Working Together, Apart

EQuIPD Newsletter, Spring 2021

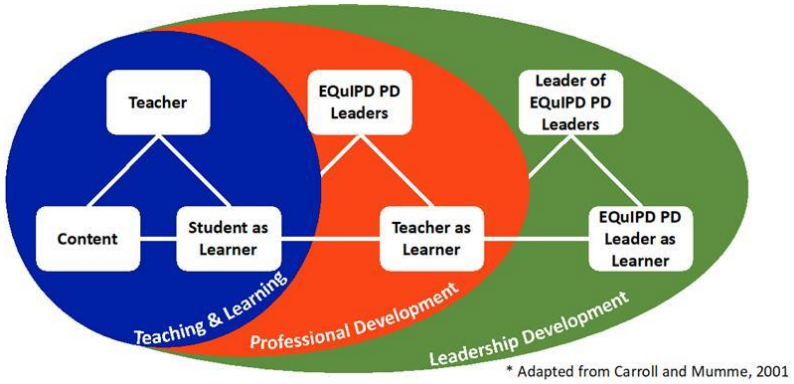
This issue features the work of some of the teachers supported by EQuIPD in creating remote hands on technology enriched lessons for students to gain core content knowledge in socially distanced classrooms.

In this issue:

FEATURE

Teachers Collaborate to Create PD for Peers

In a true "Train the Trainer" model EQuIPD grant teachers are preparing to transition from learners lens to a trainer lens for the grant in Year 3 of the grant. During the Spring Follow-Up Professional Development meetings, teachers across districts have grouped themselves and collaborated to prepare engaging 2.5 hour synchronous professional development with a 1.5 hour asynchronous follow up for grant goals around system thinking, conceptual model development, inquiry, technology infused lessons and formative assessments to understand student model development. These training sessions will run all summer long and grant teachers will provide four training sessions and attend four training sessions by their peers in this unique model for professional development by choice. Trainings will be open to all control teachers in the grant, as well as other district teachers and staff and teachers from outside the grant districts in Florida and Mississippi. The calendars and sign up for trainings will be released in Mid-May. Summer technology trainings will also be provided by UF college students to scaffold teachers in use of technology in lessons.



* Adapted from Carroll and Mumme, 2001

EQuIPD Grant Coaches to Train District Coaches, Principals, School and PD leaders

As part of EQuIPD year 3 sustainability model, coaches from the grant are available to provide free trainings to districts for the grant model. These trainings can be one day or half day trainings and are designed to meet the needs of the individual districts within the grant. A flyer has been developed to promote the PD trainings and is attached with this news letter on the back page.

The logic model designed for the EQuIPD grant has shown success to teacher practice and changed the way teachers think about teaching standards through mindful practices to scaffold student conceptual model development. Sign up now for your free EQuIPD Grant Trainings

Students With Special Needs Maintain Working Hydroponic and Solar-Fueled Garden at Plant High School

Christine Angel Danger

“This is all about teamwork”

-Martin Ramirez, students of Ms. Jessica Strauss of Plant High School in Tampa, FL.

Students with special needs are collaboratively learning valuable workforce skills in the classroom of Ms. Jessica Strauss, one of the teachers participating in the EQuIPD program. Ms. Strauss’s has been leading her students in caring and maintaining a hydroponic and solar-fueled garden at Plant High School, a public high school located in South Tamps, Tampa, FL. The Plant High School junior is taking part in an innovative program at the Tampa school that's introducing students with special needs to possible career paths. It's a working garden right in the middle of campus. It features both ground and hydroponic plantings, and utilizes solar and renewable energy sources. "The whole point of having this garden is to give these kids some hands-on experience that will hopefully translate to the workforce," says Jessica Strauss, the Plant High teacher behind the successful program.

Despite the restrictions brought by the global pandemic, COVID-19, Ms. Strauss managed to facilitate collaboration among her students by creating a sense of community as they maintained the garden. One of Ms. Strauss’ student, Martin Ramirez, loves to get his hands dirty. "This is all about teamwork" says Martin, as he checks a pepper plant for bugs. "That's the best part!" says Ms. Strauss as she happily described her efforts to promote collaboration are paying off.

