



The 2023 CEEF Teacher Institute
Best Practices in Environment Education & Stewardship
FINAL REPORT


Submitted by:	Submitted to:
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Overview & Summary

The California Environmental Education Foundation Teacher Institute: Best Practices in Environmental Education and Stewardship began February 25, 2023 and culminated in a participant-led showcase on April 29, 2023. 57 teachers responded to the initial CEEF TI [flyer](#) invitation distributed to local education networks via CEEF sponsor organizations. 51 teachers were accepted and 34 confirmed their intent to participate. After an additional round of late acceptances, and other pre-institute communications, 26 educators began the CEEF program, 22 participated in a minimum of two sessions, and ultimately 18 educators successfully completed the Institute.

Overall, our CEEF TI participants worked directly with 1393 students to develop and complete community based, student led stewardship projects. Our CEEF teachers also engaged other educators at their school sites in discussions about their CEEF stewardship projects through large faculty presentations that indirectly impacted an additional 260 teachers and over 23,400 students.

We continued with the scalable virtual design approach for this year's CEEF TI in order to increase accessibility and be responsive to the reality of what it means to be a professional educator. One third of our participants this year were early career professionals and we specifically focused on designing and implementing systems and tools of support so they could engage deeply with our complex set of resources and help provide socio-emotional support as learners. As part of this approach, we utilized a well organized Google classroom for resources, updates, reminders, and milestone deadlines. We also re-envisioned our approach to cohort session flow and utilized custom templates and a multifaceted approach to 1:1 coaching and other communication throughout the institute.

The supports we developed were well designed to support our veteran teachers, however, during the week prior to our third live-session, LAUSD teachers engaged in a multi-day strike action which caused a significant level of stress and concern for our teachers. Thus, several teachers, many new to teaching, withdrew from the institute. Fortunately, the supports we had put into place were able to ensure that every educator that did attend live-session #3 successfully completed every CEEF deliverable. Overall, the Institute provided an enhanced, unique, and engaging professional development program for our participants through the integration of layered and responsive techniques featuring self-guided modular curricula, engaging virtual live sessions, and previously developed CEEF branded high quality video productions.



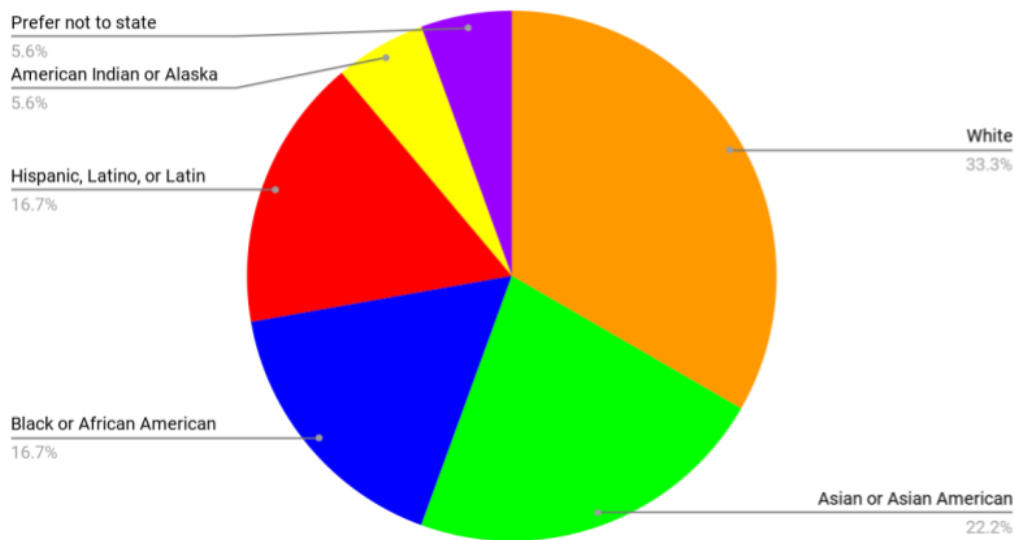
In addition, we incorporated an array of technology tools to produce a more efficient and organized workflow and enhanced communication both internally with the CEEF Institute leadership team and with our teacher participants and sponsors. Finally, we devised new ways to engage our sponsors and connect them to our participants to encourage ongoing collaboration with sponsor organizations and resources. The impact of this work is reflected in both the participant feedback and evaluation survey comments, emails, and in-session remarks, as well as sponsor feedback and responses via email.

