each of them to facilitate a debrief session in their V-CCLS groups and to take up the responsibility for their learning.
- The CA Team emphasized V-CCLS Presentations as an opportunity to practice presenting and communicating their learning with other teachers.

The Role of District Science Coordinators in monthly meetings

District Coordinators continue to be invited to every professional learning session for all cohorts but are not required to do so. Many of the District Coordinators have logged into sessions and have participated in relevant portions of the sessions, but often leave when fellows are given group time. However, during particular sessions when we are meeting with combined cohorts, we explicitly ask District Coordinators to attend so that they can lead discussions with their district teams.

As far as District Coordinator roles in monthly meetings, the CA Team meets regularly with the District Coordinators to get their input about what fellows in their district need and areas that could be addressed during the professional learning sessions.

District Coordinators have played a very important part of the CA Wipro Fellowship program. Strong relationships have been built with each of them and communication between the CA Team and District Coordinators have been seamless. This year, because of the pandemic, District Coordinators assisted in delivering gift packages to all fellows in all three cohorts across the Bay Area. This was a significant undertaking that took a lot of time and energy, but District Coordinators were happy to help and understood that this was an important part of making our fellows feel valued.

District meetings

District Coordinators meet regularly with their Wipro fellows, but the ways in which they meet vary by district. For instance, Eric Lewis from SFUSD arranged meetings with all fellows and meets with them as a group. Destiny Ortega, however, will check in with fellows one-on-one, but does not necessarily meet with them as a group outside of Wipro sessions. The main areas of focus for district meetings has been twofold: 1. To leverage what fellows have been learning at Wipro and applying their learnings to their contexts in some way and 2. To support fellows in their science teaching practice and the work they do with their students.

GPS Progress- Cohort 2

Site location (CA)	**Cohort #2**
The CA Leadership Team adjusted the GPS project timeline to accommodate the shifts that occurred due to the COVID-19 pandemic. CA Cohort #2 Fellows will be implementing their projects between November 2020 and June 2021. Each fellow has met with their mentors and will continue to meet with their mentors at least once a month. Fellows have been given their GPS Planning Template and will receive their GPS Portfolio Template in the coming week. The CA Leadership Team is currently creating an accountability document that will help keep all Cohort 2 fellows on track.	

Cohort 2 Fellows	**GPS Topics** • **Please note that these topics are being refined as fellow meet with their mentors.** • **Fellows' personal and district goals are also still being refined.**

Krista Berry	Creating ways for students to observe nature in their community/neighborhood
Allison Houghton	Developing ways to teach social-emotional learning for middle school students
Theresa Lester	Helping students understand science by examining land and place
Antony Torres	Science and literacy connections in the elementary context
Sohum Bhatt	Examining different grading systems and how they impact student motivation and results.
Margaret Dominguez	Creating a space for teachers who teach PBL or want to teach PBL and sharing Social Justice Project ideas that are specific to San Francisco.
Jennifer Lim	Creating an interactive Google site about the NGSS SEPs
Carol Lima	Implementing equitable planning for collaborative science learning, in order to increase student sense of belonging and science identities.
Kelsey Magana	Empowering student and developing their leadership in science
Gina Maschio	Using Cross Cutting Concepts as a theme in read alouds to integrate learning.
Vicente Patino	SFUSD's middle school science curriculum is project-based, structured around the 5E model of inquiry, and aligned with the NGSS. To facilitate standards-based grading, I want to exhibit and expand my current practice of creating a formative assessment for every subunit.
Eric Armann	TBD
Joanne Endo	Develop a three-part interdisciplinary, standards-based unit about the human impact of people on our planet. Each part will explore a different theme and will include components from the adopted curriculum, resources from the internet, and fellow-created digital elements. The three parts will be climate change, Earth's natural resources, and sustaining life on Earth.
Satomi Fujikawa	Same as Joanne Endo (shared project)
Melissa Duran	Focus on distance learning and using technological tools to help student learning. The areas that I plan to focus on are: • student engagement • student organization • student understanding • student assessment
Andrea Martinez	Focusing on how using phenomena in an ELD science class can help ELD expand their scientific vocabulary and increase the student's critical thinking skills.
Anu Sarkar	Creating a peer mentoring/tutoring program that will help struggling students blossom with mentorship and help from upperclassmen who have taken the class.
Roy Walton	Researching what it would take to develop a Makerspace / Creation space / Fabrication Space / Engineering Bay
Jessica Overby	Creating vertical alignment of SEPs between Biology, Chemistry, and Physics.

Cohort 2 Meetings

Date	Focus of Meeting	Attendees (fellows, DSC's, etc.)
9/12/20	Year 2 Goals & Focus GPS Project Overview Completing H-CCLS Work Messages to Cohort 3 Logistics & Forms	All Cohort 2 and Cohort 3 fellows (combined, then breakout by cohorts)
10/15/10	Share-A-Thon H-CCLS Work	Cohort 2 Fellows
11//12/20	Leadership: The Work of Groups GPS Launch	Cohort 2 Fellows
12/10/20	Combined Cohorts: Opener Welcome & Agenda Norms District Time Breakouts by Cohort Cohort 2: GPS Template- sharing and refining ideas	All Cohort 2 and Cohort 3 fellows (combined, then breakout by cohorts)

Reflections on meetings with GPS fellows

Site leaders report, "Professional learning sessions have gone very well overall. The CA Team has continued to build a strong community of teachers who have supported each other during a very difficult time of uncertainty because of the pandemic. Due to the virtual nature of the professional learning sessions, the CA Team made choices about what to focus on. For the next cohort, the CA Team hopes to bring back some of the leadership content that we have not spent as much time on this year.

Three Pillars of Wipro SEF

Adult Learning

- Facilitated discussions about adult learning and working with groups

Reflective Practice

- Continued H-CCLS video and feedback cycles

Leadership

- As GPS Projects were being rolled out, the CA Team emphasized the importance of the projects having an impact on others in some way

Cohort 1 Fellows

The beginning part of this school year, Cohort 1 fellows were still completing their GPS work since they paused that work last spring. Because of this, Cohorts 1 and 2 had their End of Year Conference during October of this year. During the synchronous portion of this conference, Cohort 1 fellows gave suggestions and advice to Cohort 2 fellows about how to choose and follow-through with a project that was meaningful for them. Cohort 1 has not had very much interaction with Cohort 3 fellows other than meetings with their district teams.

Host Conference Description

The CA Wipro Conference took place between Monday, October 26th through Saturday, November 7th, 2020. The conference began with a synchronous launch on Monday the 26th . Fellows and guests then had over a week to provide feedback to their assigned "pods" using the virtual feedback form. Feedback about their sessions were sent to each presenter before the day of the synchronous conference. The synchronous culmination of the conference took place on November 7th. During this time, fellows, and guests from assigned pods interacted with each other about what they appreciated and learned from the sessions as well as asked questions and shared ideas. Participants were then placed in a different breakout group to interact with new groups of people around a particular discussion topic. The day ended with CA fellows from Cohort 1 sharing GPS experiences with CA Cohort 2 fellows.

Please see the following CA Wipro Conference documents:

- CA Wipro Conference Information Pamphlet
- CA Wipro Conference Slide Deck

- CA Wipro Conference Digital Program

Digital Program

Quick Links	Instructions for Asynchronous Preparation
• Pre-Conference Zoom Session (Oct. 26th) • Conference Zoom Session (Nov. 7th) • Link to Feedback Form. If you have problems accessing Google Form, please download this alternative Feedback Form and email back to tmoriart@stanford.edu prior to November 7th. • Link to Conference Information Pamphlet • Presentation Abstracts • Links to CA Cohort 1 Posters	1. **Each participant has been assigned to a conference pod. Please find your pod by locating your name in the *participants* column below.** 2. ***Before* the synchronous session, watch all of the presentations in your pod.** 3. **Complete the feedback form for *each* presentation in your pod (except your own).** 4. **On the day of the synchronous session, participants will meet to discuss and provide feedback to the presenters in their pod.** **After the Conference, please complete the End of Conference Survey linked HERE.**

Reflections on the Conference

The CA Team thought that the virtual conference went very well. The team was particularly proud of the way all of the fellows stepped up and put together their presentations. The team received feedback that the Digital Program was helpful and helped fellows easily navigate the conference components. The team also received feedback that the

presentations were very informative and well-done and that the discussions during the breakout sessions were meaningful.

Reflections on Wipro SEF Conferences

The CA Team was grateful that they had participated in the Missouri, Texas, and Florida virtual conferences. These experiences helped the team with decision-making about how to run the CA version of the event. After reflecting and debriefing the team felt satisfied with how the CA conference went. If the team were to plan another virtual conference, they would consider inviting a dynamic speaker as well as providing more guided discussion prompts and/or protocols to the breakout group times that took place during the synchronous sessions.

H-CCLS presentations, and poster session

Overall, the CA Leadership Team was pleased with the most of the H-CCLS and GPS Poster Presentations. Given that teachers were under enormous amounts of stress, the overall quality of the work was acceptable, and the time fellows spent learning from each other during the conference was a good use of their time.

Visitors from other Wipro Sites

Please list the visitors from other sites and their roles

Name	Wipro Site	Role (IHE, DSC, Fellow, other)
Brittney Preston	TX	Wipro Fellow
Candace Edmerson	TX	Wipro Fellow
Julia Glowacki	TX	Wipro Fellow
Myesia Morrison	TX	Wipro Fellow
Raisha Allen	TX	Wipro Fellow
Tracey Craft	TX	Wipro Fellow
Shelby Allen	TX	Wipro Fellow
Sherry Thompson	TX	Wipro Fellow
Olaide Ajakaye	TX	Wipro Fellow
Amanda G Cortez	TX	Wipro Fellow
Linda O'Bryan	TX	Wipro Fellow

Marquita Rawlins Muhammad	TX	Wipro Fellow
Julien Yacho	TX	Wipro Fellow
Tiffanie Johnson	TX	Wipro Fellow
Dr. Ratna Narayan	TX	IHE
Meera Chandrasekhar	MO	IHE
Anne Gurnee	---	IHE
Kendra L. Brown	TX	IHE
Arthur Eisenkraft	MA	IHE
Allan Feldman	FL	IHE
Destiny Ortega	CA	DC
Maria Soto	TX	Wipro Fellow
Diane Aronson	CA	DC
Eric Lewis	CA	DC
Raino Bhatti	TX	Wipro Fellow
Ranen Bhattacharya	CA	DC
Kristen Larson	NY	IHE
Tabitha Moreno	TX	Wipro Fellow

Reflections from the CA Fellows

CA Fellows have always expressed how meaningful it is for them to have interaction with fellows from other Wipro sites. Fellows were able to see both the commonalities in their Wipro experiences as well as some of the differences in the way the different sites approach the work. Most of all, fellows appreciated the opportunity to connect with others from across the country.

From the site leader, "As a site leader, I believe that there is always value in having cross-site participation. The interactions help build community amongst fellows as well as reinforces the idea that they belong to a bigger network."

Fellows from Texas shared their GPS Posters at the CA Conference. Again, there is always value in having cross-site participation.

Board of Education Presentations

The CA team would like to follow-through with plaques presented at each of the district's Board of Education meetings. However, the CA Team would like to wait until this can be done in person.

Featured Fellows

Kelsey Magaña, Wipro CA Cohort 2, 5th Grade, SFUSD

Here I am, a 5th year teacher sitting down to reflect upon what an incredible experience I have had in the midst of what many would call a terrible year. I think back to a little over a year ago when I was approached by one of my SFUSD elementary science coordinators about the Wipro opportunity. I was immediately excited about the potential project and felt proud of the work I had accomplished thus far at my school site. However, my employment was uncertain. As a teacher with lowest seniority, I was in danger of being consolidated among budget cuts. My principal at the time believed in me and encouraged me to apply anyway. I am so glad she did! To this day, I am at the same school and absolutely loving my community at Wipro CA.

Equity, inclusion, and anti-racist teaching has stood at the center of our work together in our whole group and small group projects lead by CSET staff. I will never forget my first day at Stanford's Wipro kick-off event. I had sprained my ankle and had to attend on crutches. I was so nervous to attend in this state of mobility, and wrote an email sharing my concern. The Wipro staff responded saying come anyway, we will accommodate you. That day, we were asked to take a walk with our small groups, and my group all huddled around me and chatted without wanting to make me crutch around. These strangers were now my friends and my V-CCLS group. We bonded over our favorite snacks and observations about live insects. Yes, we did a lab together on our first day!

The following months exceeded my expectations! We traveled to our group member's home to have round table discussions about our teaching practices. We watched in awe of each other's skills and made sure to discuss our "warm" and "cool" feedback according to protocols. When it was time to present, we worked as a team and defended our findings. All of our confidence blossomed amid the discussions about equity and social justice. Guests I brought to the event shared many takeaways as audience members and have applied what they learned to their own practices. This open dialogue among peers is something that is irreplaceable. Little did I know this would be the last time I would physically be with my Wipro family.

When the pandemic hit my new H-CCLS group continued to meet and support each other online. We were like a lifeline amid the chaos. Recalling footage of our classrooms brought pride and tears as we prepared to present at the MO conference. I was touched and inspired by the fortitude I saw from teachers across state lines. Learning from my peers in other schools and districts has motivated me to continue this work even when it feels impossible.

I have brought the experiences I have from Wipro to my work on my school's Instructional Leadership Team and English Language Advisory Committee. Since my principal retired, I act as a leader by helping share our school's academic goals with our new administration. The community driven support I have at Wipro directly impacts my school every day as we navigate these tough times and transitions. I have been hosting weekly S.T.E.A.M. club meetings via Zoom which are open to multiple grade levels. It is a fun time for students to share curiosity and for older students to engage in leadership training. Student leadership is the center of my GPS project because student leaders deserve to feel loved and appreciated the way I have felt at Wipro.

Gina Maschio, Wipro CA Cohort 2, SFUSD

I have always been the type of person that needs something extra. Something to act as a motivation to constantly better myself and what I am doing. As I finished my master's program during my third-year teaching, I was on the hunt for my next project. That's when I was invited to apply for the Wipro Fellowship. At the time I was out on a medical leave recovering from surgery, struggling to stay put like my doctor ordered while aching to get back into my classroom to be with my students. One of the elementary science content specialists emailed me and let me know that my name came up as our district was putting together their first cohort for Wipro and gave me the details. It took me all of 6 hours to decide that being surrounded by like-minded educators trying to bring more science to students was *exactly* what I wanted to spend my next two years working on. To this day, this has been one of the best decisions I have made to better my career.

From the moment I walked onto that Stanford campus to go to my first Wipro meeting I felt like I belonged. I had never met any of the other educators in the room, but I still felt connected and like our paths were meant to cross. During our first half of the year, I got the chance to do something that I had, up until that point, never been able to do before – work across grade levels and get a sneak peek into the unfamiliar world of middle school. Working in this V-CCLS group completely changed my outlook on each and every lesson I taught from then on. I find myself constantly talking to my students about all the cool science ideas they would talk about in middle and high school and how what we do in elementary is helping prepare them both for their future schooling but also life based on these middle school classroom observations.

As we moved into our H-CCLS groups I was eager to continue on the path of pushing student talk and looking at how we could better engage our younger learners. Little did we know that COVID would be just around the corner and put a stop to our normal. Yet even as we entered a completely unknown situation, I felt safe and supported by my group and Wipro family. Our group continued to meet and brainstorm ways to navigate distance learning and all the unknowns it brought.

As my journey in the Wipro Fellowship continues, I feel encouraged to try things out every day. Since becoming a fellow, I have presented at both local and out of state Wipro conferences, as well as at the California Science Education Conference. I have also become a lot more comfortable stepping outside of my comfort zone to try new things with my students as a way to push myself as a teacher, and them as learners. The support that each and every member of the Wipro program has provided during my time as a fellow is something that I feel very fortunate to have experienced, and one that doesn't feel like "work" at all. Just a new family geeking out about science all the time while encouraging our students to do the same.

FLORIDA- UNIVERSITY OF SOUTH FLORIDA

Introduction

Schools in Florida are still functioning in a number of different modes. Some teachers are teaching face-to-face, some have hybrid sections with students both in the classroom and virtually, and some are fully virtual. No one has left the program this fall, and the Fellows are progressing through the work. However, one potential Fellow did not accept the Fellowship because she decided not to teach unless the district would guarantee her all eLearning classes. All of Florida's meetings have been conducted virtually via zoom, and the site team has adjusted the content of those meetings to ensure that they are supporting the learning of our Fellows.

V-CCLS Course of Study- Cohort 3

Cohort #	**V-CCLS Course of Study**		**Site location - Florida**
Team name (Also list team members)	**Disciplinary Core Idea**	**Research Article Topic**	**Title of Research Article and Citation**
Biology 1 Gina Choate Lora Darby Roshaun Reno Chelsey Swats	Living things	Collaborative/Cooperative Learning	Laal, M., & Ghodsi, S. M. (2012). Benefits of collaborative learning. *Procedia-social and behavioral sciences*, *31*, 486-490. Asha, I. K., & Al Hawi, A. M. (2016). The Impact of Cooperative Learning on Developing the Sixth Grade Students Decision-Making Skill and Academic Achievement. *Journal of Education and Practice*, *7*(10), 60-70.
Biology 2 Nicole Catabolletta Andrea Smoley Kellie Delgado	Water is the medium of life	Guiding questions for inquiry	Ambaw, K. (2019). Scaffolding of inquiry-based learning practice to enhance students' inquiry learning experience in grade eight biology class: At

Mishell Thomas-King			Sertse Dingle primary school, Bahir Dar University (Master's thesis). Milne, C. (2008). In praise of questions: Elevating the role of questions for inquiry in secondary school science. In *Science as inquiry in the secondary setting* (pp. 99-106). National Science Teachers Association.
Chemistry Ileana Burmudez-Luna Kat Laubach Kim Fox Laurie Vaughn-Grantges	Characteristics & Property of Matter Using CER (Claim, Evidence, Reasoning)	Understanding how students process science at various age levels in relations to success in Chemistry How CER works in the classroom and what are its benefits.	Irwanto, Rohaeti, E., Widjajanti, E., & Suyanta. (2017, August). Students' science process skill and analytical thinking ability in chemistry learning. In *AIP Conference Proceedings* (Vol. 1868, No. 1, p. 030001). AIP Publishing LLC. 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.
Environmental / Earth Andrea Blomeley Christina Macurdy Kelleigh Weeks Nicole Holman	Water and how it is important for life	Collaboration and building relationships to support collaboration (special focus on e-learning)	Article 1 Sultan, Sarwat, et al. "Individual versus Collaborative Learning: A Strategy for Promoting Social Skills and Academic Confidence among Students." *Journal of Educational Research,* Vol. 23, no. Issue 1, 2020.

