

PROJECT: AUGMENTED REALITY INTERACTIVE MEMORY BOOK

Reading teacher Ashley Judd uses augmented reality to get her students excited about learning at Tyner Elementary in Jackson County, Kentucky. Using augmented reality appealed to her because it is easily accessible, requiring only a tablet and a free app. In this project she gives her students a personal narrative prompt. Working in pairs, students record videos of their responses to the prompt, along with a “trigger image”—a photo of each student. Then students can use the app to point at the trigger image and bring up that student’s video.

Judd, a PBS Digital Innovator, says that students who might otherwise struggle in reading often get excited when they have the chance to learn through technology. She believes that the experience helps students build confidence and skill in technology and reading that will serve them throughout school and life.

Background

See Judd and her students working on the augmented reality project by watching the *Augmented Reality* video (https://ket.pbselearningmedia.org/resource/media_arts_classroom5/augmented-reality/).

Getting Started

Ask your students if they have ever played games such as *Pokémon Go* or *Harry Potter: Wizards Unite*. If so they have experienced augmented reality technology, in which digital elements interact with real-world environments through the camera of phones and portable devices. Ask them what the experience was like. Did they enjoy it? What other games or activities can they think of that use this kind of technology?

Memory Book Creation

In this project students will use phones or tablets and an augmented reality app. Judd used HP Reveal (<https://www.hpreveal.com>). The trigger image is a photo of the student, and the overlay is a video of the student sharing a memory.

You can allow students to choose a memory or give them a directed prompt, such as “What is your favor-



ite memory of summer vacation?” or “What is your memory of a time when you felt proud?” Have students work in pairs to take each other’s photos and record each other’s memories. When students aim the device with the HP Reveal app at the trigger image, the video will appear on the screen next to it.

Completion and Follow-up

Discuss: What did students enjoy about this project? What would they do differently if they did it again? What other kinds of memories would be interesting to record? Did they enjoy watching the videos of other students’ memories? How is this experience different from reading a written account? Can students think of anyone in history or literature or an ancestor who they wish had been able to create an interactive memory book?

Kentucky Arts Standards

Anchor Standard 1: Generate and conceptualize artistic ideas and work.

Anchor Standard 2: Organize and develop artistic ideas and work.

Anchor Standard 3: Refine and complete artistic work.

Anchor Standard 6: Convey meaning through the presentation of artistic work.

Other Augmented Reality Project Ideas

- Have students create augmented reality informational posters. First, have them create a poster on a topic they have been studying, using original or found images. The poster will serve as the trigger image. Then have them create a more detailed presentation video that will be overlaid on the trigger image. The trigger image might be a poster about a science topic, a historical event, or a work of art. Display the posters in the classroom and let students use the app and phones/tablets to experience the augmented reality presentations.
- Have an AR book fair. Have students choose books they like (or characters from a book the class has read). Draw or obtain an image of the book or character as the trigger and have students record book reports or passages from the book.

PROJECT: CREATING COMICS

Jason Sturgill, the media arts teacher at Frederick Douglass High School in Lexington, Kentucky, started a comics club at the school. Students worked in teams to conceptualize, plan, write, draw, and publish comics. In addition to giving them experience with the process of creating and publishing artistic work, the experience taught them the value of job roles and teamwork.

Whether pursued as an afterschool project—as in this video—or in the classroom, reading and creating comic strips and comic books can be engaging ways to promote literacy at any grade level and across content areas. The students in the video had access to drawing tablets and Adobe Photoshop, so they were able to achieve sophisticated results. Even without such software, however, you can still integrate digital comics into a wide range of teaching situations.

Background

Watch the *Creating Comics* video (https://ket.pbslearningmedia.org/resource/media_arts_classroom11/creating-comics/). In the video, Sturgill explains the process he used in working with the students in the school's comics club. Students explain the various roles in creating comics and how they worked together in teams. You can use this video for your own background learning or, if appropriate, show it to your students when you begin your own project.

Getting Started

Here's Sturgill's advice if you want to make comics (or sequential art) with your students:

"First, you need to know something about comics, manga, anime, newspaper comic strips, storyboarding, or sequential art. Get online, go to a comic store, library, or used bookstores and pick up some different types of work and do the research. You do not have to be a lifelong comic enthusiast to make great sequential storytelling. Be open to the students knowing more than you about the subjects, the process, and the techniques to create a visual story. Learn from them and do your own research into the subject matter.