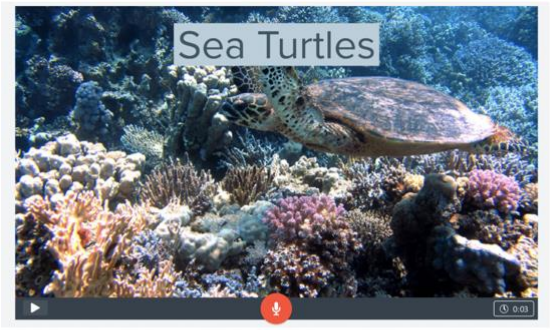
Local nonprofit Tampa Urban Benefits (TUB) Farms is partnering with the school to introduce the students to such varied career paths as gardening, farming, botany, finance, technology and community enrichment.

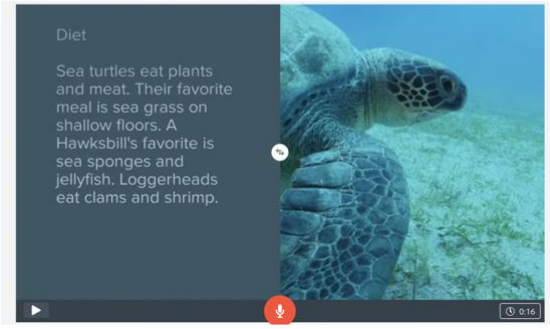
Use of Jamboard to Promote Student Collaboration in a Socially Distanced Classroom

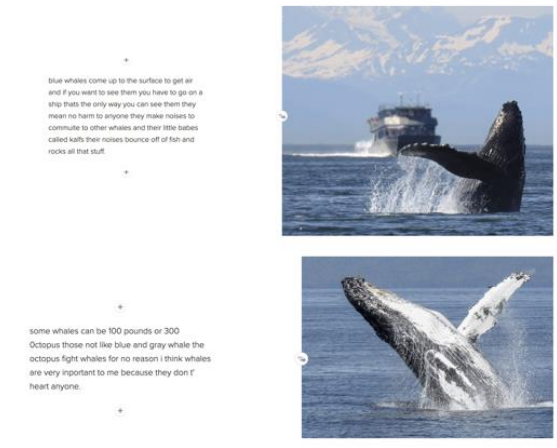
Leigh Arnold

The restrictions brought by the current situation called for the use of tools and online resources to facilitate collaboration among students within the various classroom formats. Technology experts and instructional coaches of the EQuIPD program has been providing teachers from districts participating in the program with support and training on the use of digital whiteboards such as Jamboard. Ms. Dovetta Workman, a 2nd Grade Gifted teacher at Crosspointe Elementary in Palm Beach County, FL, is among the teachers who have benefited from such training.

Dovetta Workman has been taking the knowledge gained from EQuIPD and implementing it in her classroom, to promote student collaboration in the hybrid setting. She recently completed a project-based lesson where she had her students research about sea creatures. Ms Workman's use of project-based inquiry is a strategy for promoting a shared experience despite being in different places. She tasked the students to research, gather information and share the information among the team members. To facilitate this shared experience, the students worked in small groups to research with online resources then brainstormed and wrote down their findings on a Jamboard. Once the group compiled enough facts about their sea creatures, they created a presentation using Adobe Spark. "Students loved Adobe Spark! This was the first time they used it after my coach showed me, and they were amazed at how vivid the pictures were and how easy it was to use" said Ms. Workman. Some of these students found the assignment so awesome that they completed it at home after the first day! Once the groups were finished presenting, Mrs. Workman proposed a rigorous question to each group. One question was "What would happen to your sea creature if pollution affected its food source?" The students used Flipgrip to respond with a claim, evidence to support their claim and use of their collated information and knowledge to reason why their evidence supports their claim (CER). The students are already asking when they can complete another project because this one was so much fun!