			Toker, Sacip, and Meltem Huri Baturay. “The Comparison of Trust Development in Virtual and Face-to-Face Collaborative Learning Groups.” *Turkish Online Journal of Distance Education*, v20, no. n3, July 2019, pp. 153–164. Article 11.
Physics Dawn Avolt Laura Lacy-Carlson Yasmeen Leon Charles Turner	Changes in matter	Inquiry-based learning	Skelton, Peter., Blackburn, Joey., Stair, Kristin., Levy, Natalie. & Dormody, Thomas. (2017). Agriscience Education Through Inquiry-Based Learning: Investigating Factors that Influence the Science Competence of Middle School Students. Journal of Agricultural Education, 59 (1) 223-237. Aloysius, Khoon., Kang, Loo., Wah, Kim., Jeffrey, Ping Yong,. and Yee, Sze. (2013). Addressing learning difficulties in Newton's 1st and 3rd Lawa through problem-based inquiry using Easy Java Simulation. "Best School-based Research award" by NIE Redesigning Pedagogy Conference 2013.

Reflections on the V-CCLS Course of Study Process

From site leadership, “During our first meeting with the Fellows, after explaining the VCCLS process and Course of Study, and getting them in their groups, we moved the groups into breakout rooms and assigned one member of the TB Wipro leadership team to each room. The groups were then supported by that leader in working across district pacing guides and with our state standards to identify content ideas. The groups then had time to discuss the pedagogical idea they wanted to work on and were supported in clarifying and narrowing that idea as needed.”

"We did not make any specific changes this year to the VCCLS process. One difference this year was that we had 5 groups of 4, instead of 4 groups of 5 because of the number of high school biology teachers we accepted into this year's cohort. This has been helpful this year because it meant that there was one fewer debrief that needed to be completed and allowed a little more space in the semester to complete the work within the context of the multiple modalities of instruction that have been occurring in our schools.

Fellows have not needed any support in recording their classroom instruction and have done this themselves. Once they record their lesson, they upload it to our shared Dropbox site for the other members of their groups to access. When doing their debriefs, they record the zoom session, and it is uploaded to the Dropbox as well. There is a folder for each group, and then within that a folder for each Fellow."

VCCLS Schedule

All VCCLS groups are on schedule with their debriefs and preparing their presentations for the January mini-conference.

VCCLS Conference plans

The VCCLS presentations will take place on January 9th, 2021.
Florida leadership will invite principals, and superintendents. Leadership plans to have the Fellows invite their administrators and other teachers from their schools. Our DSCs will invite other district personnel and FL site leaders will invite additional faculty from the USF College of Education.

Monthly meetings- Cohort 3

Reflections on the September to December meetings

Reflections from the site leadership, "Every other month we have year 1 and year 2 Fellows meet together. The September meeting was the first of the year that included both cohort 3 and 2 Fellows. Because our county school districts are so large, it is often the case that our Fellows do not know the other teachers who are in the program from their own county. Therefore, we believe it is important of the Fellows in the different cohorts to get to know each other and form a community that goes beyond the individual cohorts. Our first activity for that meeting was to have the Fellows meet in county (district) groups. After brief introductions, cohort 2 Fellows described their experiences with the CCLS process and answered questions from cohort 3. The bulk of the remainder of the meeting for cohort 3

focused on the V-CCLS process. First, we provided them with information about recording their teaching. We did this in two groups: face to face teaching, and synchronous and asynchronous online teaching. They then worked in their V-CCLS groups to discuss their articles, finalize their course of study, and set up their calendars for teaching and debriefs. The remainder of the meeting time was spent in district groups with their DSCs. Overall, we believe that the meeting went well given the limitations of Zoom. The primary purpose of the meeting for cohort 3 was for them to get the information and do the work necessary for them to be able to move ahead with their V-CCLS. Feedback at subsequent meetings supports that this was accomplished. If we were to have an additional cohort, we would want to include F2F activities for community building and find ways to incorporate year 2 Fellows more into the year 1 Fellows' V-CCLS planning.

The October meeting was only for cohort 3. The focus was on the NGSS and the science and engineering practices. Florida is not an NGSS adoption state and its current science framework date is over 10 years old. Therefore, for the most part the Fellows have little knowledge of either the NGSS or the practices. We drew upon Larry Plank's expertise for developing and implementing the activities for the Fellows to learn about the framework and practices. Again, based on feedback at the next meeting and our debriefing of the meeting, we believe it went quite well. The main change we would make for another cohort would be to include hands-on activities related to the different practices.

In November, the two cohorts met together again. As in September we began with the two cohorts together to build community and share expertise. Cohort 2 shared the following with cohort 3:

- Brief review of what cohort 2 did last year
- What I know now that I wish I knew then – successes and errors. How did the group deal with the latter?
- January presentation and most recent conference videos

Cohort 3 then did more work on learning about the practices by reviewing and discussing particular practices in small groups, and then engaging in a jigsaw of experts from the original groups. Both cohorts came back together to focus on integrating the practices into their current online instruction. This last part of the meeting was facilitated by Pam Pelletier. There was also an opportunity for the DSCs to convene their district groups. Based on the discussions in the jigsaw groups and in the large group at the end of the meeting, we believe that the activities for cohort 3 were successful in helping them gain more expertise about the V-CCLS process from cohort 2, and in gaining a better understanding of the practices and how they can incorporate them into their teaching. Another cohort would hopefully not be restricted to meeting online, and therefore we could make use of the advantages of having them interact with one another more fluidly, as well as having hands-on activities."

Three Pillars of Wipro SEF?

Adult Learning: A good portion of the October and November meetings were devoted to helping cohort 3 Fellows learn about the NGSS and come to an understanding of the science and engineering practices.
Reflective Practice: Cohort 3 and 2 Fellows reflected together on the V-CCLS process and what worked and what did not last year.
Leadership: Cohort 2 Fellows engaged in leadership activities with cohort 3 by working with them in September and November on the V-CCLS process.

Role of the District Science Coordinators in monthly meetings

The District Science Coordinators played multiple roles in each of the monthly meetings. Each month the DSCs meet with the USF team to discuss multiple aspects of the project including the progress of year 1 and year 2 Fellows. Pam Pelletier has been part of these meetings this academic year. The bulk of these meetings are devoted to planning out the different TB Wipro SEF activities, including the agendas for the monthly meetings. Often a component of the meetings draws upon the expertise of one or more of the DSCs. In addition, at almost every meeting at least one of the DSCs runs a portion of the meeting. For example, at the November 2020 meeting Fawnia Schultz ran a mini workshop for year 2 (cohort 2) Fellows on developing and implementing affective professional development. At the same meeting, Lesley Kirkley ran a session on the science and engineering practices for the year 1 (cohort 3) Fellows.

District meetings

The DSCs meet with their Fellows during the monthly meetings. Time is scheduled for these meetings every other month when we meet with both year 1 (cohort 3) and year 2 (cohort 2) Fellows. The monthly meetings have been held via Zoom. The leadership team has taken advantage of the ability to break out into rooms for small group discussions. The DSCs report back to the USF team during the monthly DSC/USF team meetings.

Focus of the district meetings

The TB Wipro DSCs and Fellows focused this Fall on how best to apply and extend the work of the project to the Fellow's schools and districts, in order to continue broadening the impact of the project. They also assisted the Fellows in meeting their concerns related to the demands of teaching during the pandemic.

GPS Progress- Cohort 2

Site location (State)	Cohort #
Florida	2

Fellows Name	Personal Goal (1-2 sentences)	District Goal (1-2 sentences)
Bhagyashree Kulkarni	To create chemistry educational videos and broadcast on you tube so it is accessible to anyone who needs help with chemistry.	To learn how to make good and effective educational video.
Daniel Rice	During the 2020-2021 school year, I will complete three projects involving the Raspberry Pi (RPi).	I will sponsor a Code Club in which students complete projects intended to learn the Python Language and fostering computer programming skills.
Sherri Alvarez	Foster Community Relationships that support STEAM learning. This will be accomplished by having activities focusing on diverse groups of individuals involved in STEAM jobs.	I will expand my knowledge base by learning more about diverse individuals throughout history and currently in our area involved in STEAM programs and jobs.
Carrie Donatelli	Create a platform for educators to share STEM lessons and activities	Promote STEM learning to students through a STEM Club
Tara McClintick	Learn to implement science technology resources to supplement the teaching routine for each student to have rich learning experiences due to limited hands-on, collaborative science inquiry and investigations.	To use digital devices to integrate learning into the instructional day for content delivery, research, creativity, innovation, and collaboration.
Teresa Buckman	To improve my skills in the development and delivery of professional development that is meaningful and enjoyable.	To improve the overall level of confidence and knowledge basis for elementary instructors of science.

Latasha Seay	Differentiate my instruction using culturally responsive teaching to engage the whole child	Using culturally responsive teaching strategies, I will incorporate equitable practices for every child in my classes
Karen Bulino	I will move from understanding and empathy to action and activism for our marginalized students, especially our black and brown males.	I will help to dismantle the impact of systemic racism in classrooms throughout our district through the creation and presentation of equity professional development and provide resources that assist teachers/district personnel in implementing immediate changes in their classroom /schools.
Jennifer Cogan	Create a sustainable school garden while incorporating STEM practices through direct observations (school)	Teaching "outside the box" in an outdoor environment (personal)
Sonila Toska	Support students to develop scientific literacy they need to gain a knowledge of science content and practice scientific habits of mind.	Support teachers in teaching students scientific terms, NOT just front-loading scientific terminology.
Ann Salazar	I will implement STEM and creativity activities with a science emphasis for K-5 gifted students on a bi-weekly basis.	I will provide equitable opportunities for my gifted students by using culturally relevant teaching.
Jennifer Griffone	To create, develop, and implement computer science standards lessons to improve student achievement.	Gain a better understanding of the elementary computer science standards and integrate that understanding into creating lessons.
David Seis	Develop two trainings for my site	Thoroughly integrate science and engineering practices throughout the year
Brett Goodrich	Increase student engagement in the science classroom through hands-on and kinesthetic learning.	Increase the students understanding and test scores.
Julie Fine	To incorporate one storyline in each of the first three quarters into my biology classes and to determine whether this action increases student engagement	To publish my work in a teacher journal at the completion of this project (Spring/Summer, 2021).

	(attitude towards science) and student achievement in biology.	
Michele Wiehagen	I want to develop 5 sets of Kindergarten-Fifth Grade content integrated Engineering Design Cycle lessons will be created grounded in real world problems.	I will have attended content specific training in ELA, Math and Science to increase my background knowledge in order to write integrated lessons.
Richard Card	I will make connections to the Florida curriculum with my students in an effort to learn about native Florida plants to provide a space on campus where students and staff can enjoy the natural Florida environment.	I will participate in District Related Professional Development in science to continue my professional growth as a teacher of science and to use those skills to facilitate science at my grade level.
Cayla Repass	I will help to increase my and my colleague's knowledge and understanding of introducing and implementing STEM in an elementary classroom through the use of exploring various resources to help deepen our knowledge on how to instruct students in a STEM focused classroom.	I would like to increase instructional engagement and student success by becoming more STEM focused using implementing lessons designed to incorporate most aspects of STEM (science, technology, engineering, mathematics, problem solving, collaboration, etc.).
Anita Ventura	Research effective ways to impact science instruction at the elementary level.	Share my learnings with teachers at my school site and at the district level to help impact a broader audience.

Cohort 2 Meetings

Date	Focus of Meeting	Attendees (Fellows, DSC's, etc.)
September 12th	We met to have Fellows share the GPS goals with each other. They also developed their affinity groups. Once their groups were developed they had	**Cohort 3:** Andrea Smoley, Andrea Blomeley, Chelsey Swats, Gina Choate, Ileana Bermudez Luna, Jennifer Griffone, Kat Laubach, Kelleigh Weeks,

	time to work together in them.	Kimberly Fox, Laura Carlson, Laurie Vaughn-Grantges, Lora Darby, Mishell Thomas-King, Christina Macurdy, Nicole Caltabellotta, Roshaun Reno, Yasmeen Leon, Kellie Delgado, Kathryn Laubach, Dawn Avolt **Cohort 2:** Sherri Alvarez, Sonila Toska, Richard Card, Michele Wiehagen, Latasha Seay, Karen Bulino, Jennifer Cogan, David Seis, Daniel Rice, Cayla Repass, Brett Goodrich, Anita Ventura, Jeniffer Griffone, Teresa Buckman, Carrie Donatelli, Bhagyashree Kulkarni, Julie Fine, Tara McClintick, Ann Salazar. Karl Jung, Allan Feldman, David Rosengrant, Lesley Kirkley, Fawnia Schultz, Larry Plank, Nancy Islam, Pam Pelletier
November 14th	We spent the beginning of the meeting having Cohort 2 work with Cohort 3 and share their experiences with the project. They shared what they did last year, what they wish they knew then and the results of their January conference. Then Cohort 2 had a session	**Cohort 3:** Andrea Smoley, Andrea Blomeley, Chelsey Swats, Gina Choate, Ileana Bermudez Luna, Jennifer Griffone, Kat Laubach, Kelleigh Weeks, Kimberly Fox, Laura Carlson, Laurie Vaughn-Grantges, Lora Darby, Mishell Thomas-King,

	about designing professional development. Their meeting culminated with a session about the GPS portfolio and their expectations for it. We had a Fellow from Cohort 1 joining us and sharing her experiences with this. They came together with cohort 3 at the end to discuss engineering practices.	Christina Macurdy, Nicole Caltabellotta, Roshaun Reno, Yasmeen Leon, Kellie Delgado, Kathryn Laubach, Dawn Avolt **Cohort 2:** Sherri Alvarez, Sonila Toska, Richard Card, Michele Wiehagen, Latasha Seay, Karen Bulino, Jennifer Cogan, David Seis, Daniel Rice, Cayla Repass, Brett Goodrich, Anita Ventura, Jeniffer Griffone Karl Jung, Allan Feldman, David Rosengrant, Lesley Kirkley, Fawnia Schultz, Larry Plank, Nancy Islam, Pam Pelletier

Reflections on meetings with GPS Fellows

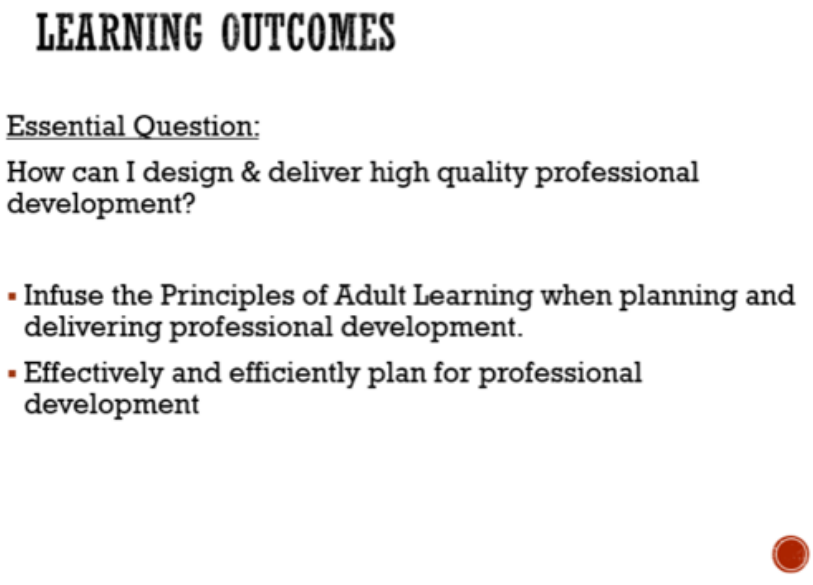
According to site leaders, "We believe that both of these meetings went very well. Even though we are being forced to meet virtually, we are building off of what went well with our first cohort to make sure that cohort 2 feels confident in their understanding of the tasks ahead of them and that they are prepared for future meetings. We were able to give our cohort 2 Fellows time to both help cohort 3 in their journey while also learning from cohort 1 who have completed their projects. Having members of the USF and DSC serve as a primary mentor has also helped keep many of them on task.

Moving forward with cohort 3, we want to find a way to make sure that the cohort stays connected while they are doing their GPS projects. They are very individualized, but we need to find a way to have them be more interactive with one another during the process.

This could possibly be done by increasing the work with the affinity groups in some fashion."

Three Pillars of Wipro SEF

Site leaders stated, "We mirrored and supported the three pillars of Wipro SEF: Adult Learning, Reflective Practice, and Leadership. For example, as shown in the meeting agenda for the November meeting, the cohort participated in a professional development session. In this session, Fellows learned strategies (adult learning) about how to run successful and beneficial professional development sessions to their peers (leadership). In fact, you can see below how part of the presentation focused directly on the principles of the adult learning pillar: Adult Learning."



Caption: Examples of slides from professional development activities

"A key component of this activity was to spend time reflecting about their own experiences. This included their experiences participating in professional development and running it if they had done so in the past. The participants shared their reflections to help each other grow.

This is just one example from the two meetings that highlight how we were able to reinforce the three pillars into their meetings."

Cohort 1 Fellows

The leadership team thought they have not done as well as they could to support the continued involvement of cohort 1 in the project. One Fellow attended the November meeting to share with cohort 2 about the GPS deliverables and lessons learned through putting together the poster and portfolio. But beyond that work, and the Fall 2020 conference, the team has not utilized or involved cohort 1. Cohort 1 will all be invited to the January presentations as well as the year end conference.

Host Conference Description

Florida had a very successful Fall Conference for their Fellows to share the HCCLS presentations from cohort 2 last spring and the GPS projects from cohort 1 for the Fellows who were finished. The conference was attended by cohort 1, 2, and 3 Fellows, the district science coordinators, Fellows from Texas and California, and IHE people from all current and past Wipro sites except New Jersey. At the Fl conference, attendees had the opportunity to hear from HCCLS groups, share warm and cool feedback, and participate in a keynote presentation by Dr. Tracy Fanara. They also created a Flipgrid with GPS presentations that attendees could view prior to or after the conference but did not provide time during the conference for people to view those videos.