Program Registration, and Completion

We worked with our sponsor organizations to connect with education networks across Los Angeles, Santa Clara, and Orange counties via sponsor newsletters.

Our teacher participants represented a diverse cross section of our community:

CEEFF TI 2023 Demographic Data



Every participant who presented at the showcase submitted all deliverables and are eligible for the full TI stipend. 3 participants applied for the Roots & Shoots mini grant and received the full requested amount; 9 of our participants have already applied for CEUs from UC Davis, 9 others are still making their decision, and only 3 have reported that they will not be applying for this additional, optional CEEFF TI benefit.

Overall, our rate of program participation and completion was 50% lower than last year, however this rate of completion is higher than that of other professional development programs for 2023; Brian Brown, Project WET Coordinator for California, reports that there has been a 60-70% decrease in teacher participation across multiple programs throughout the state this year to date. Teachers reported injury, illness/surgery, and general feeling of being overwhelmed or exhausted as reasons for leaving the program. Most of the dropouts happened in the two weeks

prior to Session #3 which directly aligned with the LAUSD strike action that significantly impacted many of our educators for the remainder of the Institute.

Sponsors & Partners

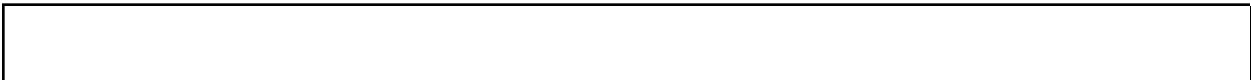
CEE was fortunate to receive support from nine sponsors this year:



CEE also partnered with Project WET to secure free guides and teacher training and John Zavalney led a Project WET activity with James Maloney from SKIESlearn. Erin Orr from The Jane Goodall Foundation presented a stewardship project community mapping activity and Cynthia Chavez introduced an energy audit activity from Project Learning Tree.

Mailing of Project WET guides was provided free of charge by WMD and salary credit for continuing education was provided by UC Davis. LADWP and MWD provided our water and energy panel experts and two of our sponsor organizations provided facilitators for an additional Project WET activity. Both members of our CEE TI work team presented during our live session, including both the additional Project WET activity and a social studies integration activity. And finally, our CEE founder Bill Andrews provided our participants with an overview of the history and research back approaches developed by CEE since its founding.

We offered each sponsor organization an opportunity to speak to our participants during our synchronous Saturday sessions and created Sponsor Spotlight slides with links to each sponsor organization website so that our educators could easily access and engage with the high quality, free resources available courtesy of our sponsors.



Live Sessions & Evaluation

Live sessions were held on February 26, March 12, March 26, and April 23 via Zoom. Sessions were recorded and we provided a comprehensive slide deck to serve as a library of resources for teachers post-session.



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Live Virtual Meeting Dates

<p>Saturday February 25</p> <ul style="list-style-type: none"> • team introductions • TI orientation • Project WET activity • stewardship overview 	<p>Saturday March 11</p> <ul style="list-style-type: none"> • energy experts panel • PLT activity • Curriculum connections • SP development
<p>Saturday March 25</p> <ul style="list-style-type: none"> • water experts panel • Project WET activity • Social Studies connections • SP development 	<p>Saturday April 29</p> <ul style="list-style-type: none"> • stewardship project showcase • TI reflections • celebration & next steps • program evaluation & well wishes




Access to each session agenda and all session resources & materials below:

Session #1 agenda	Session #2 agenda	Session #3 agenda	Session #4 agenda
Session #1 slide deck	Session #2 slide deck	Session #3 slide deck	Session #4 slide deck
Session #1 recording	Session #2 recording	Session #3 recording	Session #4 recording
CEEFF TI Agenda at a Glance doc		CEEFF TI Session Materials folder	

Our live sessions were consistently highly rated on our feedback and evaluation forms. Review our data analysis and access links to the feedback data for each of our sessions below:

Session #1 Analysis	Session #2 Analysis	Session #3 Analysis	Session #4 Analysis
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Independent work continued between each live synchronous Saturday session and included the following activities:




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Independent Work

- Project WET certification**
 - virtual
 - 4-6 hours to complete
 - Project WET guide provided
- Cohort meetings**
 - grade level groups
 - 3 one hour sessions
 - SP & 5E lesson plan development
- Expert videos**
 - water expert video
 - energy expert video
 - Pedagogy videos (2)
- Coaching & support**
 - 3 hours available to each participant
 - responsive: multimodal, in real time
 - SP, 5E, pedagogy, resources, & more



Cohort #1 agenda	Cohort #2 agenda	Cohort #3 agenda
Water Experts video	Energy Experts video	NGSS & 5E pedagogy videos

Teacher Deliverables

Our CEEF teacher deliverables included the following:

CEEF TI Deliverables

Virtual Synchronous Sessions

Session 1: February 25
 Session 2: March 11
 Session 3: March 25
 Session 4: April 29

Cohort Meetings

- 3 one hour sessions
- Dates TBD by cohort

Project WET certification

5E Lesson Plan

Stewardship Project

- SP Template
- Session 4 Showcase
- School Site presentation

Optional: UC Davis CEUs



The starred options above represent asynchronous work completed by our teachers with coaching and cohort support in between the live Saturday sessions. All teachers who presented their stewardship project work during our Session #4 Showcase completed each of the deliverables and were eligible for the full CEEF TI stipend. Access to all deliverable records and attendance documentation can be found in the link below:

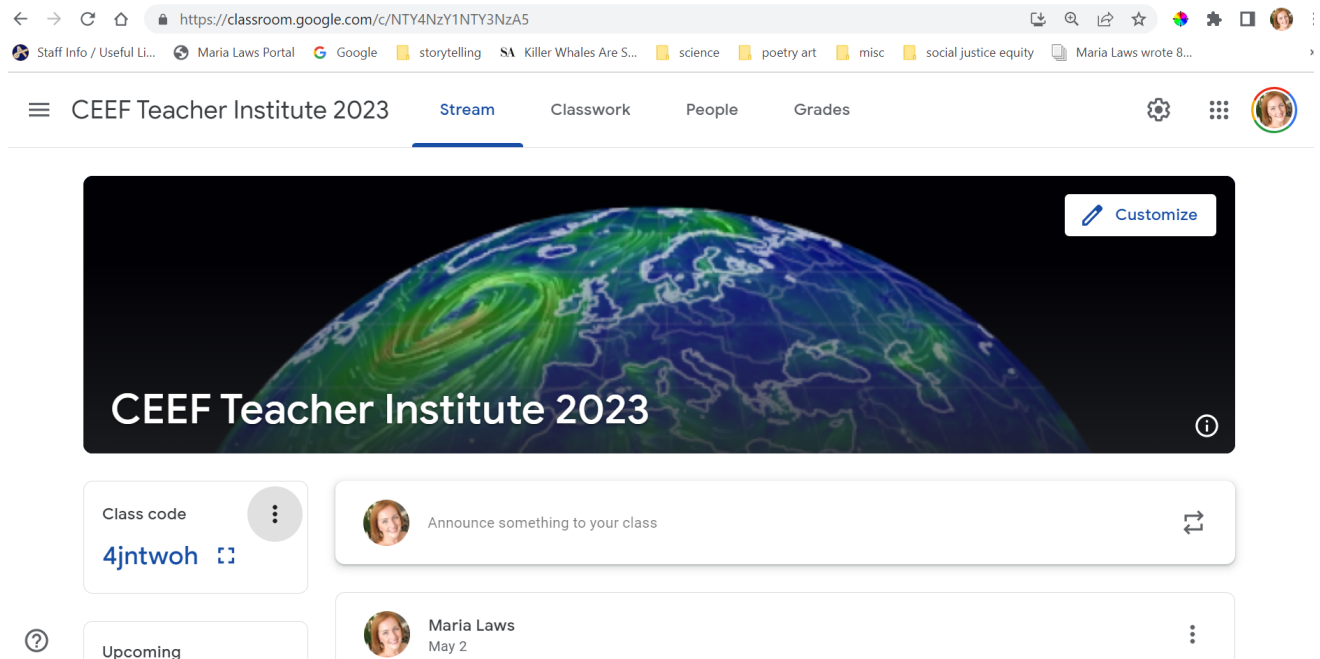
CEEF TI Information [spreadsheet](#)