Lab Partners Miles Apart: Collaboration Between Remote and In-Person Students

Jared Carter

The greenhouse gas lab, like most things this school year, looks a bit different than it has in previous years. A group of students are outside, spaced out around a beaker with a layer of dirt in the bottom and a digital temperature probe sticking out like a strange straw. One of the students is holding a laptop, but it is facing away from her and toward the experiment. Another student, visible in the laptop screen, is able to see the experiment, communicate with her classmates, and participate in the lab without being physically present.

"One of the biggest challenges this year was figuring out how to engage remote students in group work. Convincing remote students to participate in class discussions has been challenging".

Mrs. Cherish Eagen

Science Teacher

McIntosh Middle School

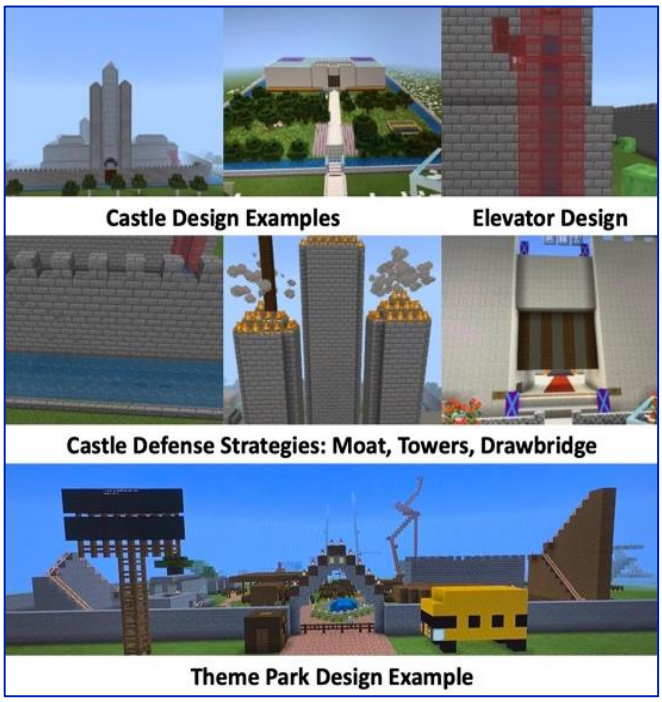
Cherish Eagen, a science teacher at McIntosh Middle School in Sarasota County, has been tinkering with her teaching practice this year, trying to find new ways for her students to work together. "One of the biggest challenges this year was figuring out how to engage remote students in group work. Convincing remote students to participate in class discussions has been challenging", noted Mrs. Eagen. Her shy students were quite reluctant to speak up when their voice and webcam would be projected from the front of the classroom.

To ease these public speaking fears, the remote student is brought into a group of in-person students through the use of a laptop. Mrs. Eagan still has to encourage her remote students to speak and not type, but she has already noticed a huge increase in engagement with her remote students. This new technique makes the students feel like a participant in a group, rather than a spectator in a classroom trying to avoid the spotlight of attention. Mrs. Eagen plans to continue to do group work this way for the rest of the year and is pleased with the results so far.

Collaborating Through Design

Krista Dulany

Throughout this school year, teachers have been trying to find ways to get their students back to working together safely during COVID. It has been no small feat. Tiffany Mumm, an Artistic Technology teacher at Don Estridge High Tech Middle School in Palm Beach County, has worked to bring her students back together virtually. At the beginning of the school year, Tiffany knew how important it was for her students to talk and work together again after ending the school year virtually and having a socially distant summer. To mend the need for communication, she created breakout rooms in Google Meet to allow her students to engage with one another during her creative design projects. Student feedback was terrific since her class was the first class they could work and talk with their peers on projects. After that, Tiffany continued to have her students work together on design challenge projects based on the Stanford design thinking model using Minecraft for Education and Adobe Spark programs.



Her students were able to flex their creative muscles through design challenges hosted in Minecraft for Education. One of the first collaborative projects was to create a class town in Minecraft. Tiffany had the students create a Jamboard whiteboard of places you usually find in a city or town – a grocery store, pharmacy, library, police station, etc. The students broke into project groups to build one of the town buildings together in breakout rooms. Together, they constructed a class “Dragon Town.”