Reflections on the Conference from the Leadership team

"We felt that overall, the conference went really well and provided a nice forum for the HCCLS Fellows to receive feedback. One thing we would improve on is making sure that we have a form for attendees to submit their warm and cool feedback in writing to be provided to the Fellows after the conference. This was a step we simply missed and will make sure to include going forward for virtual conferences. We very much liked the Flipgrid presentations of the GPS projects and the ability of attendees to provide feedback on those presentations through the Flipgrid interface. It would have been good to build specific time

into the conference for people to watch at least some of those Flipgrid videos and are planning for this at our January mini-conference."

H-CCLS presentations, and poster session –
As noted above, the HCCLS presentation format (asynchronously watching ahead of time and recording feedback, synchronously sharing overview of work and warm/cool feedback) was very successful and site leaders thought it provided a nice format for direct and personal interaction around the presentations without requiring attendees to view the live presentation via zoom. Site leaders, "Felt that 40-minute process, repeated 4 times, would have gotten very long for all in attendance. We did not think to include a form to gather written warm and cool feedback and will include this in our January V-CCLS conference and further into the future. "

The GPS Flipgrid poster sessions was successful but as noted above, time could have been built into the schedule for attendees to view those presentations during the conference. The team is exploring ways for attendees to respond in written as well as video formats.

Visitors from other Wipro Sites

Name	Wipro Site	Role (IHE, DSC, Fellow, other)
Tammy Moriarty	California	IHE
Shane McDonough	California	Cohort 1 Fellow
Pam Pelletier	Massachusetts	Other
Anne Gurnee	Massachusetts	Other
Arthur Eisenkraft	Massachusetts	IHD
Meera Chandrasekhar	Missouri	IHE
Siobhan Kaschalk	New Jersey	Cohort 3 Fellow
Kristen Larson	New York	IHE
Kendra Brown	Texas	IHE
Ratna Narayan	Texas	IHE
Yesenia Vasquez	Texas	Cohort 3 Fellow
Rocio Avila	Texas	Cohort 2 Fellow
Marsha Bolden	Texas	Cohort 3 Fellow
Matthew Gaines	Texas	Cohort 2 Fellow

Did Fellows from the visiting site present their H-CCLS?
"Yes, they did present their H-CCLS projects. We did not collect information from our Fellows as to whether they found it helpful. We hope they appreciated the opportunity to

see the work that Fellows from other sites are doing and that they gained some new learning that can support their science instruction."

Site leaders also stated, "It is always worthwhile to see and hear about the work that is going on elsewhere in the country to gain perspective of the different systems and structures that exist in other areas and how teachers are approaching science education."

Board of Education Presentations

At our November meeting of the DSC, USF team, and Pam Pelletier they discussed this request from Arthur that each site consider doing this. The three DSCs were emphatic that it would be highly unlikely to get this onto the agendas of the school boards of their districts. They also stated that if it were to get on the agenda, it would probably consist of only a minute or two at most and would not involve any meaningful recognition of the Fellows. This is because the school board meetings are devoted to issues related to the running of these very large districts. For example, Pasco County Schools is the smallest of the three districts. It has 75,000 students, 5000 teachers, and 96 schools. Its annual budget is over $500,000,000. The largest district, Hillsborough County Public Schools, has 220,000 students, over 15,000 teachers, 273 schools, and a budget of over $3 billion. Each of the districts does have some type of recognition ceremony, but those typically focus on students, not teachers, and again would involve only brief, cursory recognition of the teachers. The Florida team will continue discussions with the DSCs about ways to recognize the Fellows and their schools in a district wide setting.

Featured Fellows

Ann Salazar

My name is Ann Salazar and I have been in education for over 20 years and this is my second year participating in the Wipro program. Last year I was a math and science teacher at Ridgecrest Elementary in Pinellas County. Three years ago, a Science Coach sent my grade level an email about the WIPRO program. I thought it sounded like a great opportunity, so I applied and was accepted. I am glad that I decided to participate. I have learned so much from my peers and I really enjoy being able to learn about how the different levels, such as

middle and high school, teach science. I can see how it all builds. I have also discovered many science resources that I can use with my students.
I am currently in a new role at a new school, but I know that I can bring my knowledge from the Wipro program to my students here. I am excited to work on my independent GPS project this year. I believe that it will benefit my students and help them become independent thinkers and problem solvers.
What I like most about the Wipro program is being able to collaborate with other Tampa Bay Area teachers and learn from them. I am very thankful for this opportunity and feel that it will make me a more effective science educator.

Kellie Delgado

My name is Kellie Delgado. I have been an educator in Hillsborough County Schools for over 20 years. I started back in August of 2000 at a Magnet School in Tampa. That was the beginning of my love for Math, Science & Technology. I currently teach fourth grade at Turner/Bartels K8 School in New Tampa. I started at TBK8 as a first-grade teacher, self-contained, back in 2007. Our school was just starting to become a prime school in New Tampa and in 2014, we made the transition to K8 and the start of a STEM school. I have been given many wonderful opportunities, working at a STEM school. We have a STEM Squad that meets weekly, our Hillsborough County STEM coordinator visits often, we even hold a STEM Night, where our students present in front of family and friends, the STEM activities and programs that they have learned and use daily in class. All of our classrooms support BYOD (Bring Your Own Device) and on any given day, as you tour our school, children are working on devices using Nearpod, Sway, Khan Academy, Minecraft EDU, and Code.org to name a few. We also participate in EdCamp each year, as a large teacher group. I have enjoyed learning along with other educators in the surrounding counties.

I was super excited when I received the email from my Principal about the Wipro Fellowship. My school already had two teachers from my team in the first cohort and another two teachers in the second cohort. I knew this would be an excellent opportunity for me to grow as an educator and bring back what I learn to my colleagues. I was beyond excited to get started when I received my acceptance email. Due to Covid,

our experience looks a bit different, however the relationships and science content have been outstanding. I have enjoyed each meeting with my VCCLS group, as well as our monthly meetings with the entire group. I have already learned so much from my group members, who teach in counties outside of mine and have incorporated new strategies that I can use with the students in my science classes. This is only the beginning and I am grateful for this opportunity to serve on the Wipro Team and continue to learn and excel as a Science Educator and leader within my school and community

Other News

- Nicole Caltabellotta (cohort 3): Top Ten Finalist for Teacher of the Year in Pinellas County
- Melissa Triebwasser (cohort 1): President-elect of the Hillsborough Association of Elementary Science Teachers and 2020 Florida Association of Science Teachers Educator of the Year
- Karen Bulino (cohort 2): Appointed Science Instructional Staff Developer serving as a science coach at two Pinellas County Middle Schools
- Anita Ventura (cohort 2): Appointed as a new Assistant Principal at Lowry Elementary, HCPS
- Carrie Donatelli (cohort 2): Treasurer for the Hillsborough Association of Elementary Science Teachers
- Diana Mills (cohort 1): Top Ten Finalist for Teacher of the Year in Pinellas County 2019
- Kenny Coogan (cohort 1): Received a $1,200 grant from the National Future Farmers of America to cover the costs of a school bus, organic soil and vegetable seedlings that his students will install at the University of South Florida Botanical Gardens. As part of his GPS he wrote a 20-page book for children about carnivorous plants. His book was recently accepted by a publisher. It has now developed into a 112-page book focused on the conservation, ecology and evolution of Florida's native carnivorous plants and will be published in 2021
- Lora Darby (cohort 3): Entry for the Frigo Cheesehead contest was chosen as a finalist to win $10,000 dollars for a greenhouse and chicken coop at Quail Hollow Elementary (link to video of the proposal: https://www.cheeseheadsbrightfuture.com/.
- Michele Wiehagan (cohort): Appointed District Elementary Science Resource Teacher HCPS
- Larry Plank (HCPS DSC): Appointed Executive Director for K-12 Science Education for HCPS

MASSACHUSETTS- UMASS BOSTON

Introduction

The fall semester has continued to be incredibly challenging for Boston area Wipro fellows. Districts have made efforts to open in-person school for students with disabilities and other special needs students. In some cases, school has been conducted in several formats- in person, hybrid, a mix of virtual and in-person instruction and all virtual. As the infection rates for Covid-19 have changed, schools have had to adapt based on their situation and have changed from in-person instruction to virtual. This has added to the stress of teachers as they switch modes of instruction.

Reflections from Fellows on Virtual Teaching

The MA leadership team called on fellows to reflect on their virtual teaching experience. Fellows were asked:

1. Is there one thing that you have learned about virtual teaching that you think was really effective?

2. What made remote teaching so challenging?

Reflections on Effective virtual teaching

Kim Gibbs
"From an instructional coaching perspective, I've learned that teaching virtually has shown the skills that both teachers and students have lacked which then meant a crash course in order to catch up the ever-evolving technology in order to improve instruction. There are so many great online resources/virtual platforms that can be used for instruction and utilizing as many of them as you can, based on what you are teaching, have ignited excitement (in the virtual classrooms that I have popped into). "

Laura Degelmann
"I think for me I've been forced to think about how best to get information to my students. Finding different tools to display or explain has been essential to getting new information across. "

Cheryl McDonough
"I found my practice of being reflective, providing many options for students to achieve the same understanding, and consulting with colleagues to be the most helpful. To extend

these I have asked students more often for regular Friday Feedback/Reflections to ensure that each student is able to engage with each lesson. As expected, students may often give contradictory comments, yet I can recognize patterns that work and provide choices that are best for the majority and work individually with those who demonstrate other needs. With remote there are many new resources made available and both educators and students were given more equitable training with use of technology platforms. "

Challenges

The challenges were centered on 4 categories.

Home environment

"Remote teaching is challenging because you have a wide range of environments that our students are in; from extremely supportive and good areas to work in while online to extremely chaotic/disorganized with little to no support. "

Hands on Materials

"For me the most challenging thing has been not having access to all of the equipment I have at school. Knowing that there are robots there that aren't being used is making me so sad! My students are missing out on all of their robotics instruction."

Student Interaction

"Partnered & group work, active participation of exploration and small discussions have only just been incorporated with recent addition of break-out rooms which still is not ideal for assigned group set-up. I cannot easily work with one group while watching another. Using multiple platforms and navigating students without being able to see more than one student's screen (unless using Nearpod) is tough to help guide students. I can not easily talk privately to a student while in instruction."

Becoming a Novice Again

"It's hard to feel like I was doing a super job teaching. Before, I had fine-tuned my craft, and have become a novice again, along with others so there is nowhere to turn for support. I like to plan to do well, and plans are in constant flux. I try to remember the most important aspect is how the kids feel about learning, the skills they acquire, more than the content learned. "

District Science Coordinator Reflection

Betsey Clifford the coordinator of Braintree Public Schools has taken on new roles during the pandemic. To help teachers and save them some effort, "I've found myself trying to find different ways to support teachers. This week I took time to go through the upcoming

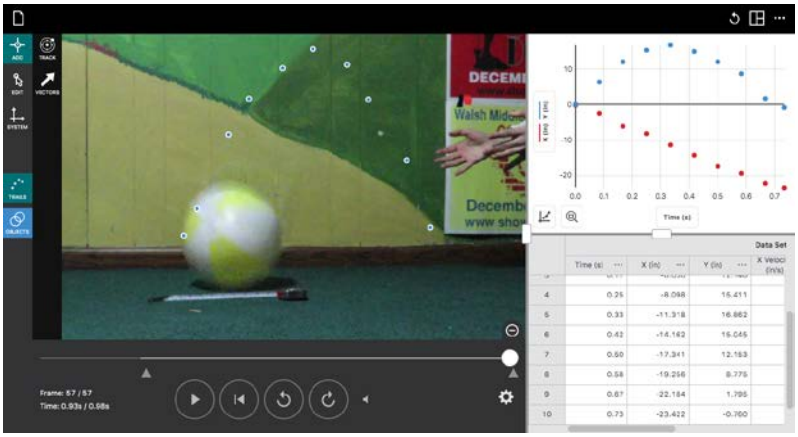
units for grades 5-8 and pull out a bunch of resources to save teachers time in their planning. I have been creating slides with activities and an overview of the content for grades K-4 as I am able. I have also been trying to do some of the leg work to save teachers time like creating assessments in Google Forms from our typical Google Docs". Braintree has also had to change teachers schedules to accommodate social distancing. Core academic teachers must access 8 classes at each school for a total of 16 classes! According to Dr. Clifford, "This was really challenging so I was able to create a spreadsheet for one of the teachers to fill in and then I re-sort it and enter all the grades for her into Aspen. This has helped her so at least I found something. We have no professional development time but teachers do have some time for collaboration which is great. "

Braintree received a Wipro phase II award with the intention of establishing a Professional Learning Community with high school teachers. Unfortunately, this work has been put on hold. Hopefully, they will be able to resume the work in the Spring.

Featured Fellow

George Papayannis
Wipro SEF Boston Fellow 2013-2015 Wipro SEF Boston Phase II Grant Recipient 2017
Melissa ("Meli"), Evanthia (3 yrs.), and I moved back to Massachusetts in late 2019 after a stint in New York City where I served as the Head of School of a small PreK-8 parochial school. Two practices I successfully introduced to the faculty were the Reggio Emilia Approach and vertical teacher teams, the former a continuation of my Wipro GPS and Phase II Grant work and the latter a transformational part of my SEF experience. After coming back to MA, Meli and I organized a company that designs training – Papayannis Design, LLC – and had a baby boy, Christos.

I am currently designing remote physics and engineering courses for an urban high school and appreciating the pandemic's acceleration of students' access to technology in schools. It has created an opportunity for STEM educators to explore data with their students more deeply and with greater frequency. For example, in physics our students are developing fluency with the eight science practices of the Next Generation Science Standards by making videos of moving objects on their cell phones, sharing them in multi-class Google Drive folders, evaluating them through Google Forms-based feedback protocols, generating and analyzing data sets in Vernier Video Analysis, and using Google Slides to document and communicate their analysis of graph segments of their often-complex motion studies.



V-CCLS Course of Study- Cohort 3

Cohort # 3	V-CCLS Course of Study		Site location (Missouri)
Team name	**Disciplinary Core Idea**	**Research Article Topic**	**Title of Research Article and Citation**
Biology Tyler Helton Kayla Eads Chelsea Simon Erin Snelling Christie Zoeller	Living and Nonliving	Talk Moves in the Biology Classroom	Buma, Anastasia and Nyamupangedengu, Eunice (2020). Investigating Teacher Talk Moves in Lessons on Basic Genetics Concepts in a Teacher Education Classroom, *African Journal of Research in Mathematics, Science and Technology Education*, Vol. 24, No. 1, 92–104, https://doi.org/10.1080/18117295.2020.1731647
Chemistry Josie Hess Jennifer Bacon Melissa Baker Brandy Albrecht	Chemical Changes	Technology in inquiry-based learning	Koyunlu Unlu, Z. & Dokme, I. (2020). The effect of technology-supported inquiry-based learning in science education: Action research. *Journal of Education in Science, Environment and Health (JESEH)*, 6(2), 120-133. DOI:10.21891/jeseh.632375
Earth and Env Sci Rachel Walk David Ganey Katy Canote Melanie Manning Rex Beltz	Impact of water in systems	Using concept maps in earth science	Kapuza, Anastasia, (2020). How Concept Maps with and Without a List Differ: A Case of Statistics, *Education Sciences* 10, 91, 1-13, doi: 10.3390/edusci10040091
Physics Robin Bishop Steve McMullin Natalie Dixon Amanda Sauerwein Nicole Golden	Force and Motion	Constructing models of physics concepts	Campbell, T., Gray, R., Fazio, X. (2018). Representing scientific activity: Affordances and constraints of central design and enactment features of a model-based inquiry unit, *School Science and Mathematics*, 119:475–486. DOI: 10.1111/ssm.12375

Reflections on the V-CCLS Course of Study Process

The first step in the development of the Course of Study (COS) was to give VCCLS teams time to discuss the Disciplinary Core Idea (DCI) each team wished to focus on. This discussion occurred in breakout rooms during the August meeting, and the discussion quickly turned to a methodology, supported by research, that each team wished to pursue. Faculty members were assigned to each of the breakout rooms to provide clarification, but to otherwise stand back from the active discussion among the participants. Teams were

given access to a shared spreadsheet where they entered their chosen DCIs and began the process of scheduling videotaping and debriefing over the semester.

The leadership team revisited last year's process of finding and finalizing their research papers. Teams had time to review a selection of initial papers that were posted in their shared google folder during the August meeting, including a separate file with just the abstracts of the papers, which proved useful during the discussion; they were encouraged to look elsewhere for research papers as well. Siegel, who was the only contact for discussion and approval of research papers, was specific on what qualified as a research paper; she actively discussed initial papers that Fellows had chosen, particularly if they had initially chosen papers that did not qualify as research papers (e.g., practitioner publications), and pointing them in the right direction. This cohort actively posted and reviewed their selections on Torsh.
Although these modifications were minor, it helped smooth the process, so Fellows did not feel rushed, and they felt supported in their search for a research paper. As in previous years, a timeframe was set up to give them structure, while also moving the process forward. Fellows spent the next month researching and discussing research papers on Torsh. They finalized the paper they would use for their COS during the September meeting. They then presented their research papers during the October monthly meeting, which helped all Fellows learn about others' research papers.

VCCLS Schedule

All teams are on schedule. MU staff have been monitoring their video and form uploads on Torsh. Fellows have been active in their online discussions and debriefs.

Are there things that your site did that were particularly helpful to your V-CCLS teams?

"We have continued to use the Torsh platform, which we switched to in Fall 2019. It has been easy for Fellows to upload their videos, and for project personnel to keep track of the video and form uploads. The platform allows for easy organization and monitoring, and Fellows have appreciated using the platform."

How are you having the Fellows record and share their classroom videos and the videos of the debrief meetings?

"Since we upgraded to the premium version of Torsh during the 2020 conference, we use this platform for discussions, and have also set up easy-to-access forms that they use to submit their debrief information. Fellows record the video using their

phones/iPad/computers, and upload with (basically) one click. The team reviews videos on Torsh, adds comments, and uploads forms in the same folder. It has worked well.