Resources & Tools

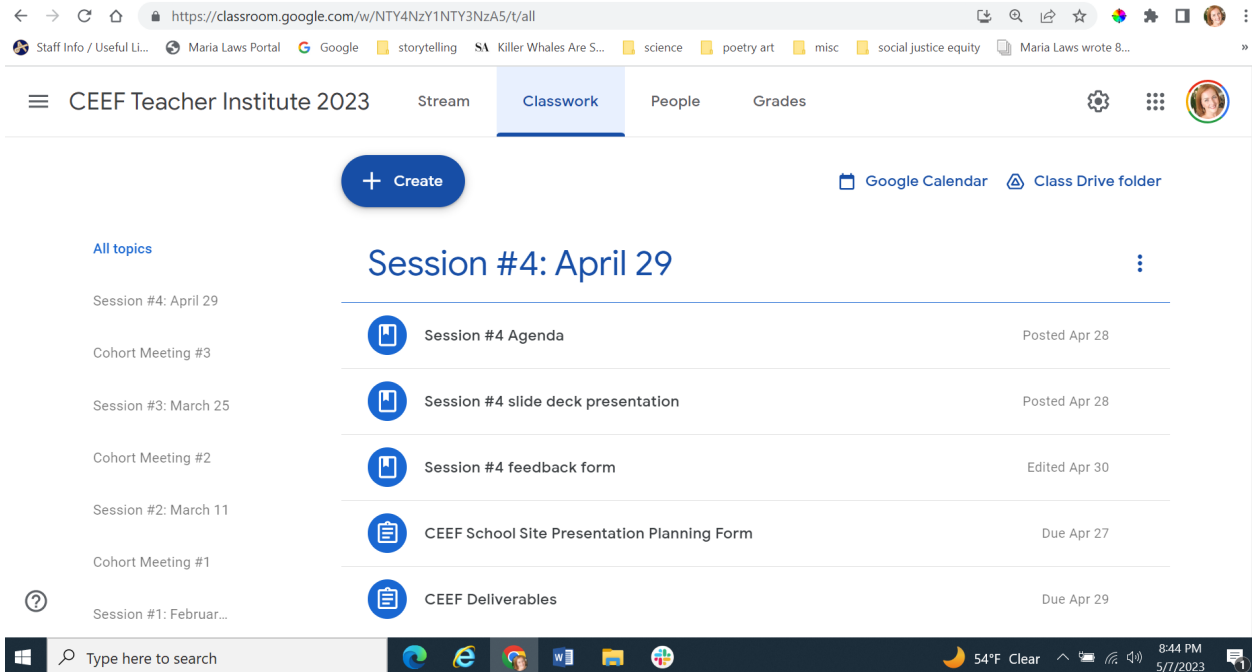
We created individual teacher folders with custom CEEF templates. This allowed us to view work in progress, comment on documents and respond to support requests in real time, and hone in on participants in need of project management or other specialized support or resources. It also allowed us to scaffold and support teachers to create high level learning experiences with their students and communicate their process and progress effectively with a broader audience.

CEEF All Teacher Participants folder	Sample Participant folder with templates
CEEF Speaker & Sponsor Contact list	CEEF Coaching Support doc
CEEF Stewardship handbook	CEEF Additional Resources doc

We utilized [Google classroom](#) to house CEEF TI resources, provide timely reminders and updates, and support project management and stewardship project milestone deadlines.



The screenshot shows a Google Classroom interface for the 'CEEF Teacher Institute 2023' class. At the top, there is a navigation bar with 'Stream', 'Classwork', 'People', and 'Grades' tabs. The main content area features a large banner image of a globe with the text 'CEEF Teacher Institute 2023' overlaid. Below the banner, there is a 'Class code' section displaying '4jntwoh'. To the right, there is an announcement box with a profile picture and the text 'Announce something to your class'. Below that, there is a section for 'Upcoming' events, showing an event by 'Maria Laws' on 'May 2'.



We also created 5 min loom videos to walk through various templates or other resources to support teacher engagement and answer clarifying questions for the team. The Loom platform allows you to view how many people have watched the videos you have created, which gave us additional data and understanding about what tools were working for them and what questions and further engagement our teachers would need to make progress and engage deeply with the CEEF stewardship project development process. Topics ranged from the technical ([how to import Google slides into your slide deck](#)) to showcase preparation ([showcase slide deck overview](#)) and deliverable reminders ([school site presentation overview](#)).

