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School: North Springs Elementary, Richland County School District No. 2

Grant Title: Full STEAM Ahead: Sound Engineering in the Music Classroom

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?

The implementation of this project influenced my teaching practices in numerous ways. In the introductory phases of this project, I examined and eventually restructured the overall environment/organizational systems present in the classroom. I realized that more of my instruction was teacher-focused than I originally thought. I needed to shift the balance of the classroom to allow for student collaboration and a more flexible learning environment. In this process, I discovered that many of the students struggled with how to implement 21st century skills, such as collaboration, teamwork, and problem solving. As I continue this project, I will implement more initial lesson plans focused on exploring and practicing these concepts before adding the layer of the technology present in this unit.

Another way in which I grew as an educator was through my knowledge of curriculum beyond the music classroom. Prior to this unit, I had a deep understanding of the music standards but a somewhat surface understanding of the standards, units, and curriculum used by the homeroom teachers at my school. Now there is a dialogue between myself and the homeroom teachers, particularly STEM and science specialists at North Springs. I hope to use collaborative planning time over the summer to connect with these educators and develop a more fully integrated STEAM curriculum.

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

The students created many deliverables throughout the course of this project. Products included musical remixes and short videos explaining how they arranged/remixed music using the Serato DJ boards. Through these deliverables, the students displayed a deep understanding of music concepts such as time, form, and timbre. Additionally, they demonstrated an understanding of the software and hardware by explaining how they used the boards to create their products. Since not every student was able to be recorded, all students completed a written reflection about the project where they described what they learned about music, technology, collaboration, and teamwork.

Some of the classes in the project not only collaborated with each other, but also with music professionals. In Spring 2019, the students were able to Skype with and share their mixes with professional DJs and music producers from the non-profit group, the AM Project. The students then received feedback on their creations and specific suggestions on how to develop/improve

their work. Many students mentioned that they enjoyed collaborating with not only their peers, but real-world professionals. One student stated, "It [Skyping the DJs] was different...they had good feedback/answers and they were real professionals."

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 the next time?

This unit was a success because I was able to witness the growth and confidence in my students, especially in regards to their ability to collaborate. I believe this project required the students to interact with music and their peers unlike previous musical experiences. Videos, audio recordings, and pictures documented the successes of the students and the learning outcomes they achieved. On these videos the students shared individual songs, playlists (also known as crates) and the students explained how they created the mixes, making musical decisions. To assess the students takeaways from the project, I used qualitative data and anecdotal observations. I spoke with the students frequently, had informal exit tickets, and many group discussions.

Despite the fact this project was an overall success, I did encounter challenges. At times, I struggled with classroom management, struggling myself with how to facilitate such a wide variety of learning styles. I felt challenged as I worked to understand the students' needs and how facilitate compromise, collaboration, and teamwork. With the large quantity of students involved in the project (twelve classes or over two-hundred students) meeting the needs of the large diverse number of learners was the biggest challenge.

As I refine and implement this project in year two, I would like to focus more on the structures of collaboration first, before starting with the technology present in the project. I want to make sure that all students involved in the project have a deep understanding of how to express their needs, come to solutions with peers, and listen/receive feedback. Additionally, I would like to reverse engineer the curriculum more extensively with the homeroom and science teachers. I discovered in this unit that the Sources of Energy (sound, light, etc), standards are not explored until the fourth quarter of the school year. I would like to discuss better alignment of the curriculum with the teachers to ensure we are connected across the scope of the whole school year.

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?

Throughout the course of this project, I extensively shared my "lessons learned" with my peers on a site level. That sharing/collaboration led a culminating project on the school's STEM Field Day (March 2019). This project integrated STEAM with multi-age groups, ranging from Kindergarten through Fifth Grade. Based on their growing knowledge of STEAM, the Related Arts Team (Music, Art, PE, Library, and Design Center) took the lead and co-facilitated this

large-scale project. After STEM Field Day, my colleagues said that they enjoyed learning about STEAM and hope to fully integrate it even more in the future.

Additionally, I shared my “lessons learned” on a district level, connecting with teachers throughout Richland 2. I began an initiative through the district’s R2 Innovates program. With district support, I assembled a small team of music teachers that worked to integrate STEAM in their classroom this year. As I continue that collaboration in the 2019-2020 school year, I look to expand the STEAM focused team to include other specialists in many different disciplines.

Finally, in May 2019, I presented at the Mountain Lake Colloquium for Teachers of General Music Methods in Pembroke, Virginia. At the Colloquium, I connected with K-12 and university level educators. Through my presentation and in discussions at the colloquium, I received feedback on how to improve and expand the project through the next year. Based on the feedback from several sources, I look forward to spending my summer digging deep into STEAM curriculum, examining how I can better incorporate STEAM concepts more seamlessly into this project. Also, I want to examine other’s perspectives on building an effective learning environment for collaboration and assisting students in developing problem solving skills.

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)

Throughout this project, I felt a high level engagement from the students who were involved. Generally, the students cited that this unit was more interactive and engaging than other lessons they participated in before. The students liked that they were able to collaborate and use technology that was hands on and engaging. These are direct quotes taken from students’ specific final reflections:

“I learned how to cooperate with others. I also learned how to incorporate everyone’s ideas”

“That if you work together you can create things that other people might not be able to...that collaboration helps us focus on a the main idea. I love that collaboration helped me learn to be patient with other people.”

“This project went more in-depth and was more interesting than things I’ve done before.”

“I learned that music can help bring people together.”

“I learned that I love music and I want to pursue it as a career. This project was very different from other classes because we learned from other people in the real world.”

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

I have shared a GoogleDrive folder with photos of this project. Due to district photo sharing policies, the images I can release are of the equipment purchased and used in the classroom and not of the students. The students used Serato DJ Boards and Serato Software to make this unit a reality. More photos of this project can be found on Twitter via @NSECricketts and @NSEMusicDept.

Provide a detailed expense report including receipts for all funds spent.

Item Description	Quantity	Price	Total
Pioneer DDJ-SB3 Serato DJ Controller	8	249.00	1,992.00
The AM Project Mentorship-Spring 2019		500.00	500.00
			2,492.00