"Second, seek out and find the students who are interested in writing, illustrating, and coloring. If you have just these three positions, you can do amazing things. Then keep recruiting.



"Third, promote your club, project, magazine, etc. Get people interested! If it is a classroom project, seek out ways to get the final product published. PowerPoint is a good place to start, though there are now countless other places to showcase multiple-page products.

"Fourth, set up a meeting time and start laying the groundwork for the story. Everyone's voice matters, so during the initial stages everyone has input. Decide or audition the roles of the group (see below). Set goals and deadlines. Then start creating. We use the three 'P' method to create: Planning, Production, Publication."

Comic Project Creation

- Start small and remember to have fun.
- Keep it simple: Students are learning about the processes, techniques, and, more importantly, their style. Challenge them to create but also to finish!
- Do the initial research: Whether that is you or the students, the more prep work you do, the easier it becomes as you set concrete deadlines and create.
- Collaborate with others in your school, community, or online. You are only one person and there are always others who are willing to help within your school or school community. You do not have to go it alone nor do you have to be the authority on all areas. If you want your students to collaborate, then you as their facilitator should set an example.

- Hold weekly comic staff meetings: In every meeting we discuss the value of the project and process. We establish what are the essential duties of the group and give each goal a priority. Initially, all students are valued for input, groundwork, research, and character and setting development. As the process moves forward, the value per session changes according to what job needs the most support to help us achieve our goals. If we need script, then the focus shifts to the writers; if we need pages, the focus shifts to the artists. As the value shifts so do the supporting roles. A writer may spend two sessions writing an issue, then two sessions helping support page creation through lettering or organizing a page.

- Keep a group portfolio or project “bible.” Google Docs is a great way to streamline, share, and organize a multiple-task process like comic creation. Our document is set up with multiple folders so that all student creators have access to the work. We include goals, timelines, to-do lists, chats, and in-progress and finished pieces, as well as the final products.

- Set both realistic and unrealistic goals. Goals are important in this process. The comic industry produces an issue a month. Everyone knows this. When they do not, the fan base becomes concerned. Having goals and deadlines helps students work within the time frames given, but also helps them learn to use the resources of the team to get the issue done.

- Allow students to be creative, and make sure they know that their ideas are welcome.

- Be consistent with the story, structure, art, techniques, and instruction.

- Advise students on the path but do not be a dictator. Their interest and enthusiasm will drive the completion of the story.

- Not everything that is written needs to be in the final version. Look for student editors who can make the hard decisions, help guide the story, and streamline the story with great pacing, transitions, a cliffhanger, and culminating events. They will have to make tough choices and will have to deal with the success and failure of those decisions.

- Keep in mind that the artwork will take much longer to complete than the written story. Start the story first: revise, question, edit, plot, and plan where the story is

going. Ask and question every nuance you can of the script, plot, dialogue, setting, etc. Once the artwork process starts, making changes to the story could cost you weeks’ worth of time. Train writers to help with smaller tasks, lettering, special effects, etc.

Things to Keep in Mind

- Writing for a comic is more like writing a play than a novel. Allow the writer and illustrator to have freedom during the creation. Too much control or too much freedom can cause frustration during the process. Pair up your creators and allow them to create their own compromises so the product can grow.

- The visual format is essential to the creation of the story. Both writer and illustrator need to collaborate on the pace and impact of each sequential page. If the story moves too fast the viewer feels cheated. If it’s too slow they get bored. A sequential story should be like a good piece of classical music—loud, soft, fast, slow—but more importantly, it should transport you away from your daily life.

- Character sheets and environment specs (specifications) are both essential items for consistent creation of these new worlds. Without them, the world and characters are constantly in flux.

- Remind students that they must know the environment of the story. Students are building a world, and if they do not know the world, how will the audience know it?

- Have students spend time developing and knowing the history of the world they are creating. This facet of comic creation is constantly overlooked and there can be tragic messes to the story if the creators are not solid on the history of the people, places, and things of that world.

- Encourage great dialogue. Students should know the characters and write from their point of view. If every character sounds the same, reader interest will fade.

- Emphasize the importance of transitions, points of view, various perspectives, formats, mood, weather, settings, and color schemes. These are all vital to the success of the story. These items are areas of growth for all levels of artisans.

Jobs (Roles) Within the Comic Project

Writers: Create the stories, including developing the personalities and backgrounds of the characters and the storyline/sequence of events. They also write the dialogue.

Editors: Make sure all aspects of the comic book creation are on track and that the team is working well together.