We also produced three pedagogy related slide deck presentations and a loom video to supplement cohort and independent learning and deepen 5E lesson planning, EPCs, and NGSS connections for our teachers. Thank you to Bill Andrews for creating a [slide deck presentation](#) outlining the CEEF origin story and research based approach to environmental education and stewardship.

5E overview slide deck	EPCs overview slide deck
5E overview loom video	NGSS overview slide deck

Stewardship Project Highlights

This year, CEEF stewardship projects were a part of over 22 different courses ranging from elementary & middle school life and earth sciences, high school biology and environmental science to specialized classes in biotech and physics. Our teacher participants also supported students in campus environmental clubs and through library services learning environments.

All stewardship project templates and slide deck presentations are listed [here](#) highlighting 6 exemplar decks (★) along with basic information for each of our 18 presentations: title, grade level, and environmental education topic/theme. You can also read comments from the teachers about what the project development experience was like for their students:

I think my big takeaway is that environmental education can happen in any classroom. It was fun finding how I can have an environmental spin within a biotech lab class. I always think projects can deepen student learning and engagement. And I've seen that focusing on students' lives and their community can increase commitment to work. I really love cross curricular learning and so I'm hoping that I can do that next year. And also keep working with CIF in the shared resources because there's been a ton that I still feel like I can even go through more over the summer.

The kids would come back after the weekend and say like I found this at my house or we went to the park or whatever. And they were telling me about all these random things they were seeing that they've never really noticed or paid attention to before, which is all I really want. That made me really happy.

So what sparked this project—I was talking to my students, what kind of things are you passionate about? I heard all of them talking about the pollution, the plastic...and then our department our grade level head decided to tack on a beach trip to our upcoming field trip to UC Irvine. So I talk to students. I said, How could we bring in predictions? How can we do more? Now we want to turn this into an annual thing. Now that we've gone, we can see the actual and eventual impact.

I want to bring it back to the community and figure out how can we connect our personal habits to marine ecosystem health and the ecosystem of Los Angeles in general what can we do to change our habits to make the community more beautiful and healthier as a whole and continue the momentum I want to organize garden and campus cleanups to address that that local community habit. Plus we have a garden that's been like long abandoned since before COVID and now I want to figure out how can we revive it, together.

And then one of the biggest things for me actually is I'm planning on hopefully starting an environmental science class because currently my school doesn't have one. So I've been trying to get that going for next year. Because I think that will have even more impact and allow me to do more stewardship projects and things like that. But I think the biggest thing is like we really have the power to inspire students to make a difference.

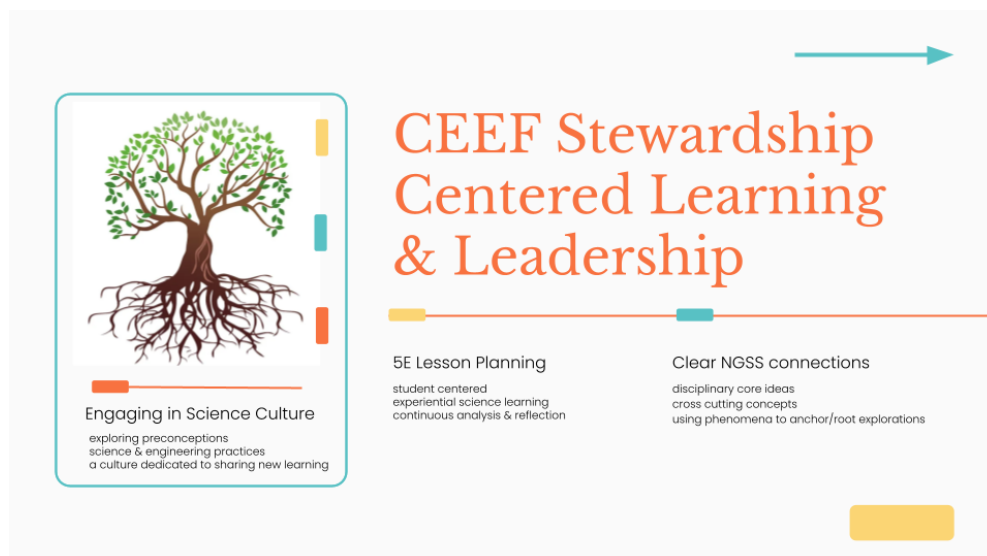
For this CEEF project I said Right Okay, so let's take a break where the students kind of stopped and thought about their surroundings and environment a little bit more, they self reflected on issues they kind of observed and how they can be active agents of change. We also did social justice connections such as how do factors like money, race and location affect the way our community looks and access to resources we have.