VCCLS Presentation plans

VCCLS presentations will be held on Dec 17, 4:30-7:30 pm (CT). The leadership team pushed back the VCCLS presentation date by a week, given the current climate of uncertainty, and the Fellows appear somewhat relieved about the time extension.
Site leaders set up an invitation with RSVP and have encouraged fellows and DCs to invite principals and other admins to the presentations. The invite has also gone out to the other site leaders.

Monthly meetings- Cohort 3

Reflections on the September to December meetings

The leadership team was concerned about meeting exclusively on Zoom this past semester. In previous years Fellows have enjoyed and thrived on their personal relationships, which the leadership team thought would be harder to cultivate online. They were pleasantly surprised by the expressions of camaraderie and connection that the teams expressed a month after they met (during the September meeting). One fellow, who was experiencing a personal loss just before the fall semester and did not attend the first half of the August meeting, was very appreciative of the support of his VCCLS teammates. He has repeatedly mentioned their support. Other teams seem to have quickly identified each team member's strength and are using them to benefit the team: e.g., an organized person keeps the others on track, a timekeeper sends reminders, a person with a research background shepherds the rest of the team in finding their research article.

Overall, the Cohort 3 monthly Zoom meetings have gone well. Fellows are engaged during monthly meetings, their debrief meetings, and their online discussions. Each Fellow makes sure to make their voice heard. The online discussions have been rich. The teams are operating well. There have had few absences, usually due to family emergencies. Some fellows are pulled into double booking themselves since they are sports coaches, and the leadership team has not been able to get around this problem.

Three Pillars of Wipro- Adult Learning, Reflective Practice and Leadership

Fellows' discussions, both during the monthly meetings and online, indicate self-learning and reflection, as well as thoughtful responses to others' statements. Their leadership skills are developing, and site leaders expect to see more indications in the coming months.

During the October meeting each team gave a 10-minute presentation about their research paper. This was the first time some of them were presenting to their peers or presenting a research paper. There was active discussion during the presentations.

This year we added a discussion of leadership during the September meeting. Fellows read the article by Killion, J., Harrison, C., Colton, A., Bryan, C., Delehant, A., & Cooke, D. (2016); A systemic approach to elevating teacher leadership. Oxford, OH: Learning Forward, prior to the meeting. They then moved into smaller breakout rooms to discussion assumptions about leadership. Returning to the main room, they discussed one major takeaway. They then went back into their breakout rooms and added their definitions of teacher leadership to a Jamboard. These documents are available here: https://drive.google.com/drive/u/1/folders/1sYnCCW5Lc-0pfyCL7Tmfw4EvvUBsRCXK

Role of District Science Coordinators in monthly meetings

The Missouri leadership team asks that DC's attend the August, December, and May meetings, and attend a zoom meeting with project staff in October and March. This schedule makes for fewer meetings than the monthly meetings, in part because the DC's in the site's rural districts are not science coordinators but have responsibilities for several subjects.

DCs attended the October research presentations. During that meeting the leadership team also asked Fellows to come up with ideas for getting district coordinators or other administrators more involved in the project. Fellows came up with several ideas, including active communication among fellows and DCs, help with resources, creating opportunities for fellows to provide PD, recognition and utilization of Fellow leadership capabilities and instituting vertical collaborations in districts. These ideas are on a Jamboard at this link: https://drive.google.com/drive/u/1/folders/1lZhw7H3f9Qdn52WEU2TdKgXUhT6xGlDr

District meetings

DCs have been asked to meet Fellows monthly, either alongside regular district-scheduled meetings or otherwise, and submit a google form after their meetings. The form includes two free-response questions about what was going well and what was not. Site leaders have not received feedback via this form this year, but DCs have reported to them verbally during our Zoom meeting in October.

Focus of the district meetings

The monthly meetings have served as a check in, so that DCs and Fellows can discuss local issues as well report on progress. Overall, DCs feel that things are going well for both cohorts. Pandemic-related issues and online learning has been the main focus of the

discussions. Some of the Fellows have expressed their excitement about growing their professional network. They have discussed their research papers with the DCs as well.

GPS Progress- Cohort 2

Site location (State)	Cohort #
Missouri	2

(note: the updates below were provided by the GPS advisors)

Fellow	Personal goal	District goal
Liz Schwab	Liz has created the PD Facebook group and is using this to pose questions, gather information from colleagues. She is needing assistance to broaden the outreach to WIPRO teachers in and beyond Missouri.	Liz is progressing on this, in part due to greater need for virtual/distant learning. She has adopted Google classroom and is trying to figure out assessment options when students are remote.
Kristen Thurman Harris	Kristen shared one PD online workshop of a teaching strategy. She video-taped this and is able to share with other teachers in the district.	Pivoting to distance learning and the higher number of COVID cases have made this a needed (though difficult) goal to work on. She is working on the surveys and best platform to use to gather data.
Jennipher Adams	Jennipher has found an illustrator for her book and can proceed with the publishing. She was very happy.	She finished the 5th grade Standards based science assessment for the first quarter.
Teresa Edwards	Teresa presented her GPS plan to the school social committee and started developing the questions for the survey. The survey needs to be submitted for approval before being administered.	She converted many of her assignments to Google docs, taught her students how to use Google Drive and Hyperdoc. Students used Hyperdoc for an assignment.
Seth Willenberg	Seth is learning how to use many of the online tools and determine how to adapt the curriculum to these tools. We discussed some of the tools and how some work and some don't.	He already designed two out of the four lessons, using Kahoot and Quizlet. He shared these lessons with other teachers.
Candace Campbell (Smith)	Candance is doing what she can to develop STEM activities for her students. They were meeting face to face, but Candance was quarantined for a bit. She has been working on compiling resources that are STEM directed.	This has been in response to a normal year. Candance still wants to progress with this, although this year is most likely a wash due to the virus.
Kelsey Strubel	Kelsey is doing great! Although a family member contracted the virus. She is moving	Kelsey is slowly developing resources via, her colleges, peers and researching the net.

	forward toward her goals and progressing nicely.	
Gable Nichols	Gable is working on revising his goals. Many were misdirected, and we've talked about revisions. Those should be done this week.	District goals are slow going. Gabel is just not thinking about things in the right way. He thinks the construction of the outdoor space is his goal. His focus needs to be on the learning, not the edifice.
Stephanie Harman	Stephanie is struggling with her 5E models. We are meeting again next week to help her decide if she can continue. The virtual learning just doesn't support her goal.	Stephanie is moving well in SRG. She has contacted others and started to put together a plan of action.
Becky Eckerle	Becky is making excellent progress on her personal goal - she is logging her workouts, making time each day for self-care, and has been tracking her emotional/physical wellness as a result. She said she's noticed an improvement (although some days are better than others), which makes it easier to perform well when teaching.	We've had discussions about supporting screen casting and working with the other teachers to train them on this. She has made good progress on Tech Tuesdays and getting participation from students (and parents!).
Jessica Johnson	Jessica has designed almost a template or a grab-bag of activities/prompts for students and parents so that she can get to know them on a deeper level. She is making reasonable progress on her reading, and she has incorporated her reading into her discussions with parents. Zoom parent-teacher conferences have been very successful, and she has implemented a "get to know you" survey for those.	Jessica is mid-way through her PD with the teachers. She completed the Google Certified Trainers Course (which she said was somewhat helpful). She is continuing her reading and book club activities, and she has walked her teachers' group through using iPads and Google Classrooms.
Amy Bartlett	Amy has completed research to develop her rubrics and begun rubric development. She continues to work with colleagues on CER; they plan to develop specific CER practices. It seems she is progressing reasonably but has focused more on her personal goal than her district goal so far.	Amy's team has reviewed Flipgrid, Nearpod, Kami, No Red Ink, etc. We talked a little bit about Grammarly for her students and report writing. A lot of the work they have done so far is to prepare the teachers and students for a possible short-term or long-term transition to remote teaching.

Susan Saracini-Cram	Susan has had lively development in her personal goals, focused on metacognition - specifically retrieval and feedback techniques. She has already integrated concept mapping 4 times and has examples from student work. It is going well with the Honors' class, but not so well with the regular class. She has plans to address this (choice strategies).	As a group, her team has been working on book reading, and then implementing retrieval strategies in their classes. She has 24 people in her PD pod doing this. A lot of the work she is doing is being challenged by the pandemic, because many of the students are just not doing any of the work.
Stacey Bishop	She has been reading books and working on plans in class while trying to connect with both her F2F and online students during the pandemic.	Her integrated lessons are going very well.
Maggie Hunter	Maggie has been reading and journaling to enhance self-care.	She has already developed several writing projects for her district.
Rachel Tinsley	Rachel has begun implementing strategies and is seeing great results with her HS classes.	Rachel has employed several innovative strategies and has been encouraged to start sharing with her district as teachers are scrambling for online connection in Columbia Public Schools (CPS.)
Melissa Milius	Melissa has begun her personal self-care plan. She is working on ideas to involve colleagues in the plan, and is discussing creating a newsletter, or FlipGrid blog, or a bulletin board to keep track of and share wellness ideas.	Melissa has put together a STEAM cart for her classroom. Small student groups use it for a whole day, with specific tasks (e.g., build a model of an alien). Her principal wants to write a grant to replicate the cart for other classrooms.
Beth Newton	Beth has begun the planning process for her website and is collecting images and ideas from other colleagues.	Beth has begun the learning process and is experimenting with various tools.
Lucy Shrout	Lucy is learning various tools and experimenting with them for her classes.	Lucy has completed one cycle of CER with her classes and found that students need a lot of scaffolding. She is working on the second cycle and plans to track how to train her students so they need less as the year progresses.

Cohort 2 Meetings

Date	Focus of Meeting	Attendees (fellows, DSC's, etc.)

Sep 15, 2020	Leadership, relationships within cohort, meet with advisor, start work on Wix portfolio	Fellows, MU staff
Nov 17, 2020	Assessment Workshop, meet with advisor, help on Wix portfolio	Fellows, MU staff

Reflections on meetings with GPS fellows

From site leaders, "The leadership discussions on Sep 15 went well. We had planned this discussion for our April meeting, but that had to be postponed since we had many more things to discuss about changing the May conference to a virtual format. Takeaways from the leadership discussion include: realization of existing components of informal leadership, primarily focused on sharing of resources; trust developed during the collaborations in Wipro project; expansion of support focused on pandemic related challenges; need for administrators to recognize Wipro fellows' leadership capacity (rather than defaulting to known PD "stars"); recognition that there should be a willingness to take on new roles. "

"The Nov 17 meeting included a workshop on assessment, titled "Eliciting Student Evidence" by Kristin McKinney, Science Director, Missouri Department of Elementary and Secondary Education. She focused on changes to the state assessments, focusing on teaching and assessment changes needed to address 3D assessments. The workshop was interactive, allowed time for discussion, and introduced fellows to what their teaching and in-class assessments will need to address. (Note: the same workshop was presented at the November 19 cohort 3 meeting)."

Cohort 1 Fellows

Cohort 1 Fellows have presented at the Cohort 2 GPS meeting in July. Cohort 2 Fellows have been informally speaking with Cohort 1 fellows as their GPS projects have gotten started. Leadership offered to set up "buddy" introductions with Cohort 1 fellows based on cohort 2 interest but have not received any requests. Many felt that they had good contacts already.

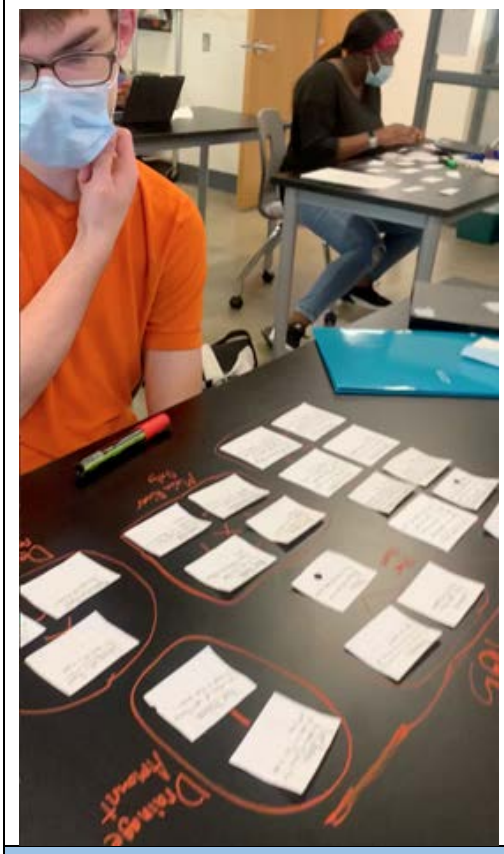
Board of Education Presentations

Dr. Chandrasekhar plans to discuss this issue with DC's and see how this can be done virtually.

Featured Fellows

David Ganey teaches at Jefferson City High School in Jefferson City, Missouri. He is a Cohort 3 Wipro SEF Fellow.

I have been teaching high school students since 1999. I teach AP Biology, Geoscience, Introduction to Astronomy, and Environmental Science for Junior and Senior high school students. My VCCLS team is utilizing concept mapping as an instructional tool to increase student engagement and retain core concepts, focusing on the impact of water in the Earth's systems. Students in my Geoscience class develop concept maps to demonstrate the relationships between the components of a watershed and the associated basic hydrological vocabulary, using river drainage basins as an example.

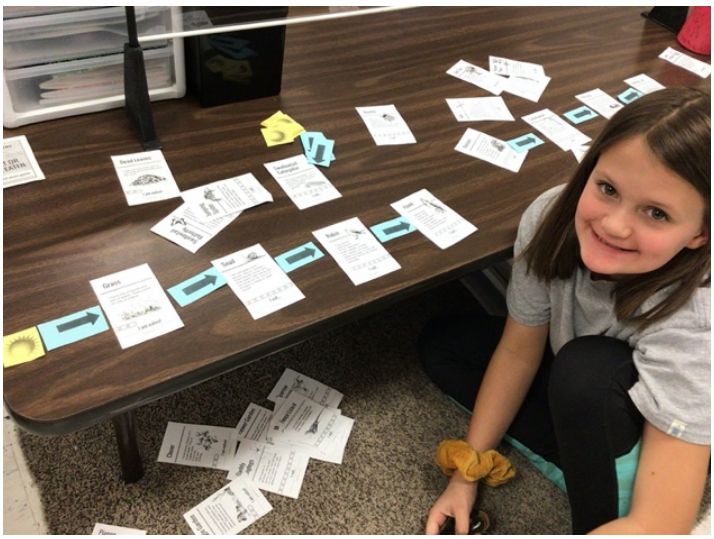


In my AP Biology class students use a kinesthetic concept mapping technique that I developed. Students demonstrate how the products of one biological process become the reactants of another biological process. For example, students constructed a map/model of the two major steps of photosynthesis in order to demonstrate how water and CO_2 are used to produce glucose. I found that student engagement and retention of information improved, as well as their ability to draw connections and relationships between concepts. The collaboration among my VCCLS team has aided my ability to use concept maps and to demonstrate their value to other educators.

Kayla M. Eads, a Cohort 3 Fellow, and has been teaching fifth grade for 11 years at Hallsville Intermediate School in Hallsville, Missouri.

My Biology VCCLS group has focused on Living vs. Nonliving, with teacher talk moves as our research topic. Students initially complete a card sort categorizing organisms as living or nonliving. I then asked for further justification by asking questions such as "Why?" and "Do you understand what (student) just said?", or "Do you agree with (student), why or why not?" The purpose of my questioning was to establish students' knowledge, while also holding them accountable for how prior students responded.

In our follow-up activity students used what they learned about what makes an organism living by creating food chains from each organism card. The next day, students used the pictures of those chains to classify producers vs. consumers and predators vs. prey. To do so, I had students move to opposite sides of the room to showcase their knowledge. When they picked a side of the room, I selected students to justify their answers and had other students add to the former student's answer.



I found that student conversation flourished, and increased understanding was apparent throughout. I found it very impactful for students to truly listen as others are talking. This allows students to be better able to add their own intelligence or expertise to the subject area.

NEW JERSEY- MONTCLAIR STATE UNIVERSITY

Fellows' activities

In early December NJ held a virtual conference for all phase II projects. Each project made a video to present their project. The NJ leadership team put together all the videos and the entire phase II group watched the video together virtually. This provided an opportunity for a shared experience and allowed the fellows to learn about each other's projects.

Meetings with Fellows

- Fellows attended a "catch-up" meeting on **Friday, October 9th** from 3:30-4:30 via Zoom. The meeting was an opportunity for them to share their progress on their projects and to seek feedback.
- Fellows completed their Phase II projects by **Monday, November 23rd.**
- MSU hosted a culminating event on Friday, **December 11th** from 3:30-4:30 via Zoom. All Phase II participants, Wipro SEF alumni, and guests of Phase II Fellows were invited to this event. All but two-Phase II Fellows attended. They were joined by principals, science teacher colleagues, district administrators, and three Wipro SEF Alumni. Please see the Zoom link for a recording of the event:

https://montclair.zoom.us/rec/play/WQeCjSDFPtHtmNO9tNCpJAs6CxXryvZwM0_0UzHtQMAMPqAET8kGLvzw-nUdL4Gon4eW6hP0cp3xmno2.iiDIYHhB9KnwMTgo

Other Activities

Presentations and Publications

- *Teacher noticing and leveraging of student thinking in science lessons and debriefs of classroom videos*. Submitted July 15 to American Educational Research Association (AERA). Alfred M. Limbere (doctoral student), Mika Munakata, Emily Klein, Monica Taylor. Accepted.

- *Exploring Experienced Science Teachers' Vision for Science Teaching*. Submitted August 31 to National Association of Research in Science Teaching (NARST). Alfred M. Limbere, Mika Munakata, Emily Klein, Monica Taylor. Accepted.

- Limbere, A., Munakata, M., Klein, E., and Taylor, M. (submitted paper) Exploring the tensions science teachers navigate as they enact their visions for science teaching: what their feedback can tell us.