Pencillers/artists: Interpret the characters and storyline visually. They lay out the panels and the artwork in pencil or digitally.

Inkers: Finish the artwork in ink or go over the lines digitally, adding dimension to the lines and texture within the frames.

Colorists: Add color to the panels. They refer to a color palette for consistency. The colorists may create the color palette or that may be done by the artists or editors.

Letterers: Print the text in the captions and thought/speech balloons.

Depending upon the size of your teams and scope of your project, teams may also include visual editors, cover artists, publishers, and advertising managers.

Sturgill's Materials and Other Requirements

- Imagination
- Collaboration
- Pencils: graphite pencils and various colored pencils (blue, red, green)
- Paper
- Black ink
- Markers
- Watercolors
- Cameras
- Rulers
- Erasers
- Light box or tracing box (window)
- Computer
- Software: Microsoft Publisher, Microsoft PowerPoint, Adobe Acrobat, Adobe Photoshop, Adobe Illustrator, Adobe After Effects, Corel Painter, Clip Studio Paint Pro

- Sketchbook or idea journals
- Reference images or drawing mannequins

Resources Suggested by Sturgill

- Take advantage of local libraries, comic shops, and thrift stores. They all have a wide variety of comics for all ages.
- Use online comic resources. Most have several free issues to download and can be used to help students understand visual storytelling. ComiXology (<https://www.comixology.com/new-to-comixology>) offers an extensive collection of digital comics.
- Good books include *How to Draw Comics the Marvel Way* by Stan Lee and John Buscema; *Framed Ink: Drawing and Composition for Visual Storytellers* by Marcos Mateu-Mestre; *The DC Comics Guide to Creating Comics* by Carl Potts and Jim Lee; *Drawing Words and Writing Pictures* by Jessica Abel and Matt Madden; *Mastering Comics* by Jessica Abel and Matt Madden; any book by Andrew Loomis; and any of the Joe Kubert "School" series.

Ten Ideas for Using Sequential Art in Your Classroom

This is not intended as a definitive list, Sturgill notes, but as ideas to help you springboard into sequential art.

- On the first day of a school year, you can have students create single-page sequential art to help illustrate the rules, roles, expectations, and procedures of your classroom, hallway, school, etc. Research airplane procedures, DIY instruction manuals, etc.
- Have students create history project comics showing a particular time period through the eyes of a non-descript young person as they move about during that time period. A lot of research will ensue.
- A once-in-a-lifetime journey through the various systems within the human body.
- A fantasy adventure to a new world where the food chain has been altered.
- An adaptation of a scene from a student's favorite novel or short story.

- Conflict resolution.
- A service project in which students take young adult literature and set it in sequential storytelling to help struggling young readers get more invested in the stories they are reading.
- Exploits of daily life.
- Use comic creation to help teach or understand complex mathematical equations, formulas, or processes by telling the story of a group of young people as they try to teach our mathematics systems to an alien.
- A yearlong documentary comic project about the events, relationships, and struggles within the school.

PROJECT: CREATING A SOUNDSCAPE

A landscape shows what a place looks like and a soundscape is what a place sounds like. In other words, sounds create a sound “picture” of a place, an auditory representation of a place. This project was created mainly with younger students in mind but can be adapted for beginning media arts students at older grade levels.

Getting Started

Introduce soundscape as a component of media arts production.

For younger students: Invite students to sit quietly, close their eyes, and listen for the sounds that come from outside the classroom. Invite them to cup their hand around one of their ears to amplify the sound. Next invite them to focus on the sounds inside the room. Finally, ask them to focus on the sounds that come from their bodies. Discuss the sounds they hear and chart a list of the sounds.

Take students on a listening walk outside and listen for sounds. When they are back in the classroom, as a class generate a list of the sounds they heard. Invite students to choose a sound they will make with their voice and invite the others to guess what sound it is. The book *The Listening Walk* by Paul Showers is a nice introduction to this activity.

For older students: Play the audio of a film clip and invite the students to listen closely. Discuss what feelings and actions are communicated through the audio. What are the sound clues for this? High-pitched, low-pitched? Short, long? Then show students the clip with both the audio and video and discuss which emotions the sounds represented. (Note: A clip from the film *Wall-E* works well for this.)