Recommendations

Based upon the feedback we received, it is clear that we met our primary goals for our CEEF TI this year to provide high quality teacher professional development focused on best practices in environmental education and stewardship. We also met our systems based goals to provide high touch point teacher support utilizing an array of technology based tools and high impact, responsive coaching techniques. I am very excited to share three areas to consider as we continue to innovate, iterate, and advance our organizational purpose, learning outcomes, and community impact.

Reflect & Refresh Content

The CEEF TI is a unique learning experience for educators with multiple professional development strands:



In addition to content specific environmental education best practices, CEEF has been exploring specific integrations with social studies and social & restorative justice themes. Teachers were engaged with these topics during Session #3 but we did not have enough time in our schedule to allow for deeper, iterative learning and classroom applications. We also explored a tech tool with SKIES learning in Session #1 that teachers expressed an interest in further engagement and experimentation to support student engagement, learning, and creativity.

Going further, technology tools such as generative AI are already playing a significant role in the development of climate change solutions and stewardship on the global stage.

Another area to consider for deeper exploration and connections with our TI core themes is career education. The CEEF TI leadership team has already highlighted the need for more career connections and now have an expert in that area on our board. Finally, arts integration pedagogy strategies are entry points into deeper, self driven learning across all developmental stages. Learning through the arts increases access to content, fosters leadership and collaboration, while supporting the creative process and providing critical socio-emotional support. Modeling simple arts-based strategies within our Saturday sessions this year received high marks from our teachers and is something to build upon for even greater impact and community engagement going forward.

Continuing to engage the CEEF Board and TI work team in a macro level of discussion and envisioning will help guide the alignment of the Institute with CEEF's mission and core values while also honoring the emerging connections to tools and topics that will support the development of stewardship projects and leaders who will literally change the world.

Restructure Time

All of our teachers who presented at our Session #4 Stewardship Project Showcase developed high quality, student-led stewardship projects and environmental education learning activities. However, time and deliverable management was a challenge both in a general sense and also specifically due to the LAUSD teacher strike action that occurred days before Session #3. In fact, in the two weeks prior to Session #3, we lost 8 teachers. In addition, fully 1/3 of our participants this year were new educators who are still learners themselves both in terms of pedagogy and classroom leadership and support.

Currently, our model is to present new content during live Saturday sessions and then teachers work on their deliverables independently and bring their work in progress to a cohort meeting so that they can then move forward with their deliverables prior to the next live session. What we saw is teachers did not always attend the cohort sessions consistently. And although they utilized the makeup session option with our stewardship coach, they still missed out on the team collaboration opportunities they were asking for in our feedback and evaluation forms. It also led to the template deliverables being populated days/hours before Session #4 and required constant outreach and responses by our CEEF team to ensure teachers did not drop out due to feeling overwhelmed as the due date approached.

We were ultimately successful in these endeavors, even persuading a teacher who emailed her intention to drop one hour before the final session to instead come celebrate her colleagues' progress (and in the end she completed her slide deck during the lunch break and presented her work to the group!), this is not an optimal scenario for our participants or our institute team. Below are two potential solutions for increased CEEF TI teacher retention and outcomes:

1. Shift the timing/flow of the institute so that our Saturday live sessions are broken up into a full day, two part event:
 - in the morning, outside presenters and speakers engage our participants in new learning
 - in the afternoon, the CEEF director and pedagogy expert/stewardship coach engage with participants as they collaborate, unpack, and apply what they've learned

This afternoon cohort time would also allow for more flexible coaching opportunities in breakout rooms for 1:1 and small group support working with the new content connections they are making in real time and would ensure that our deliverable templates were used as intended—as an ongoing support rather than a final assignment.

This cohort model will enhance the experience of every TI participant and help our coaching team more effectively address individual and collective needs as well as to plan for 1:1 support in between the live Saturday sessions.. This is an effective format specifically for new or ultra-busy teachers who need a well defined space for brainstorming, problem solving, and peer engagement.

2. Our 1:1 coaching could also be more structured using Calendly or another scheduling tool to set up a minimum of two 20 minute check-ins between Sessions 1 and 3 with the option for more in the month between Sessions 3 & 4 (the showcase). By formalizing the approach, it shifts the experience from the minimum (do you have questions/problems) to something more elevated—a holistic discussion about progress with the potential for brainstorming about extensions or potential partnerships and resources.