NEW YORK -MERCY COLLEGE

Introduction

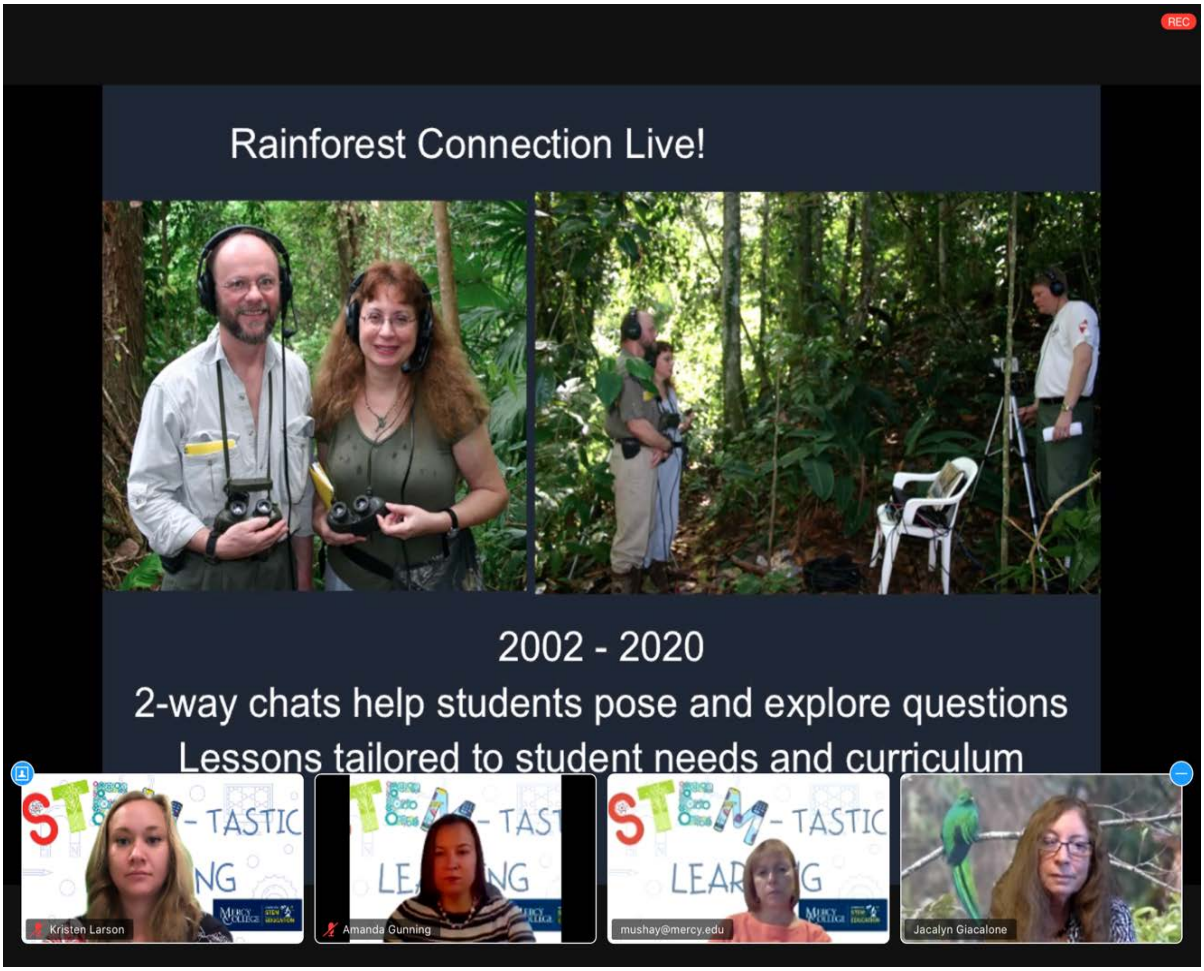
The GNY Wipro SEF Fellows continued to teach in either remote or hybrid settings for the Fall quarter. The Mercy College Center for STEM Education has also conducted all of its activities online through digital formats, such as Zoom video conferencing and Google Drive for gathering data and feedback. The MCCSE also maintains contact with their Fellows through email blasts and individual check-ins offering support, professional development, leadership opportunities, and resources.

Fellows' activities

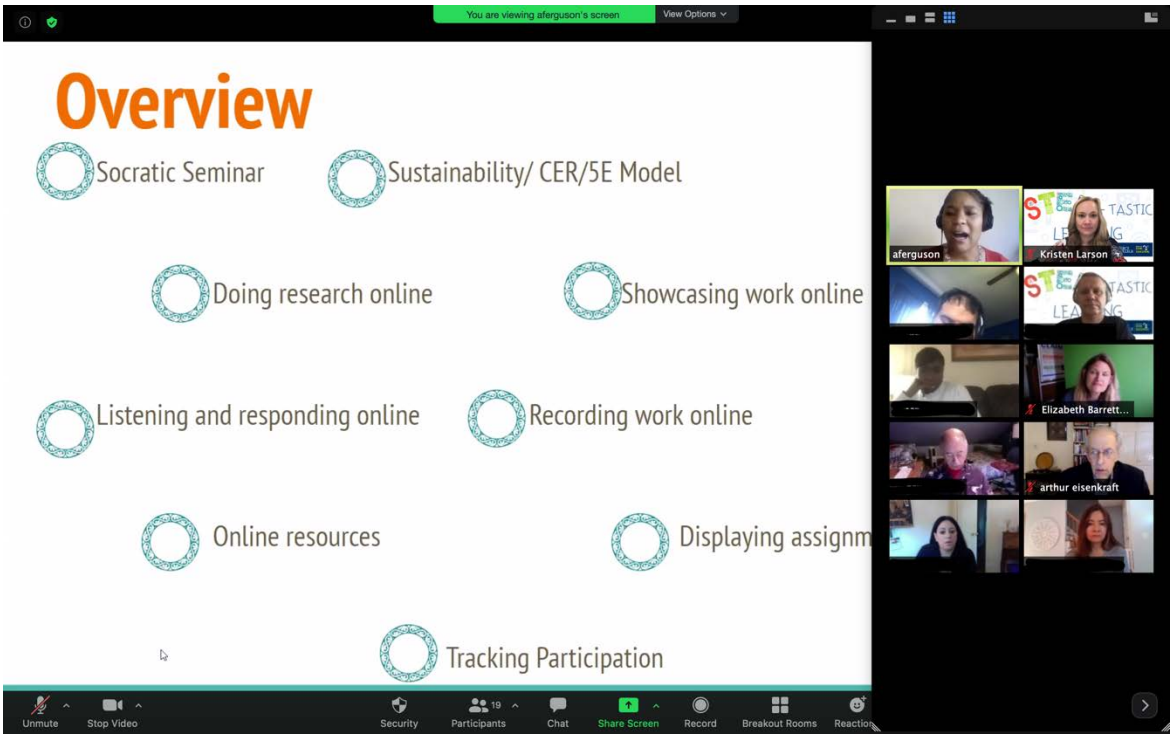
Fellow's Name(s)	Title of Phase II Project and funding level	Activities this quarter
Aimee Ferguson	Field Trip (in the classroom)	Aimee expanded on her Phase II project by offering a workshop to elementary teachers at the MCCSE K-12 STEM Conference in October. Here, she shared lessons learned and resources for conducting online STEM lessons.

Meetings with Fellows

In October, the MCCSE conducted its annual K-12 STEM Teacher Conference. The conference was virtual and entirely face-to-face using the Zoom video conferencing platform. At the K-12 STEM Teacher Conference, the MCCSE offered two keynote speakers, Drs. Jacalyn Giacalone Willis and Katrina Macht of Professional Resources in Science and Mathematics (PRISM) at Montclair State University. Their work around *The Rainforest Connection* helped provide resources and inspiration for teaching in online settings to local STEM teachers and GNY Wipro SEF Fellows. Additionally, the conference offered presentations and roundtables around the themes of virtual learning, STEM integration, and inclusivity. A little over 7% of the attendees were affiliated with GNY Wipro SEF as either Fellows or District Coordinators. Two GNY Wipro Fellows presented their own work at the conference.



A screenshot of the Drs. Willis and Macht conducting their keynote address at the MCCSE K-12 STEM Teacher Conference.



A screenshot of GNY Wipro Fellow, Aimee Ferguson, conducting a presentation on technology in the science classroom at the MCCSE K-12 STEM Conference.

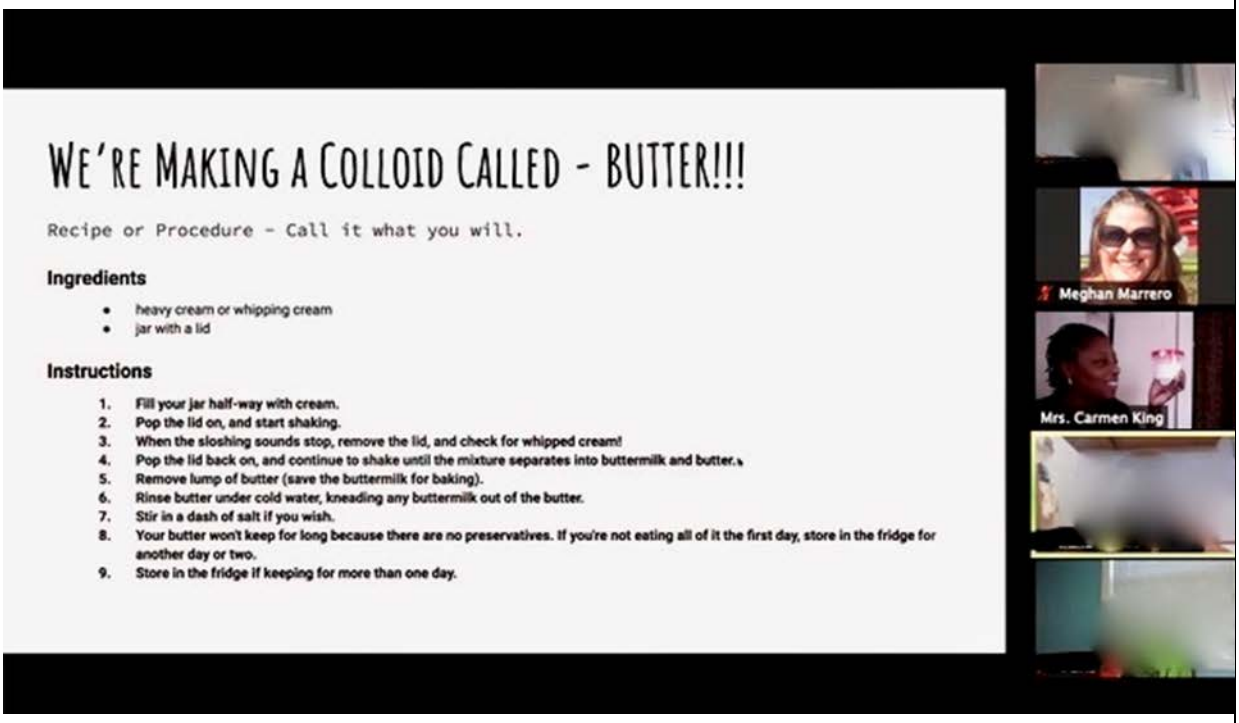
Plans for recruitment for future Phase II work.

The MCCSE is working on a plan to encourage more Phase II projects. As the Fellows become familiar with and adjust to their new online and hybrid teaching environments, the MCCSE anticipates an increase in Phase II work. The team will be meeting this quarter to discuss Phase II opportunities for both online and in-person settings.

Featured Fellows

Carmen King
This quarter, Mercy College chooses to highlight GNY Wipro Fellow, Carmen King. Despite all of the challenges of online teaching during a pandemic, Carmen maintained active participation and leadership with the GNY Wipro Site. She was an enthusiastic attendee at the MCCSE K-12 STEM Teacher Conference in October, participating in roundtable discussions and supporting the other Fellow presenters. Additionally, Carmen led a two-week online class for the Mercy College Saturday STEM Academy. In this virtual class, Carmen led 3rd and 4th graders through chemistry concepts and hands-on activities. The class, called Chemistreats, was a huge success and received many positive reviews from students and parents. Students wrote that they "had an amazing time in chemistry" and parents wrote "having the STEM kit was very exciting…and helped make the class very interactive" (Saturday STEM Academy, post-survey). MCCSE

has invited Carmen back for the Spring Saturday STEM Academy and they are looking forward to having Carmen lead virtual STEM learning by example. Below is an image of Carmen and her Saturday STEM Academy students.
In addition to leading part of the weekend Academy, Carmen is planning a Staff Development course over the winter break that will encourage elementary school teachers to continue hands on science in hybrid settings. This type of leadership will help other teachers in the GNY area develop skills in integrating science into their virtual classrooms. The MCCSE will report more on this professional development course in the following quarter.



Conferences

The MCCSE conducted its annual K-12 STEM Teacher Conference on October 3rd. The conference was entirely virtual with face-to-face events through video conferencing including a keynote speaker presentation from the Drs. Willis and Macht of the New Jersey Wipro SEF Site, presentations (including one from, Aimee Ferguson, a GNY Wipro Fellow), roundtables (including one from, Marcia Manzueta, a GNY Wipro Fellow), and panel discussions. The conference had nearly 70 attendees, approximately 10% of whom were affiliated with Wipro SEF.

In addition to the K-12 STEM Teacher Conference, the GNY Wipro staff from MCCSE attended all three of the regional Wipro SEF conferences at the Texas-UNT Dallas, Florida-

USF Tampa Bay, and California- Stanford University sites. The MCCSE attendees participated in both the synchronous and asynchronous portions of each conference. At the Texas-UNT Dallas conference, MCCSE participants found the Wix conference website particularly effective. This website allowed MCCSE attendees to quickly view H-CCLS projects and leave feedback. At the Florida- USF Tampa Bay conference, MCCSE participants appreciated the keynote speaker, Dr. Tracy Fanara, and the conference's use of Flipgrid as a form of collaboration, feedback, and social interaction. At the California-Stanford University conference, the MCCSE participants enjoyed the digital conference program and the collaborative cohort assignments. At this conference, MCCSE attendees enjoyed participating in both the pre- and post-conference face-to-face interactions with the Wipro Fellows. Overall, it was a pleasure to watch all of the regional H-CCLS, GPS, and Phase II project presentations and provide written and verbal feedback.

Research activities

After reviewing the Wipro DHA Evaluation Report this Fall, MCCSE is interested in following up with GNY Wipro Fellows about their various leadership roles before, during, and after the challenges of COVID-19. This effort to understand what leadership activities Phase II Wipro Fellows engage in may also be expanded to understand what leadership looks like for Phase I Wipro Fellows. This research is in the brainstorming stages at the time of this report and will be updated throughout the upcoming quarter.

Professional development

The MCCSE remains in contact with all of the GNY Wipro Fellows through email communication. Through this line of communication, the MCCSE pushes out resources and professional development opportunities monthly to the Fellows. During this quarter, these opportunities included poster presentations for Phase II projects at the Texas UNT Dallas regional conference, instructor position openings for the MCCSE Saturday STEM Academy, and MCCSE professional development for Hour of Code. While the Fellows are especially busy with their school district tasks, some of them took on the Saturday STEM Academy instructor positions and MCCSE anticipates that Fellows will participate in and attend Hour of Code professional development.

TEXAS- UNIVERSITY OF NORTH TEXAS DALLAS

Introduction

All of the Cohort 2 and 3 Fellows have been teaching remotely and a large majority both remotely and in person. For most it is business as usual and they have adapted to their new situation as best as they can. Dr. Narayan is really pleased with the Cohort 3 H-CCLS groups, they did not let Covid stop their progress, they found a way to work through Covid and adapt. The Texas team has conducted meetings virtually via zoom and Dr. Narayan is in constant touch with her fellows over email and phone.

GPS Progress- Cohort 2

Cohort 2 had until Dec 1st, 2020 to complete their GPS. Dr. Narayan has extended this date to Jan 31st. They are aware of the due date and their last installment of their Year 2 stipend will be issued after they submit their Wix portfolio. One of the C2 Fellows has been having a rough time and really unable to work on any of his Year 2 projects. He is a really good teacher; Dr. Narayan did not want to give him a failing grade, so she withdrew him from the program.

GPS Progress - Cohort 3

Dr. Narayan will update the table below once she returns in January. Given the Covid situation in Dallas and that several informal institutions have shut down or gone online. She made the decision to replace the informal assignment for Cohort 3 with a leadership project. C3 will present phase 1 of their projects on Jan 25th. The month of October was very busy with the Fellows working full time and attending and presenting at 3 Wipro conferences and then also at CAST (Conference for the Advancement of Science Teaching).

Cohort 3 Meetings

Date	Focus of Meeting	Attendees (fellows, DSC's, etc.)
Mon, Nov 9th, 2020	The replacement of the informal task by the Leadership project	Cohort 3 Fellows
Wed, Nov 11th, 2020	Touching base and expectations about the due date for C2 Wix Portfolios	Cohort 2 Fellows

Cohort 1 & 2 Fellows

The Texas leadership team has not been able to involve C1 Fellows. They have had a few zoom meetings with C2 and C3 Fellows jointly where C3 Fellows have spoken about and received feedback regarding their GPS project ideas from C2 Fellows.

Host Conference Description

The Wipro SEF online conference at UNT Dallas was a two-week event. The leadership team knew they had to have a place to host presentation videos and made the decision to use google drive to store the videos and Wix as a front for the links.

Reflections on the Conference

Raino Bhatti, one of the C1 Wipro fellows had introduced Dr. Narayan to Wix and she asked her to help, and Raino, Kendra and Michael (the IT Guy) were able to translate what she wanted to the finished product, the conference website.
To quote Dr. Narayan, "I am really very proud of all our efforts, it was tough, but we persisted and got it done. All the links worked, and the pages were personalized, Kendra made the extra effort to add the colors of the Universities participating. I was particularly happy that we were able to find a way for the feedback on each presentation to be accessible by all like Dr. Eisenkraft wanted. That was a huge concern for us, and we worked very hard at making it work. https://www.Wiprosefuntdallasconference.com/ I liked the way the site was designed. I was also very happy with the participation from my fellows and the overall quality of the feedback."
In what way could it be improved? The next time around the Texas team will get an expert from Wix to design the website as Dr. Narayan wanted it. Raino worked on it and taught full time and it was tough given the timeline and her schedule.