Help students discover the connections between landscapes and soundscapes. Tell them that a landscape shows what a place looks like and a soundscape captures all the different sounds that make up what a place *sounds* like. In other words, soundscapes create sound pictures of a place at a certain moment in time. You can use the Soundscape Constructor interactive



at the Exploratorium website to illustrate how many sounds are layered together to create a soundscape and to allow students to explore and manipulate the layering (https://www.exploratorium.edu/listen/activities/soundscapes/deploy/activity_soundscapes.php).

Creating a “Symphony of the School”

Have students go on an exploratory sound walk around the building to listen to the sounds of their school. Create a list of the kinds of sounds they hear and discuss which sounds are the most interesting and why.

Brainstorm the kinds of soundscapes they might create about their school. They could be space-focused (e.g., a certain room or hall throughout the day), activity-focused (e.g., afterschool sports practices or the cafeteria at lunchtime), or group-focused (e.g., the sounds of the class during the course of a day).

As needed, introduce students to the recording equipment and tools they will use to create a soundscape. This might include iPad, iPhone, or Chromebook. Allow them to practice using the recording equipment. Encourage them to experiment with volume, space between sounds, and sound duration. For example, if they are recording students talking, do they want to start with them whispering, then getting louder, or do they want to go from loud to soft? If they are recording students running or exercising, do they want the sound starting close and moving away or the opposite? Discuss how

varying these elements might affect the sound story they are trying to tell or the impact or interest level of the soundscape.

Form production teams of three to four students. Allow each team to choose a soundscape concept. (For younger students each group might simply produce a general school soundscape.) Allow the group to collaborate to plan what is needed (e.g., final list of sounds, schedule for recording, person to operate the recording equipment, another person to oversee and manage the project and recording, etc.) and how the responsibilities will be divided. With younger students you can choose to assign the various roles.

Tell the students that all the group soundscapes will be combined to create a “Symphony of the School.” (Different sound stories can be thought of as different movements in the symphony.)

Have the groups create “sound lists” of what they want to record in what order and make their recordings. If possible allow them time to listen to their recordings and decide if they want to make changes and re-record or do several takes.

After the recordings are completed, each team should choose the take they want to use. As a class, listen to all the recordings. Have students reflect on the experience, offer praise to other teams, and ask any questions of the teams about the choices they made in recording.

Discuss how the individual stories might be combined. In what order should they be played? Should any be merged or played simultaneously?

The symphony will be “played” by having each group use its recording device as an instrument, playing the sounds directly from their recording devices. As an extension or for more advanced students, the sections might be combined into one recorded work.

An alternate approach would be to have various students serve as a conductor, choosing the order in which to play the various group recordings—and pointing to that group when it is time for its section to be played. You can model this. Discuss the various orders and which ones work best.

Additional Soundscape Activities

- Show students an art image of a landscape and invite them to imagine the sounds they would hear if they could enter the painting. Use the color, shapes, and objects in the painting to help determine the mood the artist has created. What sounds do they hear when they “listen” to the picture? Invite students to record a soundscape for the painting.
- Have students take their own or a classmate’s painting and create a soundscape for it. This can be used in a media production that combines music, sound, and pictures.
- Use a landscape for a background in a simple animation allowing students to introduce sound and action into the picture. This is a good animation starter activity that combines sound, sound effects, and voice.

A Note on Recording Options

There are many ways students can record themselves and their sound projects. Equipment for recording includes a digital audio recorder, a computer with a mic, a Chromebook, an iPad, or smartphone with an audio recording app.

iPads: Camera and iMovie

Steps:

- Locate the microphone on the iPad (the tiny hole near the camera lens).
- Go to the camera and choose the video setting. You will be recording audio and video at the same time.
- Decide on the sounds to be recorded. Record a video of the things making the sounds, such as fingers tapping on the desk, a book dropping on the floor, children whispering, etc. Remember to video a few seconds of silence at the beginning and end of each sound being recorded.
- Import the video into iMovie, where the audio can be detached from the video, edited, and then saved.

Another way to do this is to write the name of each thing being filmed on a sheet of paper (e.g., fingers tapping, book falling, teacher shushing). Film the piece of paper while recording the sounds. This can serve as a reference as more sounds are videotaped and gathered in a sound library.

iPads: GarageBand

The GarageBand app can be used to record audio and create soundtracks and soundscapes.

Chromebook: WeVideo

The WeVideo app can be used to record and edit audio. Steps:

- Open the WeVideo app. Choose “Create new project.”
- Choose the microphone. In WeVideo you can record the audio without the video.
- Record the audio of things making sounds, such as fingers tapping on the desk, a book dropping on the floor, children whispering, etc. Remember to record a few seconds of silence at the beginning and end of each sound being recorded.
- Edit the audio in WeVideo, finish, and export. The audio can be shared in Google Docs and students can collaborate on the finished piece.