Recruit Teacher Leaders

Recruitment strategies can be implemented to improve both workflow efficiency and teacher engagement outcomes.

1. Determine the newsletter dates for each sponsor organization that supports CEEF TI teacher recruitment during Q3 so we can better plan our timeline for the flyer, acceptance/invitation, and confirmation process and coordinate more seamlessly with our partners. We could also consider asking sponsors to have an email blast devoted to CEEF that would all happen on the same day/week.
2. The best recruiters are our former CEEF TI participants! Doing direct outreach with them in Q3/Q4 would increase the number of teacher applicants and help ensure that those applicants are primed for a successful experience.
3. The CEEF website currently includes essential information about CEEF and the TI, however there is no active engagement happening on the site; visitors do not have a reason to return, see updates, or get excited about sponsor resources or upcoming CEEF TI programming. Having deeper discussions around how to budget for and make our website a place that engages our community on an ongoing basis can have a huge impact on both our TI application process as well as ongoing stewardship project engagement beyond the TI. By extension, this same discussion can include social media marketing for Facebook, Twitter, and LinkedIn sites.
4. On a related note, over half of the accepted educators who later dropped from the program expressed an interest in a future CEEF TI; better utilizing CEEF's website and social media through both text and video increases the chance they will join us for a future institute.

Re-engage & Recognize CEEF Stewardship Leaders

1. Our participants repeatedly voiced an eager interest in continued CEEF connections and touchpoints to sustain and grow their CEEF stewardship work this year. As part of our high level vision/purpose discussions, we could brainstorm around three potential avenues:
 - a quarterly 2 hour CEEF workshop for past participants focusing on a specific emerging idea or approach centered around stewardship, leadership, and environmental education best practices. This quarterly event could also take the form of an event open to any interested teacher in our service areas and co led by CEEF graduates
 - a 2-3 day CEEF summer leadership institute for CEEF graduates to support their own community leadership and mentoring practices to further the development of additional stewardship initiatives in their local community and learning spaces
 - a participant led quarterly or monthly 2 hour cohort meeting for our CEEF graduates in which they have the space and time to make

- plans/set goals, share ideas, problem solve roadblocks, and celebrate milestones in their stewardship project development
 - a potential sponsor site tour or on site coffee hour to share resources and make connections, co-led/organized by our CEEF TI graduates
2. One of aspects of CEEF that became very clear to us as the Institute progressed is that our teachers, both veteran and early professional alike, are learners too and that we need to continue to acknowledge their growth and celebrate milestones. The fact that these 18 teachers continued to engage at such a high level in challenging work of community outreach, new content and pedagogy explorations, student leadership, and systems level protocols often without minimal/no site level support is something to be celebrated!

At a time when teachers are leaving our profession en masse and the STEM pipeline of teachers continues to slow down the adoption and implementation of best practices for STEM teaching and learning, we have an opportunity to uplift, encourage, and engage teachers as professionals beyond our yearly TI. Learning is a hopeful act. What we heard from our teachers again and again is that as much as we may want to isolate ourselves when things become stressful, engaging with each other in this work can be the reason teachers not only stay in our profession, but thrive and contribute at even higher levels. Hear more from our teachers below:

I'm really excited, Afrodita and I have a hike that we hope to do in the future. I've made personal connections with different educators in this program, which has been great and definitely has me feeling more reinvigorated. I was a little burnt out before joining this program, and I've not even been teaching for that long--this is only my fourth year. But I just still felt like I had a heavy heart but now I am feeling more excited about what I could do with my classroom, how can I inspire my students? And in turn, be inspired by them.

It's really nice to be in this CEEF program, just to see all of the things that the teachers do. That's my inspiration, because I'm really tired. But seeing what everybody's coming up with gives me some extra energy. And I'm really happy because I've always wanted to be more involved with my community where my students are and I feel like something like this could not only engage my students but also the people around us.

Well, I'm very grateful to be part of CEEF. I feel like I can go on for 22 more years because you all are very nurturing. I want to continue to be connected with our cohort and CEEF.

This has been an amazing program and lots of resources. sitting here watching all of these presentations online, right you're giving me more and more ideas. And so I've been, you know, taking some notes on that, okay, I need to look at this one. I need to look at that one and to get more ideas.

