

Spotlighting promising practices from the 2019 Making Schools Work Conference

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Shaking Things Up With Coding in Core Classes

By Jahana Martin, SREB

“Everybody in this country should learn to program a computer because it teaches you how to think.” – Steve Jobs

Coding is the act of writing a set of instructions that a computer understands so it will perform a task. Learning to code can help improve soft skills, also known as 21st-century skills or employability skills, that lead to success in the classroom or the workforce. Among other skills, coding builds students' capacity to analyze data, design creative solutions to problems and collaborate in teams.

English teacher Katie Jenkinson observed how students learned coding with Alice 2, an easy-to-use programming environment that allows students to create animations, build interactive narratives or program simple games in 3D using a drag-and-drop interface. A program coordinator at her former school taught Jenkinson's class a mini-lesson, then students spent a week in the computer lab using Alice. Jenkinson's students loved the experience so she began thinking of ways she could use coding to support learning standards in her classroom.

The Assignment

Now based at **Gold Hill Middle School** in **Fort Mill, South Carolina**, Jenkinson used the ancient Greek epic poem, *The Odyssey*, in her curriculum and knew she wanted to give an assignment that “assessed knowledge of character, theme, setting and perspective,” she says.



An animation of *The Odyssey* created by students at Gold Hill Middle School.

Jenkinson challenged herself to find a nontraditional and creative way to make her summative assessment about the poem more engaging. She replaced the conventional essay with a coding project using Alice 3, which is free. Jenkinson aligned the coding project with English language arts standards.

Students were asked to create an animation that accurately represents the setting, plot/conflict, characters and central theme of a specific part of *The Odyssey*. Jenkinson began by building a rubric that connected the technology to learning goals. The rubric's indicators of success included accuracy of information, focus/interpretation, the use of the medium, the quality of both the animation and the written response, and grammar. Each indicator represents different ELA standards.



Katie Jenkinson of Gold Hill Middle School attended the 2019 Making Schools Work Conference.

The students' task comprised animation and written components. In the animation segment, students were required to illustrate the story's central conflict, important characters, primary setting and dialogue. For the writing component, they had to write a statement of intent that outlined their rationale for the animation they designed, explained the central theme of the poem and described the heroic qualities displayed by Odysseus, the poem's protagonist.

"We do the animations, but they also have to tie everything together with what we did in class," Jenkinson explains. "Within their story, they have to decide: Was Odysseus a hero? What qualities of a hero does he show? What do you think is the central theme or message in this story? They had to become experts in their story – and not just how do we show this to an audience, but also what do we want to show our audience about Odysseus as a man?"

Animating The Odyssey

Jenkinson divided students into groups and each group selected a different story within the epic to create their animation. There were eight available stories to choose from, such as the voyage from Troy or what happened on the island of the lotus-eaters. Once each group completed their animations, they pieced their animations together to make a final movie.

In addition to helping students demonstrate their knowledge in a content area, using Alice 3 pushes students to own their learning. Jenkinson advises her class to look at tutorials, search the Alice website and find other resources. "Students can and will problem-solve. [They] will make mistakes, and they will recover," she says.

One of Jenkinson's students says: "I think it's great because we can teach kids how to program through language arts. These are skills they're going to be using throughout their lives. So it'll help them in the future; it'll help them with their everyday lives because technology is the future."

Especially gratifying is when a student takes the lead. "One of my students taught me how to use iMovie because I'd never used it before," Jenkinson shares. The student subsequently wrote up the procedure for using iMovie for the class.

"I don't know how she got the idea, but it made it more interactive and interesting to learn more things like programming and get more in-depth with *The Odyssey* and understand it more through the project," another student remarks.

Collaboration Across the Board

"Collaborating among teachers is just as important as students collaborating with each other," states Jenkinson. Frank DiMaria, a computer teacher at Gold Hill, helped Jenkinson's students with the more technical aspects of Alice, and Megan Mongelli, a district technology integration specialist, helped the groups combine their scenes to create the class movie. An administrator even provided the voice of Odysseus for a student group.

Jenkinson continues, "Each group was able to work through difficulties and solve problems on their own—whether they were figuring out technology or how to divide work equitably or deal with lost time due to weather and field trips. They learned things that I would not be able to provide in a more traditional setting."

"It was really fun. I learned a lot about teamwork and a lot about coding," another student says.

Contact(s): Katie Jenkinson, jenkinsonm@fortmillschools.org



Students work together to create animations using Alice 3.



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