Reflections on the Conference from the Texas Leadership Team

"Each time we hold a conference, we grow in experience, so I know it was a good experience and we learned a lot from it. Before Wipro I had never organized a conference, and this is the second online conference in 5 months we hosted. Both conferences were different, and we have learned a LOT we can implement for future conferences. We are a small university with limited resources, and I am very pleased with how we are able to respond to all these challenges and grow.

I think it was also very good because we had a number of principals and administrators from local ISDs also watch the presentations and provide warm and cool feedback. It was a way to keep the ISDS informed about what their Wipro Fellows were doing.

I think having three conferences overlap at the same time was a bit much. I would have preferred having one big conference for all the sites or the individual conferences need to be at different times. We participated in all three conferences and it was a lot. We had a total of 4 HCCLS presentations, 2 presented at CA and 2 at FL. We also had GPS presentations at both conferences as well. We did run into a problem with the FL video time limit on Flipgrid as our videos were longer than 10 minutes and given the situation, I did not want any of my fellows to reshoot their videos. "

Presentations, and poster session

All of the C3 Fellows presented their H-CCLS presentations, TX had 4 presentations and all but 1 of the C2 fellows (12? or 13?) presented their GPS projects. Dr. Narayan was very happy with that and was also very happy that two Phase 2 presenters from Montclair presented their projects. In addition, a presenter from Missouri and California were able to present and attend.

Visitors from other Wipro Sites

Name	**Wipro Site**	**Role (IHE, DSC, Fellow, other)**
Dr. Arthur Eisenkraft	UMASS	IHE
Megan Graziano	Montclair	Phase 2 Fellow
Dr. Chandrashekar	Missouri	IHE
Dr. Allan Feldman	USF	IHE
Anne Gurnee	External Evaluator	
Dr. Moriarty	Stanford	IHE
Ms. Christine Ruiz	Barton Elementary School, Irving ISD	Principal
Ms. Kim Rivera	John Town Elementary school, Irving ISD	Assistant Principal
Ms. Marquita McCullum	Lake Ridge Elementary school, Cedar Hill ISD	Principal
Ms. Linda Torres Rangel	Schulze Elementary School, Irving ISD	Principal
Ron Hamby	Stanford	C1 Fellow
Susan German	Missouri	C1 Fellow
Tracey Bruce	Grand Prairie ISD	Secondary Strategist
Regina Borriello	Montclair	Phase 2 Fellow

Reflections: Did fellows from the visiting sites present their H-CCLS?

Yes, it was helpful to see other H-CCLS presentations from other sites because it is always informative to see what other sites are doing and how we can learn from them and how they handle issues.

Reflections: As a site leader, was there value in having fellows from another site present?

As a site leader there is always value in seeing presentations from another site. We learn from the variation as per what topics we can explore that we have not done before, content, topics, the way they conducted their project. It also provides the fellows a means of measurement as to how they are faring compared to the other fellows.

Reflections: Did fellows from another site share their GPS posters? Was it helpful to your fellows to have visiting fellows present their GPS posters?

Yes, two C1 Fellows from CA and MO and 2 Phase 2 Fellows from Montclair, NJ
Absolutely!

Board of Education Presentations

The Texas team has not done this as yet, but at the end of the three years they will do it jointly for all 3 cohorts together

Featured Fellows

Julia Glowacki, Cohort 2 Fellow

For some time, prior to joining the Wipro Fellowship I had missed a sense of being understood - in a professional sense - among my colleagues. I thought I was the one with crazy unachievable ideas in my mind and one who implemented actions not in accordance with the guidelines prescribed by the district's curriculum and instructions.

My intentions were pure and so were the district's guidelines - to help students learn. I wanted to help my students understand the world around them and, furthermore, made them aware that learning in school has a purpose in making their world a better place for themselves and others. The district's guidelines aimed at

developing the whole child: a writer, a reader, a speaker, and a compassionate doer prepared to live in a harmonized community. Not far away from each other within the scope of the goal of educating, yet taking different pathways - 'boldly' innovative in the former's vision, safely traditional as prescribed by the other. The Wipro fellowship helped me bridge the two and made me aware that I can make the difference.

My name is Julia Glowacki. For the past ten years, I have been a science teacher at the Irving Independent School District in Irving, Texas. My first seven years included teaching all grades of middle school science, whereas the last three encompass teaching chemistry, environmental science, and integrated physics and chemistry at Irving High School.

I am working with students who come to school with experiences which are commonly considered a hindrance to a successful academic learning: immigrants, English language learners, lower socioeconomic status, and students who have been unsuccessful on state standardized assessments.

Although our native language is different, I share similar experiences with many of my students. I immigrated to North America alone as a nineteen-year-old and experienced the financial hardship in the first couple of years of living in a new country. My past gave me an insight and knowledge on how to reach out to my students, how to give the meaning of -not yet comprehensible by them- 'opportunity of having choices in life', how to help them choose school over work. This meant that I had to change the way I build engagement among my students; I had to choose to not follow the teaching pathways suggested by the district's curriculum. Instead, I chose to place a need to teach my students how to make connections with applications of science in real world, to remove myself from the position of an instructor who follows the 'I do- We do - You do' mantra and replace it with the reversed 'You can - Your team can - We all can', to place developing one's own common-sense thinking over learning from reading someone else's above anything else, including standardized testing. I wanted to learn how I could possibly achieve the goals of giving a purpose to learning and 'going to school' in my students' minds...

Two and a half years ago, during my first year of the Wipro Fellowship, I found myself belonging to a family of teachers who thought similarly to me, despite not having the same personal experiences like me. Like me, however, they came to a realization that in order to become more effective as educators we had to reach beyond the guidelines prescribed by our districts. We had to research, try out, and modify for our own needs, new ways of reaching. We all wanted to make a lasting impact on shaping our students' future. Wipro

experiences have not only allowed me to grow professionally but it helped me become a member of a family.

This year's experiences, especially the opportunity of meeting, conversing with, and learning from educators from other Wipro sites, brought additional surprises. I will be cooperating with a teacher from Stanford Wipro site on finding even more meaningful problem-based learning.
Now I am only awaiting what the future will bring to us.

Julien Yacho, Cohort 3 Fellow

If you want to succeed at anything in life you need to surround yourself with people who succeed in what you are trying to do. The WIPRO program has accomplished exactly that. My first project in the WIPRO program had me working with teachers from all different grade levels. Each of us as educators are one small step in a student's education. Experiencing the perspectives of educators outside of our fields enables "one great leap" in understanding the directions we need to take as educators. After completing our team project on using mnemonics in the classroom, I was able to take all I had learned from my vertically aligned team to a new horizontally aligned team of teachers who were all working in the same grade level as me. Going from a "macro-perspective" on education to a "micro-perspective" is eye opening. We have a diverse set of teaching styles and student populations. Bringing all of that experience together was really powerful. Together we were able to create a cross-district project with our students in the midst of newly starting quarantine and that has had an incredible effect on what I have been able to accomplish with my students as we move into hybrid learning. It cannot be understated how empowering the relationships I have created in the WIPRO program have been. Ultimately, the most important effects of the WIPRO program can be seen in the students. They are why we get out of bed every day and why my experiences in the WIPRO program have been so crucial.

I am Julien Yacho, a 5th grade science teacher at Gilbert Elementary in Irving ISD. I also work as a curriculum writer for my district. This has led me to working on a masters in curriculum and instruction at UNTD. I aim to continue working as a curriculum writer and follow wherever that path takes me. One day I may even be able to help other teachers with the WIPRO program!

PROGRAM EVALUATION ANNE GURNEE CONSULTING, LLC

A summary of the evaluation report follows.

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Virtual Conferences Summary 2020

December 8, 2020

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Method

- Online surveys administered after each state's conference
  - Missouri: June 26-July 3, 2020
  - Florida: October 24-30, 2020
  - Texas: October 30-November 6, 2020
  - California: November 7-13, 2020
- Survey was anonymous and included:
  - Open-ended questions
  - Likert-scale, close-ended questions

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Conference Formats: Summary

State	Tech Platforms	Synchronous Options	Breakout Sessions?	Asynchronous Options	Videos & Presentations Assigned?	Keynote?
CA	Google (Drive/Docs) Zoom	Launch (1 hr.) – 1 option Conference (3 hrs.) – 1 option	Yes, during Launch & Conference (same group both times, preassigned)	Video/presentation viewing/feedback (8 days)	Yes, but could watch others	No
FL	Qualtric Flipgrid Zoom	Conference (3.5 hrs.) – 1 option	Yes (facilitated by DSCs, participants chose based on which videos watched)	Video/presentation viewing/feedback (8 days)	Participants choice	Yes (Dr. Tracy Fanara)
MO	Torsh	Conference (2 hrs.) – 2 options	Yes (questions guided discussions)	Video/presentation viewing/feedback (9+ days) Forums (topical virtual conversations)	Yes, but could watch others	No
TX	Wix Google (Drive/Docs)	Pre-conference (2 hrs.) – 2 options Post-conference (2 hrs.) - 2 options	No	Video/presentation feedback (14 days)	Participants choice	No

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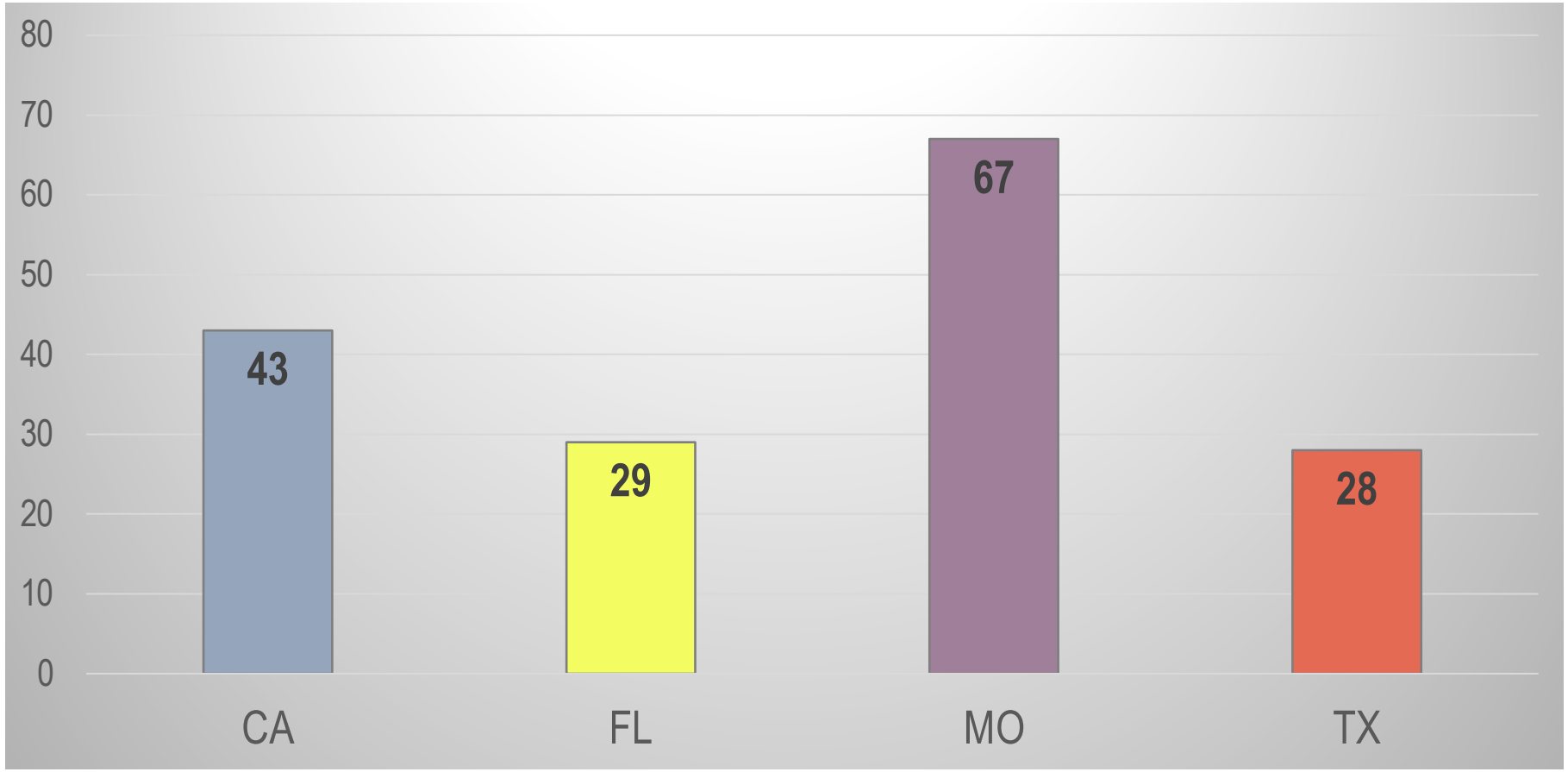
Respondents: State



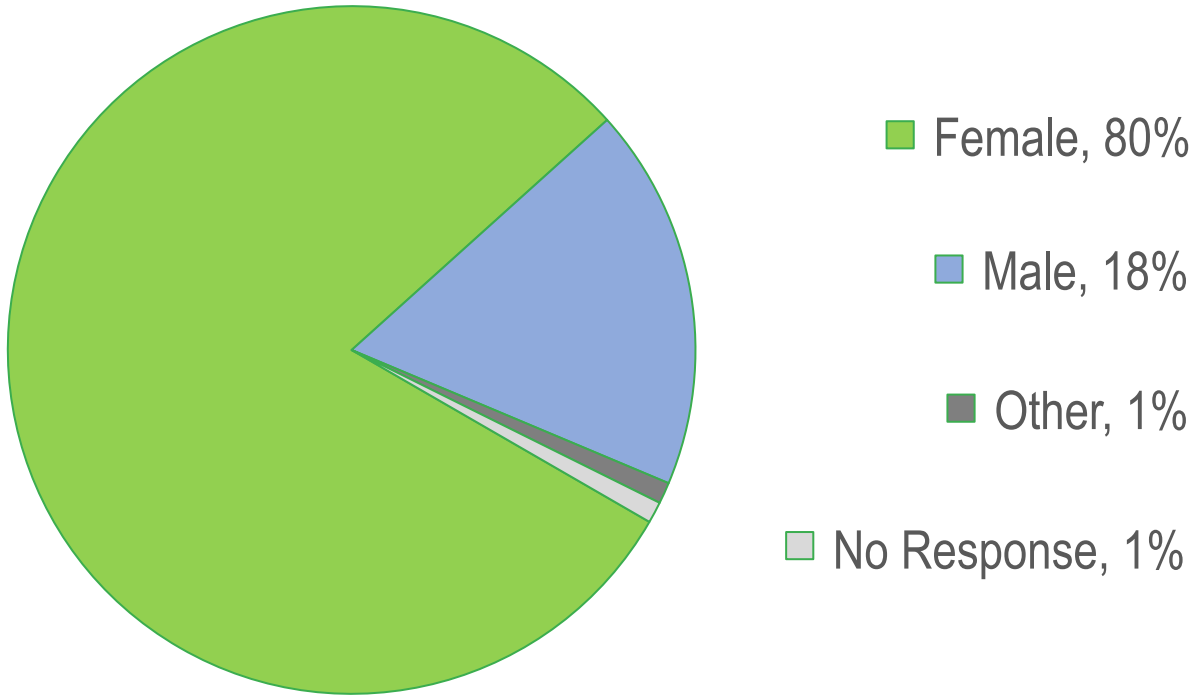
Respondents: Wipro SEF Role

	Year 1 Fellows	Year 2 Fellows	Former Fellows	District Coordinators	IHE Leadership	Other Guests	No Response
California	5%	67%	14%	2%	9%	-	2%
Florida	24%	59%	10%	3%	3%	-	-
Missouri	51%	30%	1%	3%	7%	4%	3%
Texas	54%	25%	11%	7%	4%	-	-

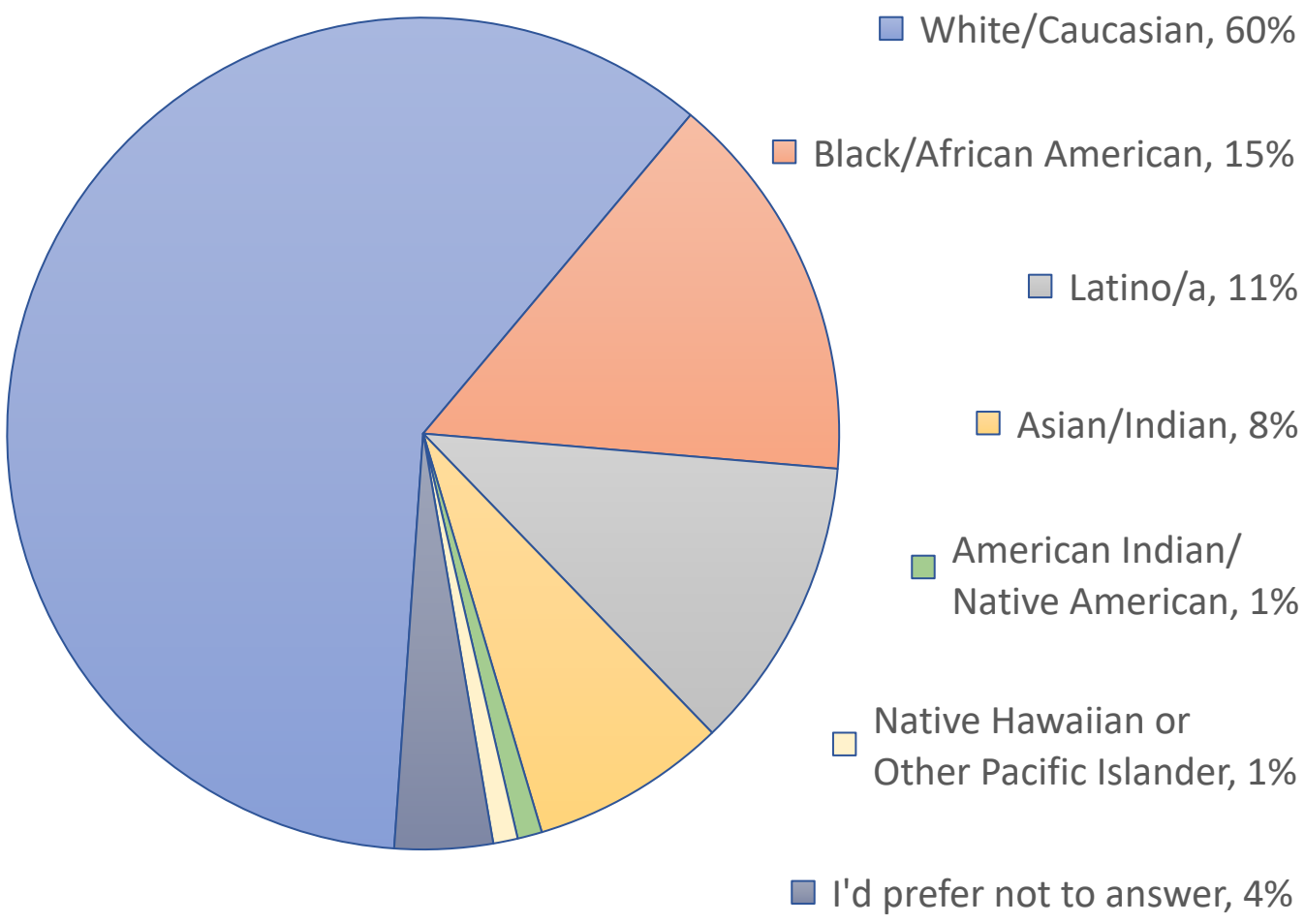
Respondents: Professional Role

	University Teacher	University Administrator	University Staff	K-12 Teacher	K-12 Administrator	University Student	Other
California	9%	-	5%	88%	-	-	-
Florida	3%	-	-	86%	7%	-	7%
Missouri	6%	1%	1%	84%	1%	1%	3%
Texas	7%	-	4%	71%	14%	4%	4%
Overall	7%	1%	2%	83%	4%	1%	3%

