

Arts Integration Paper

STEAM and Digital Storytelling

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The Arts in STEM

In a world where students are accustomed to interacting with social media on a regular basis, digital storytelling is a great way to channel students interests for an educational purpose. Digital storytelling is a great tool for teachers to incorporate technology into STEM and language arts. Digital storytelling can be approached in many ways. There are a large variety of apps and programs that are user friendly that allow students to share their story through comic strips, animation, photography, and creative writing. Digital storytelling makes writing more dynamic by incorporating photographs or images, as well as audio recordings or music creating a dynamic media arts presentation. Digital storytelling can incorporate a variety of art forms using technology.

I have experimented a little bit with digital storytelling using Scratch Junior, and my students were very engaged when working on their projects. One Scratch project was designed to ask students to create an animated game using facts from a planet they had researched. Another project we did was part of a geography unit, where students created an animated presentation that shared facts about a continent that they had researched. I have also had students create end of book animations using Scratch where they would recreate a favorite scene from a story or add a new scene using Scratch animation. All of these projects proved to be an engaging way to incorporate media arts.

After seeing how successful these projects were I began thinking about how I could find new platforms and programs to incorporate media arts in new ways across the curriculum. I would like to experiment with other forms of digital storytelling that include other forms of media art. Getting students to write can be very challenging. By introducing writing through digital

storytelling we can remove many of the barriers that students experience with writing and engage them in a fun and interactive experiential learning activity that teaches computational thinking skills at the same time.

Many of my STEAM classes utilize the Engineering Design process. After students have completed their design projects they are then asked to present their final products to their classmates and share what they learned from the process, and what they changed or improved. This sharing of design products is a great way to get students to reflect on what they learned; However, I find it is hard to create a structure for these presentations that keeps students engaged. In the past I've created a variation on the show "Shark Tank," where students were asked to create a short commercial about their product explaining its function. I've also asked students to create a brief Google Slides presentation. While these formats worked they are not as dynamic as digital storytelling. I would like to try to incorporate digital storytelling as a means for students to share their final products in a creative and engaging format.

One of my favorite lessons that uses the engineering design process involves designing submarines. I begin the lesson by reading, "Papa's Mechanical Fish," by Candace Fleming. The story illustrates how inventors often need to keep testing and improving their inventions before they reach their goal. We then explore materials that have buoyancy and learn the basic principles used to operate submarines. Students are then presented with an engineering design challenge to build a submarine that can sink and float. Like the inventor in the book, this challenge requires a lot of trial and error. At the end of the challenge each group is asked to demonstrate their submarine model and share what they changed or improved. I often find it challenging to get students to stop and take notes as they work, but perhaps if they could take pictures as well, they would be able to use the combination of notes and photos to create a digital story of their project.

According to Anna Warfield, “Digital storytelling – in all its myriad forms – forges opportunities for both student initiative and student agency. With digital storytelling, students can create amazing projects with a greater range of creativity without being a stellar artist or wordsmith; they can tell stories or impart information in their own way and on their terms. All students need a vehicle for self-expression, to show what they have learned, to see new-found knowledge and skills in a practical light, to take risks, and to take learning into their own hands (Warfield, 2016).”

Through digital storytelling students will be integrating more language arts into their engineering design projects. Digital storytelling provides students with a creative way to express what they learn through media arts. This format of incorporating media arts will not only enhance the STEM presentations, but can help remove barriers for students who struggle with language arts, and will help facilitate more opportunities for writing across curricular content. Learning to make effective presentations and communicate your ideas using digital media is an important twenty first century skill that benefits all students. Digital storytelling is a dynamic way to allow students to share what they know using a platform that enables creative expression.

## References

Warfield, A. (2016, Jan. 17). 6 Reasons you should be doing digital storytelling with your students. *Getting Smart*. retrieved from, <https://www.gettingsmart.com/2016/01/6-reasons-you-should-be-doing-digital-storytelling-with-our-students/>

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