After building the town, Tiffany expanded the design challenge to constructions of group castles and theme parks; student examples are shown in the first image. Students had to problem-solve to create machines and explore the program’s coding elements. Students worked together to decide the castle’s design, including an elevator, a flag, various rooms, and strategic defense systems. The theme park challenge allowed students to work together to brainstorm and design a park with rides and places they would find in a theme park. Students had to learn how to code specific elements to get rides to work and troubleshoot their design to work around limitations in the program. To get peer feedback, students raided each other’s castles to test the defense systems and visited each other’s theme parks to try the rides and amenities in the park. The design groups then had the chance to refine and update their builds based on peer feedback.

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Collaborating Through Design

To round out the semester, Tiffany wanted to create a design project using Adobe Spark. She noticed that some of the school's clubs and organizations pages were outdated. She challenged the students to create advertisements using Adobe Spark. As a class, they constructed a whiteboard using Jamboard to identify an effective advertisement's essential elements shown in the image. This collaborative whiteboard of criteria became their rubric for their ads. Tiffany started the students off by providing the list of clubs at the school and urging them to contact the teacher sponsors to gather updated information and get an idea for the style of the ad. The students then created drafts of their ads in Adobe Spark and collaborated with students working on the same organizations. Students received peer feedback throughout designing and when they ready submitted their project to be hosted on the class Padlet. The Padlet showcased the student ads and allowed the organization's teacher sponsors to access many ads for their programs.

Teachers across EQuIPD have been finding ways to facilitate student collaboration in their classrooms during COVID. Tiffany has done a great job allowing her students to work together online to bring back the sense of learning together. We look forward to seeing more design-based projects from Tiffany's class and hope you enjoyed these creative, collaborative projects.

Gamble Roger Preparing for Reentry

Xavier Rozas

As the temperatures begin to level off and the migrating geese cue up for the spring migration home, students and teachers across Florida are gathering up materials and taking the learning outside. The sun, fresh air, plenty of space to socially distance, and the lack of Plexiglass dividers, has a way of awakening students' intrinsic motivation and curiosity. Further, the outdoors is, without a doubt, the most appropriate place to conduct inquiry-oriented, scientific experiments that test student designed and built Ablative Heat Shields, using blow torches and exploding EGG-stronauts! And, that's exactly what veteran Gamble Rogers Middle School Science Teacher and Teacher Leader, Mr. Barrett and his Advanced Science classes did, during a recent EQuIPD coach visit.

As Mr. Barrett, double checks the homemade heat distribution apparatus and taps the tanks of the propane blowtorch, students working in teams of two scramble to refine their shields for the ultimate test of their deepening understanding of the conceptual model for heat that they have been developing in the lab. With one final reminder to follow all the established rules of the lab and a collective pat on the back to all the would-be scientists and engineers, Mr. Barrett swings open the door to the real-world and authentic inquiry.

"*The sciences are built on theories; not rules you memorize. To really understand how these theories work in the real world, kids need to actually put their ideas to the test. You can't just talk about it and have students take notes, you've got to actually observe the processes in action to appreciate and the underlying science.*"

With the subtle flair and showmanship of a master teacher, Mr. Barrett set the stage for the main event. Teams of students are each issued one farm-fresh egg, (their egg-stronaut) and instructed to observe and document the burn stages and effectiveness of their heat shields' designs (modelled after NASA's orbital reentry shielding technology). Two by two students submit their eggs and shields for the final stress test. Mr. Barrett carefully positions the egg-stronauts in the clamp (most of which are now decorated with cooing faces and wide eyes), weighs the heat shields to ensure they meet the guidelines of the experiment and slides the 3'x3' shields into place directly in front of the torch nozzle and adjacent to the hapless egg-stronauts.

Click… click…, Pssst….Psssst-POW!