Respondents: Gender



Respondents: Race/Ethnicity



Overall Satisfaction

	Very satisfied	Mostly satisfied	Somewhat satisfied	Total
California	70%	26%	5%	100%
Florida	52%	38%	3%	93%
Missouri	45%	42%	12%	99%
Texas	79%	18%	4%	100%

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Conference Expectations

	Exceeded	All met	Most met	Total
California	47%	42%	12%	100%
Florida	28%	45%	14%	86%
Missouri	30%	43%	27%	100%
Texas	57%	32%	7%	100%

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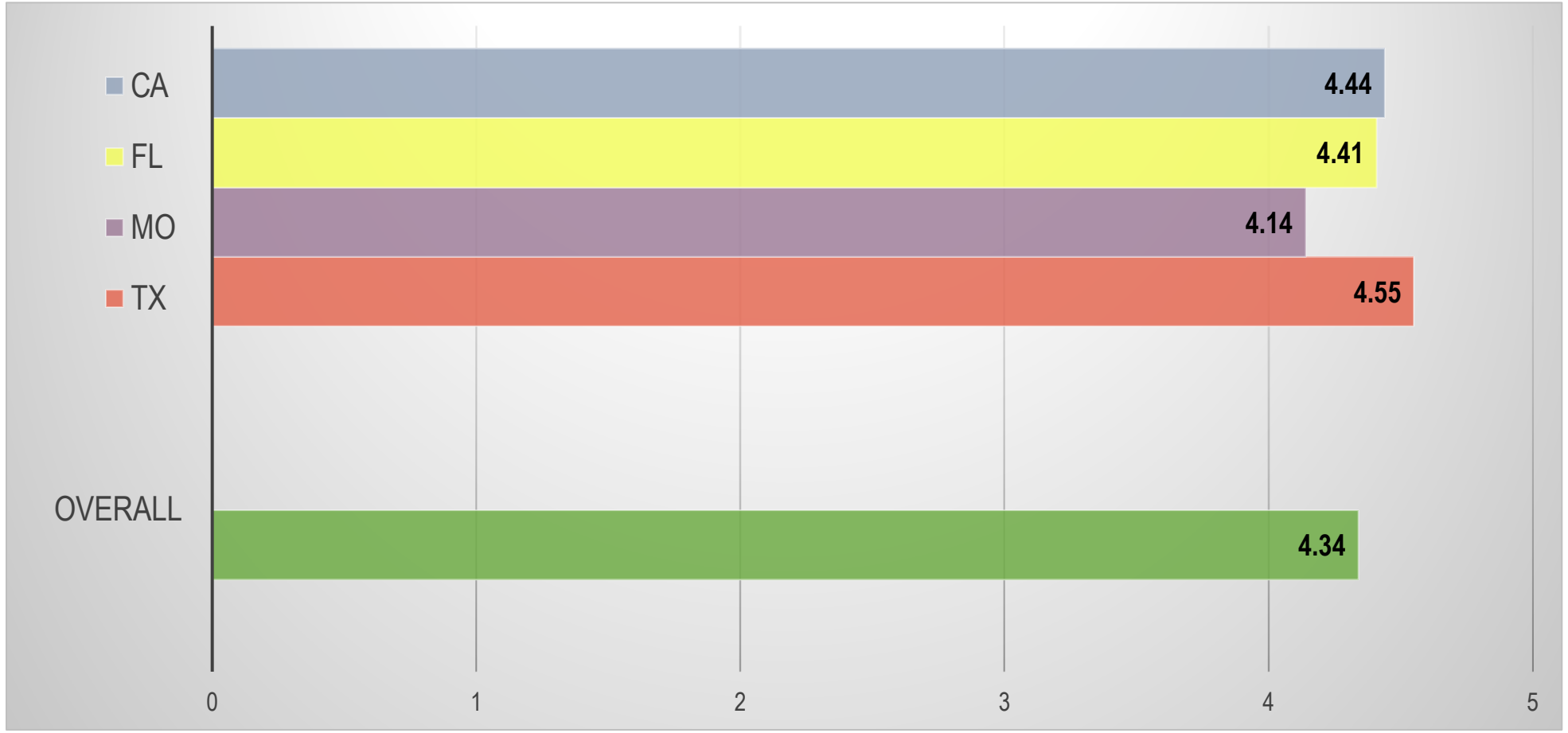
Network Building

The conference helped to build a supportive network of educators in the state & beyond.



Rating scale: 1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree

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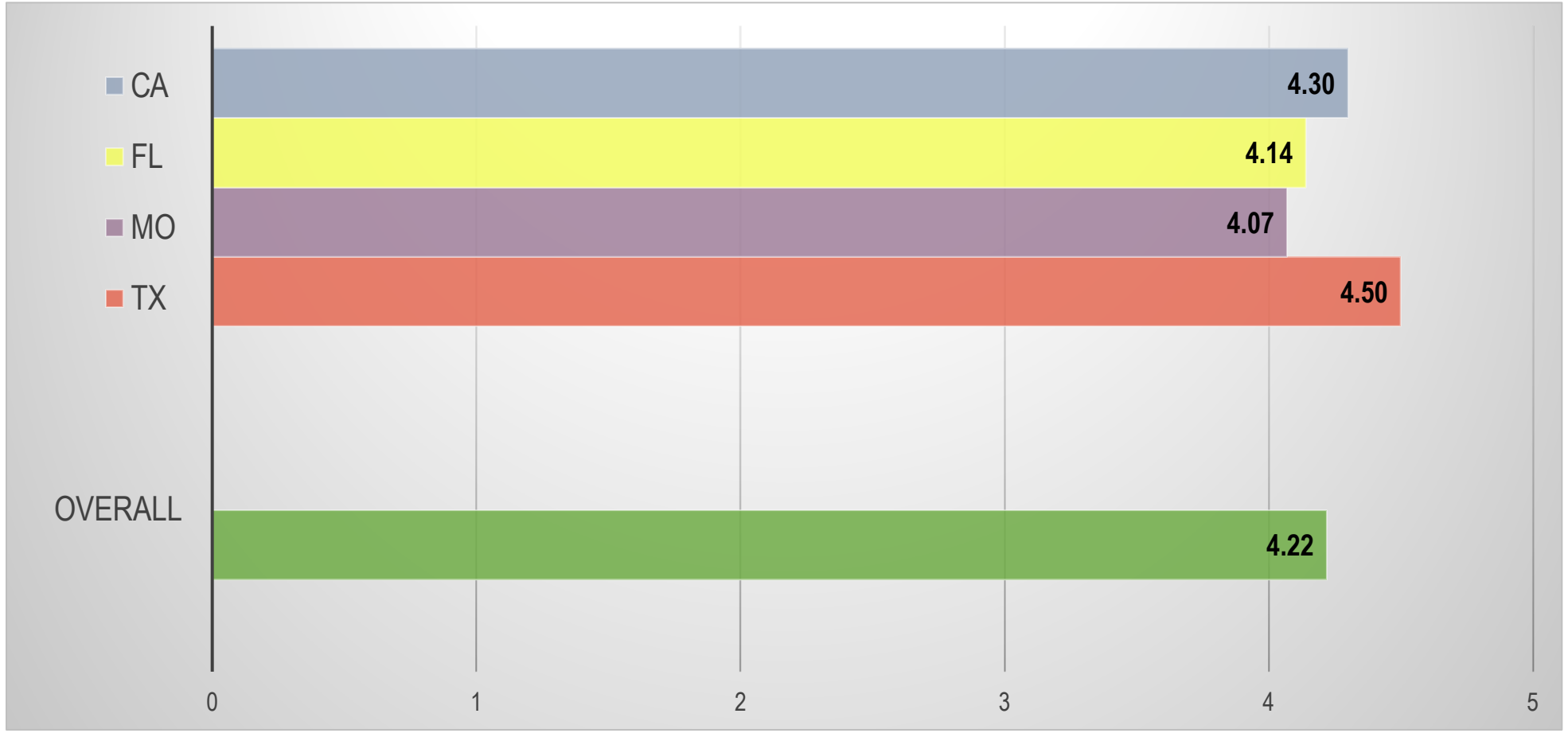
Leadership Skill Building

Participants saw improvements in leadership skills of themselves and others.



Rating scale: 1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree

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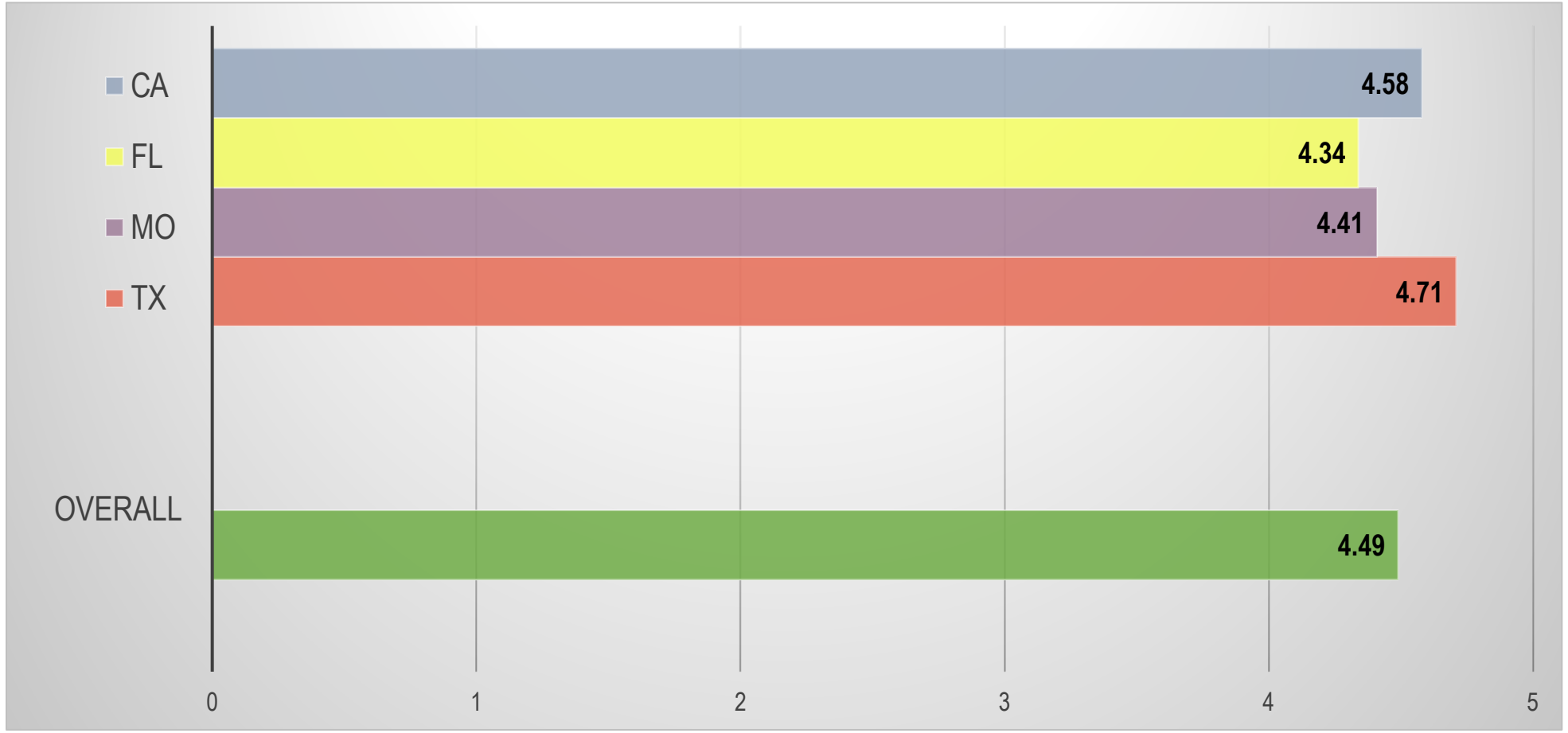
Conference Logistics

The asynchronous format, the tech platform and overall organization worked well.



Rating scale: 1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree

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Other Thoughts:
Network, Leadership Skills & Logistics

State	Sample Quote(s)
CA	*I loved being able to do the asynchronous work at my own pace. During our last conference I felt very fatigued by the end of the day, and in this format I had longer to reflect and process.*
CA	*It was wonderful to meet educators from across the country. Getting to learn from their experiences also reminds us that we are not isolated in our struggles with teaching.*
FL	*The work the teachers shared was excellent as was the keynote speaker.*
FL	*I appreciated the chance to watch all videos ahead of time and take my time with them. I watched them a couple of times and went back into them as I wrote my feedback. I really appreciated the time to be thoughtful -- instead of running right through the whirlwind of them all at once and on the spot!!*
MO	*A virtual format doesn't allow for the same time for relationship building and there weren't really opportunities for leadership within the virtual conference.*
MO	*I really liked that the warm/cool feedback forms were included in TORSH. I liked being able to upload everything there. I also liked the weekly videos because it helped me see clips of other people's projects.*
TX	*Excellent job organizing this conference into the virtual format! It was effective, and I will say that I feel like the asynchronous format and feedback methods gave me more time to process the projects more deeply than I have during past poster presentations. I was able to get a real feel for everyone's projects and felt like I was given an opportunity to contribute by providing feedback to each.*
TX	*Congrats on a beautiful and intuitive website format. Well done!*

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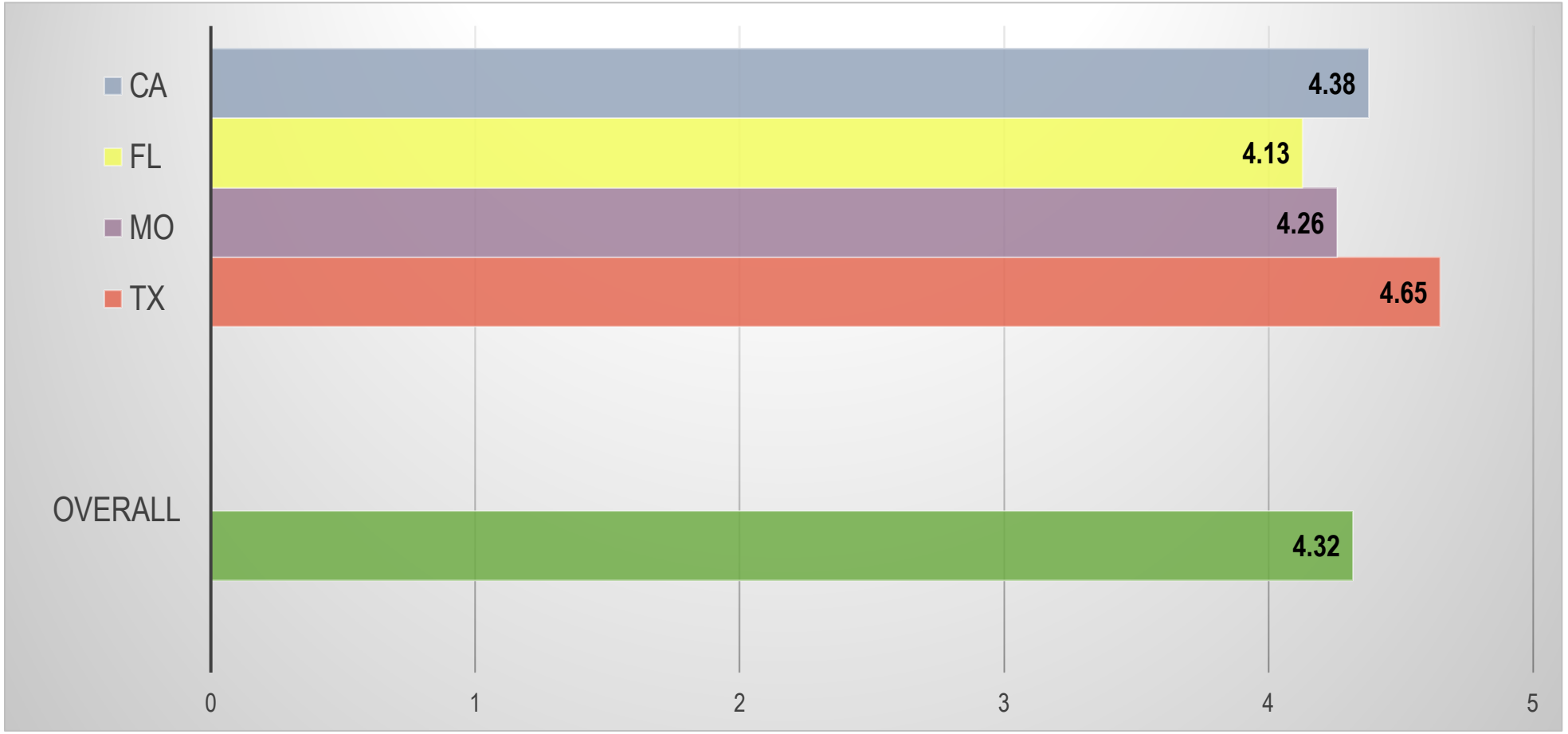
Viewing H-CCLS & GPS Videos