Conclusion

The impact of our 2023 CEEF TI was significant across every level of educator experience, content area expertise, or school community. I am particularly proud of the level of support we were able to provide during an incredibly challenging time and how clearly our teachers saw us modeling the very systems and practices we were asking them to enact in their own learning spaces. I am excited to see how the CEEF TI continues to transform teacher practices and learner experiences and am eager to support and contribute to these vital efforts and critical outcomes.

This program has been so amazing. I loved working with all these educators, connecting with y'all. The resources and the training that I've received in CEEF are so rich, and I can't wait to continue to implement them in all of my courses. I've had so much information at my fingertips and I really want to get into it.

This stewardship project has helped me, I'm trusting my students more and more to do heavy lifting. I'm realizing that every single detail of every single lesson is not on me. Students can guide the way—they are so smart and so so capable! So in the future, I want to just guide them as environmental stewards wherever possible. Let them wear the hats of these different careers and let them lead the way and lead the discussion to the project.

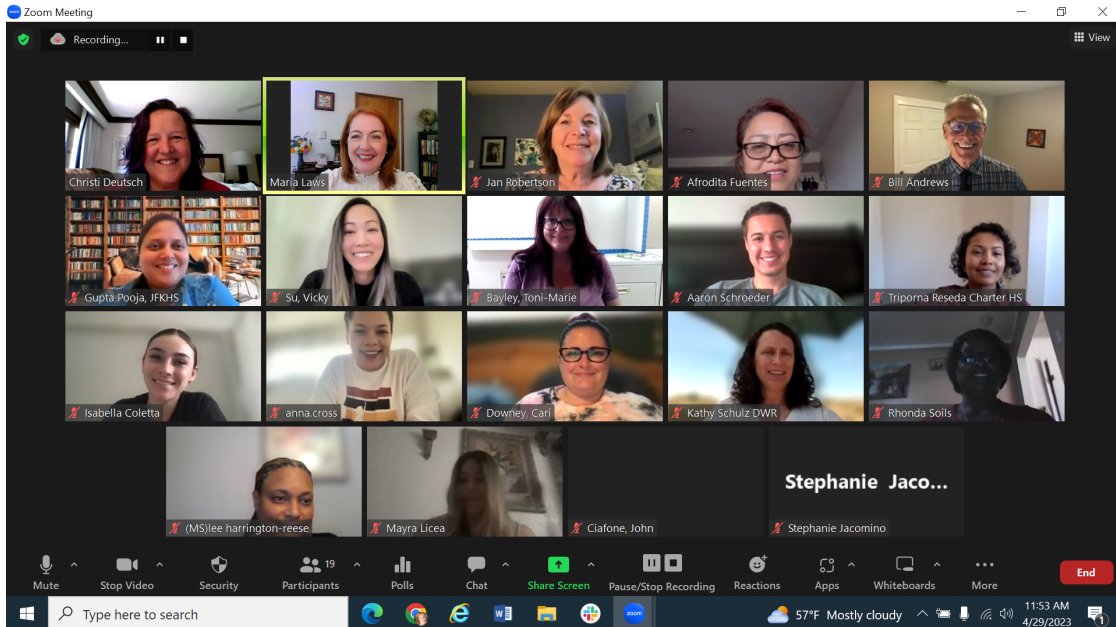
I really loved hearing from other people throughout the process and especially my cohort and understanding how they were co creating lessons with students and kind of my goal for future projects is to let the reins go more and give kind of more of that planning and process work to students as we're developing a project and also to kind of to be able to collaborate across contents.

This experience in general allowed me to have more resources for better science classes because it is my first year and it was very difficult, kind of like creating the curriculum for it. So I'm really grateful that I was able to learn about the project wet activities that I think I will definitely use next year. And I in general just learned how to grow my own skills better, how to teach students what's around them and how they could be active agents of change. And I see myself a little bit more as a leader in the classroom and on campus, especially as a first year teacher. Trying to take up a little bit more space.

So I want to introduce more career exposure and have more stewardship projects on and off campus, as well as involve other stakeholders so I want to get like community groups, families, younger siblings, also involved in these projects.



Congratulations to our 2023 CEEF Teacher Institute Participants!



“Every individual matters.
Every individual has a role
to play. Every individual
makes a difference.”



Dr. Jane Goodall