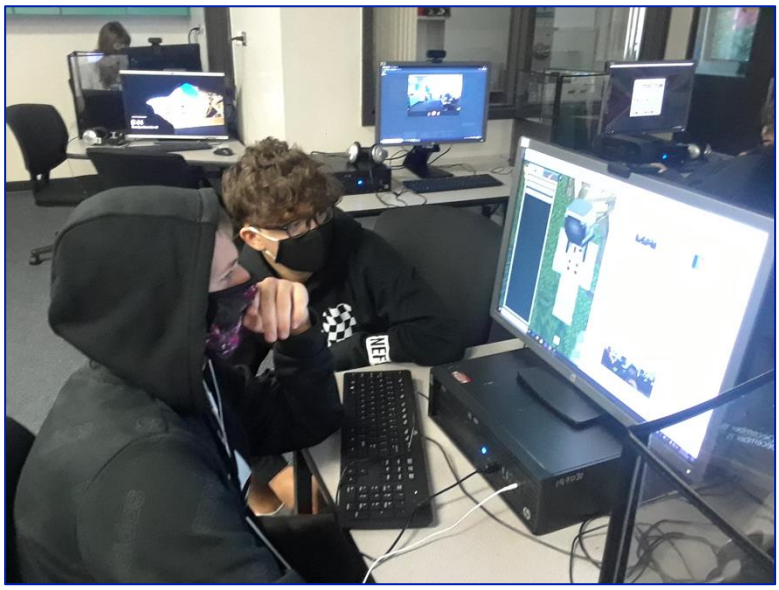
Blue flames lurch forward, licking the shields' margins. Students lean into the edge of the safety zone to see if their designs are enough to protect their brave egg-stronauts from 3-minutes of intense heat, topping out at over 1,430 degrees. Mr. Barrett, with the help of his class gather up their materials, begin to return to the lab for a final debrief. "Next time Mr. Barrett, seriously, next time we got this. I know how this works, now."

Collaboration: A Strategy for Success in a Dual Face to Face/Remote Classroom

Seleka Kerr

Karen Hart knew at the beginning of the year that to achieve success in her middle school coding classroom this year, collaboration strategies were going to be the key. Many of the students she has this year are shy and unfamiliar with each other and the course she's teaching has grades 6-8 in one class both online and face to face.

To capture students' buy in, she started with engaging them in the setting of norms and expectations for their collaborative work Within the first few weeks of implementing this strategy and adding technology programs like Scratch she began to see a shift in her students' level of engagement and collaboration efforts. She intentionally designed projects for them to work on with tasks that provided opportunities for students to collaborate. As the school year moved forward continued use of this strategy led to her continuing to design projects that provide opportunities for student collaboration and entail other technology programs like Microbits and Flipgrid. Students are working together with their peers in class and those who are attending via online and the transition has been smooth overall. The results she is seeing have exceeded what she anticipated. The greatest unexpected change has been with her female students. She has female students who had no experience with coding or with computer science at all and through these projects she has seen them grow into not only losing their fear but they're asking questions, collaborating together and even stepping up as leaders amongst their peers developing projects that exceed their male counterparts. Collaborating has proven to be a successful strategy for students in the midst of the challenges presented by Covid 19.



Student Spaceflight Experiments Program (SSEP)

Christine Angel Danger

"The students were very excited about this opportunity and spent about three weeks conducting research to help the write their research proposal". - Dr. Nebi Salim Bakare

Dr. Bakare is the science resource teacher who led the team of students - Katherine Artia-Veliz, Moses Donaldson, and Brianda Obispo-Polanco. Her students are members of the school's Gardening Club and were interested in growing plants in space to provide mental and physical health benefits to astronauts.

EQuIPD Professional Learning Community (PLC) teachers from Sheehy Elementary in Hillsborough County engaged their fifth-grade students in the Student Spaceflight Experiments Program (SSEP). Their students won the competition and will be sending their chamomile seed germination experiment on Mission 15 to the International Space Station. These students were a combination of in-person and virtual students who had to use many new strategies to work cooperatively on this experiment.

The competition is conducted through formal submission of real research proposals by student teams—just like professional researchers. Their hard work paid off, and now they are excitedly anticipating seeing their project launched into space. Astronauts will conduct the experiment aboard the ISS while the students conduct it here on Earth. Then, they will compare the data in order to determine the impact of germinating seeds in a microgravity environment. These students are now real scientists and engineers!