Rating scale: 1=Not at all useful; 2=Slightly useful; 3=Moderately useful; 4=Very useful; 5=Extremely useful

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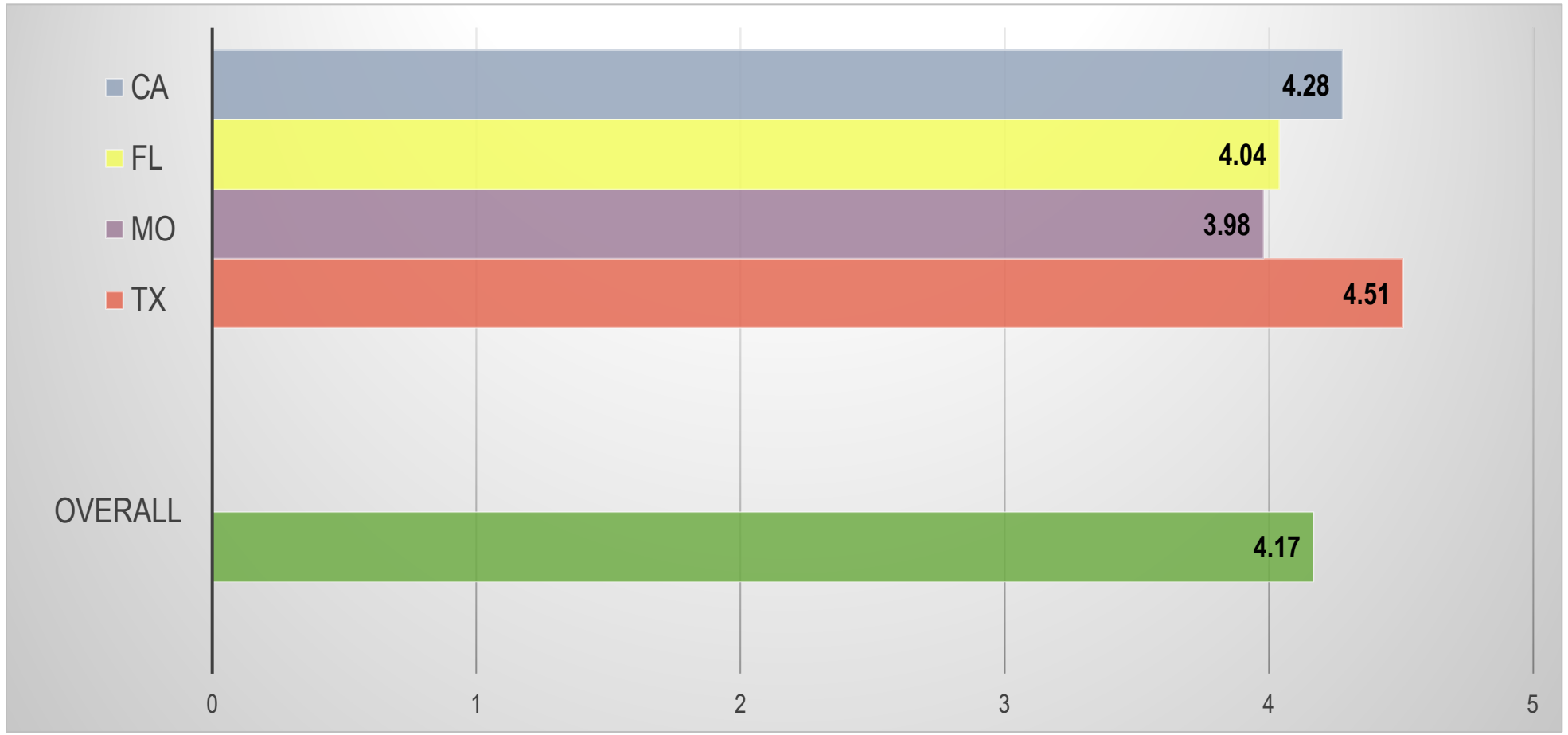
Feedback: H-CCLS & GPS Videos

Providing and receiving feedback



Rating scale: 1=Not at all useful; 2=Slightly useful; 3=Moderately useful; 4=Very useful; 5=Extremely useful

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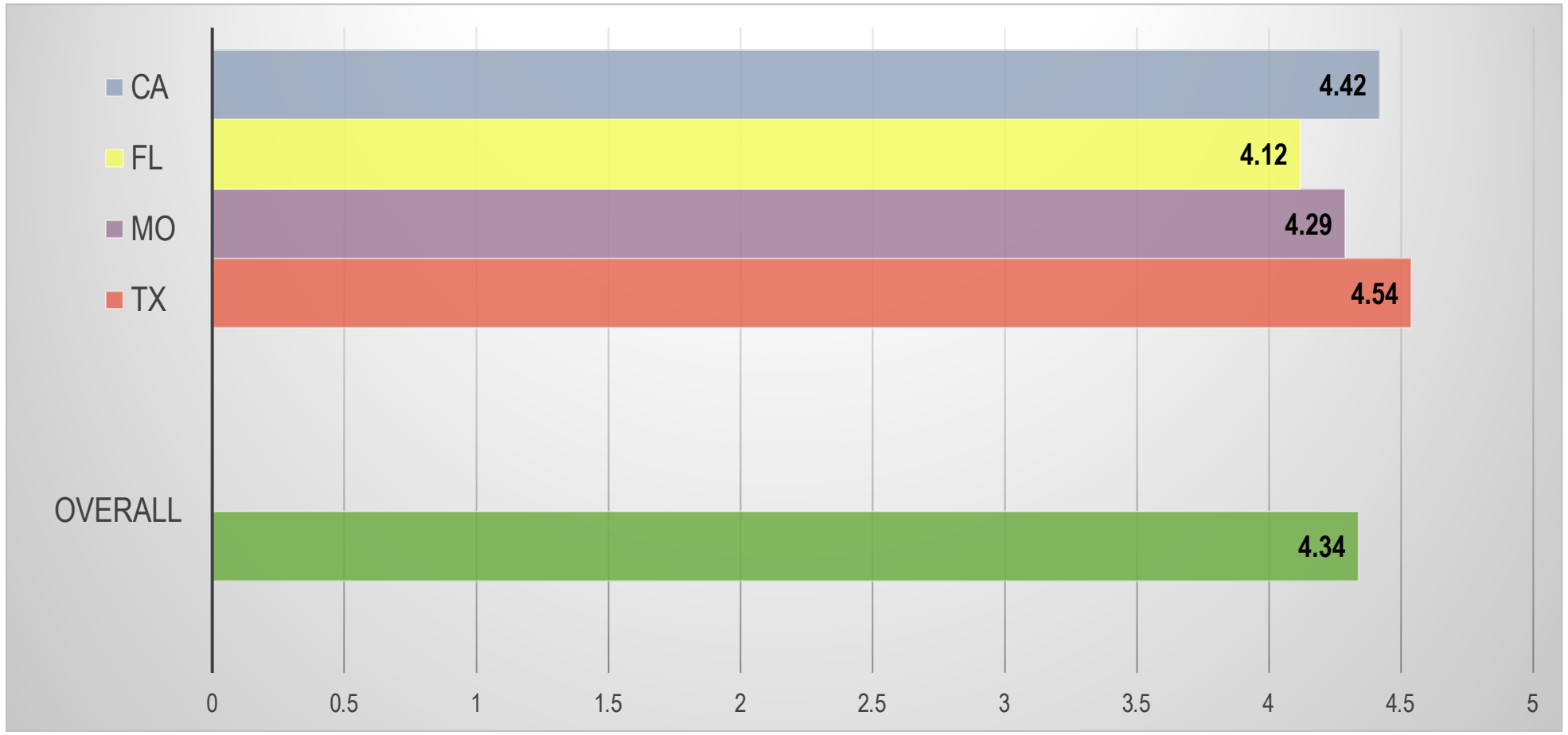
Synchronous Meeting Components



Other Thoughts:
Videos, Feedback & Synchronous Meetings

State	Sample Quote(s)
CA	*It was useful to see other people's feedback.*
FL	*I would have liked more opportunities to engage with GPS presentations in a synchronous format*
MO	*The only part of the wrap-up Zoom meeting I didn't like was talking more about COVID when we had already given our information about our thoughts and experiences in the Forums. Some of the feedback we received from the H-CCLS was not very nice and not helpful.*
TX	*While I didn't have a H-CCLS or GPS presentation, I did have a Phase 2 presentation and I found getting feedback on my presentation was extremely useful.*

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California: Key Takeaways

Topic	Number of Responses	Sample Quote(s)
Value of collaborative network	22	*Support is a word that pops up in my mind. As educators, we often feel unsupported in our teaching. This conference was just the opposite. There is so much support that was talked about and valued. One GPS project was all about supporting new teachers on site. Another GPS talked about supporting an after-school science program. Our H-CCLS shared about how to support students in the classroom. This is something we all need, and as teacher leaders, we have an opportunity to support those around us. It helps me to frame it as not just improving teaching on the academic front, but also being there on the socio-emotional front as well. I am looking forward to starting my GPS, knowing that I will be well supported by the mentors and district coordinators and other fellows!*
Inspirational	10	*Teachers are amazing, adaptable, flexible, resourceful, caring, kind, and collaborative people. Seeing other educators' projects is so useful and hearing from other teachers in a constructive format like this is always great!*
Professional pride/camaraderie	9	*I think the most important "take-away" for me is that I am not alone. We can move forward into uncharted waters confidently TOGETHER!*

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Florida: Key Takeaways

Topic	Number of Responses	Sample Quote(s)
New ideas	8	*I never knew anything about Citizen Science, however, it is something I would like to explore and bring to our school.*
		Looking forward to including Socratic Seminars in my teaching.
Inspirational	6	*That teachers go beyond the call when it comes to student achievement. And that teachers need more outlets to display student works, communications, and collaborations.*
		I am so inspired by hearing and seeing science teachers from around the Tampa area and those from Texas.
Importance of science	4	*We need to continue to develop and structure best practices in science despite pressures that sometimes draw our attention away from doing the beneficial things that involve and inspire students.*
Value of collegial sharing	4	*Learning from other educators and receiving the cool and warm feedback during my presentation to improve my practice.*
		Excellence in teaching is a collaborative effort.

Missouri: Key Takeaways

Topic	Number of Responses	Sample Quote(s)
Value of collegial sharing	14	*My most important take away is that educators, no matter where they are, are facing uncertainty and new challenges, yet they continue to remain positive and want to do their job the best they can.*
Value of network	14	*Teachers supporting each other can be so powerful to improving practice.*
Professional pride/camaraderie	14	*I am just so proud of us as educators nationwide. It's clear we all care and are working hard to do what's best for kids in this uncertain time.*
Value of virtual conferences	11	*I love the flexibility and adaptation of the conference to the pandemic. It was a great support group for science teachers.*

Texas: Key Takeaways

Topic	Number of Responses	Sample Quote(s)
Value of collaborative network	9	*The power of vertical teaming in science education. The respect our elementary teachers have for our secondary teachers and vice versa.*
		Collaboration is so important to ensuring success. Having the support of a team holds us all accountable and pushes all to try new things.
Inspirational	8	*That next year we are going to Texas for ice cream. No, really, it is great to see other teachers learning and going through similar steps that I did. It is ALWAYS renewing to come to a Wipro meeting of like minded educators. Conversing with the other educators and faculty involved in the program is always motivating and uplifting. I always leave feeling motivated and ready to take action!*
		The conferences were very helpful in igniting my passion to pursue professional development as a career option. I enjoyed it tremendously watching teachers teach teachers. What I learned about myself is that I am more driven when I focus on a task to see it to the end. I learned that you must push through the problems to be able to present a great product and that I can overcome anything. I learned how to make presentation slides for viewing and how to make the presentations pop with creativity and excitement. Wipro SEF defined for me what I want to pursue and some information on how to achieve it. Before I kind of knew, but now I really know what I want to do.

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California: Suggested Improvements

Topic	Number of Responses	Sample Quote(s)
Logistical suggestions	12	*It would be really cool to invite a well-known keynote speaker to give some words of encouragement for anti-racist practices to help provide cultural context outside of the academic community. Teachers for Social Justice also had a virtual conference this year, and their keynote speakers were diverse, inspiring, and entertaining. I think we should bring more of that passion into the realm of science teaching.*
		More time in the breakout rooms.
		I would have liked to have contact information available from teachers willing to have additional conversations about their project so that we can continue to learn from one another. I feel like the poster and 10 min presentations gave a limited view of what some teachers accomplished and I am interested in learning more about some of their work.

Florida: Suggested Improvements

Topic	Number of Responses	Sample Quote(s)
Technology suggestions	5	*Have a link connected to the registration process. I had to google this conference after the fact to find the link and presentations. I didn't receive an email notification. Due to this, I missed the live sessions. The experience was overall frustrating because I wanted to participate and hear feedback.*
		I enjoyed the conference and feel you get out what you put in. I wish more people would have been active participants or that it would have been required to be. Especially with such a great guest speaker. I think only about 8 cameras were on when she was speaking with us.
		Recorded Zoom meetings are like my grandpa trying to tell me how to use a computer, I roll my eyes but sit there respectfully since I want to respect my elders. Maybe spice it up next time?
Logistical suggestions	4	*Scheduling the conference so it doesn't fall on the last week of the first quarter.*
		The addition of one more break, we were sitting a long time ....next time have music to assist with the mood.
		Online conferences should be brief...keynote speaker could have been shorter.

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Missouri: Suggested Improvements

Topic	Number of Responses	Sample Quote(s)
More time for face-to-face interactions	17	*Allow interaction with the presenter and conference attendees so if I am interested in an idea, I have the opportunity to talk more in-depth.*
		Some sort of live chat with presenters would have been nice. I know we talked about this in the wrap up meeting, and that sounds like a wonderful idea. Having office hours to chat with the presenters would allow for more face to face interaction while still being remote. Gives a chance to ask specific questions and also give/receive feedback.
Provide clear instructions at the beginning	12	*I think there should be a meeting at the beginning to explain the online conference before we get started.*
		Simplify the instructions and send them early enough to help people understand their roles and expectations.
		Introduction video with expectations, all documents and instruction on TORSH.

Texas: Suggested Improvements

Topic	Number of Responses	Sample Quote(s)
Logistical suggestions	8	*Have presenters present live. Make it synchronous.*
		I would have enjoyed the opportunity to participate in small group break out rooms to discuss the projects that we were most impacted by. I would have loved an opportunity to talk about all the different GPS projects I watched and made me think about changing my practice, and I would have really enjoyed getting to tell those individuals directly, over video, just how much I enjoyed their projects.
		I would suggest that more times be offered on Saturdays for group collaboration and feedback.

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Overall Findings

- Majority of participants were very or mostly satisfied with conference experiences
- Participants valued asynchronous components
  - Flexibility helped them fit into their schedules
  - Allowed for deeper thought and comments
  - Made repeat content viewing possible
- Participants also valued synchronous components and generally wanted more
  - Fostered the collegial sharing & network building
- Cross-fertilization was uneven with some sites requiring Fellows' participation in more than their own conferences and other sites requiring little to no participation
- Inspiration very important this year
  - Many commented on how inspirational the conference experience was
  - Florida keynote in particular was called out for inspirational quality

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Recommendations

- Timing of conferences next year
  - Take into consideration the timing of multiple Wipro SEF conferences and requirements/obligations at the local level
- If multiple conferences occur again next year, set up expectations for Fellows participation in more than one conference
  - Online format allows all Fellows to participate easily and inexpensively in more than their own conference
  - Discuss with IHE Leadership how to make conference participation more equitable across all sites
- Consider the social/emotional needs of Fellows and be explicit about how they are being addressed to model this for both professional learning and their work with students–for example:
  - Breaks during conferences
  - Timing that works well for Fellows' schedules
  - Need for inspiration/encouragement during anxious/fearful times

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Evaluation Update – September 2020

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Tasks this Month

- Submitted Annual Report and Summary on September 14, 2020
- Completed administration of Pre-Program Survey for all new Fellows in CA, FL and MO (99% response rate!).
- Reviewed monthly call with IHE leadership held on September 16, 2020 and provided input on evaluation-related topics to project leadership.
- Began revision of the Conference Evaluation used for Missouri's Virtual Conference in June for use in CA, FL and TX in October/November.

What's Next?

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

- Begin analysis of data from Pre-Program Survey of new Fellows.
- Design a revised Conference Evaluation to be used by CA, FL and TX for their upcoming virtual conferences.
- Participate/observe in components of the upcoming virtual conferences in CA, FL and TX.

Evaluation Update – October 2020

Anne Gurnee Consulting, LLC

Tasks this Month

- Designed an updated Conference Evaluation for use at the CA, FL and TX virtual conferences.
- Participated in asynchronous and synchronous components of CA, FL and TX virtual conferences.
- Participated in monthly call with IHE leadership held on October 21, 2020. Presented plan for evaluation review to be completed at the November IHE leadership call.

What's Next?

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

- Participate in/observe remaining components of the CA virtual conference.
- Begin analysis of data from CA, FL and TX conferences and draft summary conference report to be submitted in early December.
- Assist with the evaluation review agenda item during the IHE leadership call in November.
- Begin revision/updating of Mid-Year Survey to be administered in late January, 2021.

Evaluation Update – November 2020

Anne Gurnee Consulting, LLC

Tasks this Month

- Participated in/observed final asynchronous & synchronous components of the CA virtual conference.
- Began analysis of data from CA, FL and TX conferences and draft summary conference report to be submitted in early December.
- Participated in monthly call with IHE leadership held on November 18, 2020. Facilitated the evaluation review agenda item during the IHE leadership call.
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What's Next?

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

- Complete and submit the Virtual Conference summary report.
- Contact all IHE leads about their H-CCLS meeting dates to plan the timing of the mid-year report.
- Continue revision/updating of Mid-Year Survey to be administered in late January, 2021.