Growing in SC: The Future of STEAM is Here

Final Report

Due Date: June 1, 2019

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School/Organization: Alma Elementary School, CCSD

Grant Title: "A Coding We Will Go with Dash and Dot"

Please answer each question below in 3 pages or less (not including photos), and send the report via email (STEAMGrant@s2temsc.org) or survey link to:

1. In what ways did focusing on learner collaboration through a project/unit with a practical, real-world application to STEAM influence your practice as an educator?

I was intentional in my approach and tried to connect any new learning to the technology, whenever possible. I am a better educator, as a result of this adventure. I set aside my own reservations and fears… and allowed students to 'teach' me. They are much better with electronics than I, and that is perfect!

2. What were the specific deliverables your learners produced? How were your learners able to achieve those deliverables by collaborating with peers?

Specific deliverables:

- photo journal – a photo diary of the journey from beginning to end
- video – an informational video created for the school website
- student journals – individual work to make real – world connections
- student drawings – predictions and outcomes
- Student – generated videos and created games

The instructional process was presented in a scaffold fashion, with sensitivity given to differentiated lessons for student needs. Lessons were clear, with a main goal and objective; lessons were repeated, until mastery occurred, because the technology required understanding. Students worked with a partner for some activities. Other activities were completed in small groups. All groups were supervised by adult leaders.

Students from grades 2nd – 5th worked with the 4K children on a regular basis, as part of a buddy support system, which also allowed older, elementary students the opportunity to use skills from the SC Graduate Profile.

The children collaborated to solve problems and find solutions, in order to achieve a desired result. Since the population is a TITLE I school with a CERDEP 4-K class, this was amazing to observe!

The first interaction with DASH and DOT did not look like the last 'play time' with the robots.

3. What were your successes and challenges as you and your learners completed the project/unit? What data supports learner outcomes that were met? What might you do again? What might you change for next time?

Successes:

- Student excitement to learn
- Writing about predictions and outcomes (sometimes failures) became a natural process – students realized it was not a one and done activity; you had to keep trying

- When given a choice, students requested to visit the Writing Center – 'writing and journaling' are favorite activities
- Confidence
- Independent learning
- Students genuinely enjoyed learning with DASH AND DOT
- Students from all grades improved communication skills, by working together in groups to learn something new
- Parents participated in DASH AND DOT activities

Evidence:

- Star test results – the majority of the 4K students soared in math and reading; AES STAR scores are some of the highest in the district
- GOLD Teaching Strategies assessments moved from Below – to – Meets or Mastery of skills
- Numeracy skills
- Social and emotional skills development
- Inference skills improved
- Inference and prediction abilities also improved in reading
- Students attempt to find solutions by trying different ways to solve a problem
- Students produced journals and wanted to complete their journals instead of working in "centers."

Challenges:

- Bluetooth was an issue
- Internet problematic
- Limited number of iPads and robots – only 10 iPads and 6 robots
- learned to partner in 3's or more and work together in teams; therefore, lots of waiting
- Developmental variations in the classroom was hard to work around – example… the learning cards were not used
- Scheduling for teachers and student 'buddies'

Do again:

- Start with a simpler introduction – Use the coding caterpillar, which they purchased at the end of this school year with the last of the grant funds
- Teacher modeling of the complete procedure from beginning to end – demonstrate multiple times during the 1st month of school, prior to the first use of the robots
- Create a series of short video 'mini-lesson' How – To… use prior to each lesson
- Do a better job of inviting parents to participate more often
- Add a 'CODING' segment to the newsletter
- Look for more funding opportunities for robotics and coding, so the entire school can benefit
- Add a Robotics event to the school calendar

4. How were your "lessons learned" shared with colleagues? What feedback did you receive from your colleagues based on your lessons learned from the project/unit?

Lesson learned:

- A demonstration was given to the faculty at the beginning of the year.
- A PowerPoint presentation was used to introduce CODING and the robots to other teachers.
- A formal presentation of the Coding PPT was given at Winthrop University to colleagues – feedback received from educators and professors was positive

- Feedback from Winthrop: Share this video and PowerPoint! They took standards and applied and developed lesson plans. Fantastic approach! This should be shared on the district website.
- Teachers in 2nd grade were thankful for the tutorial, because they were not comfortable with the new technology and appreciated the introduction (it was simple and not overwhelming).
- The video was shared with DO officials – positive feedback

5. What would some of your learners say about how collaborating with peers on a real-life project/unit impacted their learning? (Include specific quotes written or told by learners.)

Peers commented that it was a much more fun and natural process than imagined.

If not given the opportunity to work with others and work collaboratively in “teams” the 4-K students would be disappointed and ask, “Can we work with a partner?

On Tuesdays and Thursdays, students would say, “Today is DASH AND DOT day!”

“Is it time for robots?”

Winthrop: “Share this!”

Older students, “Can I help you in your class, too?”

Older students, “I did all my school work and had good behavior, so I could come to help with robots.”

6. Attach photos and/or videos from your project/unit (from beginning to end) that we may use for the final report, as well as share with others. Include a description of each photo/video. (You may include a video link for YouTube if necessary.)

See Google links below for:

- Photos (more available, if needed)
- PPT teaching tool for educators
- Video – informational

https://drive.google.com/file/d/1hmByVKW2sEPeWuBTe4b7itHqzQ_pplry/view?usp=sharing

https://docs.google.com/document/d/1n0hs3Tgil8I1zb_6XLdDYm1-sZU3Dfl6oFMvn2ttjiM/edit?usp=sharing

https://drive.google.com/file/d/13MFygqHlStG2VbXns9aWXY63ZH6bfRhz/view?usp=sharing

7. Provide a detailed expense report including receipts for all funds spent. Any unused funds must be returned to SCCMS.