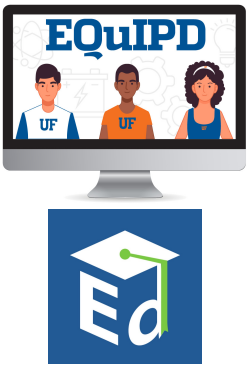
Each student had a different favorite part of working on this project. "Putting the mini-lab together was my favorite part," reported Katherine. "I liked using the science tools, like the syringe" added Brianda. Moses stated that his favorite part was getting to work together as a team.

SSEP is a remarkable U.S. national Science, Technology, Engineering, and Mathematics (STEM) education initiative that gives students across a participating community the ability to design and propose real microgravity experiments to fly in low Earth orbit aboard the International Space Station. The cost to send this experiment to space is approximately $25,000 and is being funded by the Department of Defense, Florida Space Consortium, Suncoast FCU, and TBSN.

Herbert Wertheim College of Engineering
UNIVERSITY of FLORIDA

EQuIPD Professional Development Opportunities for Florida Schools

Engaged Quality Instruction *through* Professional Development

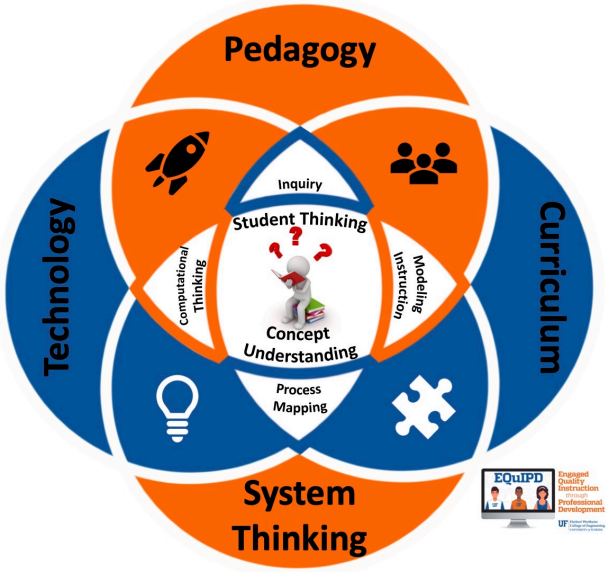


The EQuIPD Grant is a 2018 Department of Education SEED grantee for teacher professional development. Our team is focused on training teachers for increased instructional effectiveness through pedagogical training in inquiry, systems and computational thinking, use of technology to collect, analyze and visualize data to support core models, and use of design thinking and engineering design. EQuIPD also focuses on increased visibility of workforce skills and real-world examples within the classroom. These focus areas align to support student understanding through conceptual model development.

EQuIPD Core Model

The core model for the EQuIPD grant focuses on the intersections of 4 focus areas.

Pedagogy meets **Curriculum** to create authentic inquiry-based lessons, modeling instruction, and student collaboration. **Curriculum** connects with **System Thinking** to construct core conceptual models indicated by Florida Standards and develop storylines to strategically scaffold learning. **System Thinking** and **Technology** intersect to incorporate real-world workforce applications and strategies to assess student understanding. Finally, **Technology** and **Pedagogy** cross to support content understanding using digital sensors and probes to achieve real-time data collection and analysis.



Professional Development Options

EQuIPD can provide professional development opportunities for your school district. Our PD sessions are designed to collaboratively develop strategies across content areas and grade bands.

Professional Learning Community

Types of PLCs
- Problem of Practice
- Lesson Planning
- Data Driven
- PD Driven

- Flexible Scheduling & Recurrence
- EQuIPD Grant Strategies
- Coaching Cycle
- Virtual or In-Person
- Technology & Pedagogy
- Provide Frameworks & Tools
- Strategy Implementation Support

Professional Development Sessions

Types of PDs
- Short Term
- Long Term
- Credentials
- Certifications

Contact EQuIPD@mse.ufl.edu if you would like to schedule a meeting or professional development.
To learn more about the EQuIPD Grant, check out our website – equipd.mse.ufl.edu