NOTES

PROJECT: CREATING A STORYBOOK SOUNDTRACK

Soundtracks combine sound effects, music, and voice to create media artworks. Soundtracks are most often used to accompany movies and videos but can also be used by themselves. This project was designed with younger students in mind but can be adapted for older students.

Background

Review what students know or have already learned about sound and any sound projects they have created. If this is an initial project, discuss the idea of sound. Explore the idea of sound and soundtracks by showing a short clip of a familiar movie. Discuss: What sounds do they hear? (e.g., voices, music, sound effects, etc.) How do these sounds help tell the story?

Then show another familiar movie clip with the sound turned down. Invite students to identify the sounds, sound effects, music, and voices that could accompany the clip. Then play the clip for them. What clues did they use from the movie that helped them determine what the soundtrack sounded like? How does changing the soundtrack alter the movie?

Getting Started

As needed, review how to use recording tools that will be used such as iPhone, iPad, or Chromebook. Give students time to experiment with recording sounds and sound segments around the classroom. Encourage them to experiment with varying sound volume and duration, and the space between sounds.

To teach the different ways students can use their voices in soundtracks, provide them with opportunities to sing or talk in different ways. Encourage them to use loud and soft voices, fast and slow voices, and higher and lower voices. Prompts could include singing a familiar song, such as “Twinkle, Twinkle, Little Star,” or reading a short poem, first like mice in high, squeaky voices, then like bullfrogs in lower, grumbly voices. Have students suggest other ways in which to make the sounds.



Read aloud books that use rhyme, alliteration, silly words or words that mimic sounds (e.g., meow, roar or murmur). After you have read the story once, read the story again and stop to prompt students to explore the sounds they might hear if they could enter the story.

Invite them to practice these sounds and to experiment with different ways to create the sounds of a story, such as the huffing and puffing of the wolf in “The Three Little Pigs” or the roar of Papa Bear in “Goldilocks and the Three Bears.”

Possible books:

- *Can You Growl Like a Bear?* by John Butler
- *Animal Talk: Mexican Animal Sounds in English and Spanish* by Cynthia Weill
- *We’re Roaming in the Rainforest* by Laurie Krebs
- *Rosie’s Walk* by Pat Hutchins

As you stop at selected spots in the story, prompt students with questions. For example, *Rosie’s Walk* tells the story of a hen who goes for a walk unaware that a fox is in pursuit. Her walk takes her through different settings—around the pond, over haystacks, and under beehives, where familiar creatures and sounds can be imagined. The fox has a variety of mishaps that lend themselves to imaginative sound creation. Here are some questions you might ask as you read: What do you think it sounds like when the fox crashes into the beehives? How could we make a crashing sound? What do the buzzing bees sound like?

Emphasize dynamics and pitch as students invent the sounds. Ask: Should this be a loud sound or a soft sound? How would it affect the story if the sound were louder, softer, lower, higher, slower, faster, etc.?

Creating a Storybook Soundtrack

Put students in groups of three to five. Have each group choose a familiar story or storybook or have each group work with a section of the same storybook. Their assignment will be to create a soundtrack for their story or story section. Each group should discuss the mood and action of the story/section and which sounds might best capture these things.

Each group should make a list of the sounds and sound sequence they want to record and then plan how to record these sounds. Will they record sounds from the environment for the soundtrack, create sound effects, or use their voices to make the sounds?

Have each group create a cue card for each of the sounds they have chosen. This can be done with index cards that are displayed in sequence or the sequence of sounds can be charted.

Have each group decide how to divide the various tasks in recording their sound sequences. Who will plan and oversee? Who will operate the recorder? Who will hold the cue cards or manage the sequence? Who will make sounds? What other tasks might be needed?

If possible give students time to listen to their sound sequences and make changes or re-record. When the sequences are completed, have students reflect on the experience (What worked? What would they do differently? What was most challenging?) and share the soundtracks with the class for praise, questions, and feedback.

Older students might play their soundtracks for a class of younger students.

Additional Soundtrack Ideas

- Have students create and record ambient relaxation or focusing soundtracks. (Older students could create one for the naptime for preschool students, for example.)
- Make a soundtrack from the Create Immersive Soundtracks tool at the Defonic website (<http://defonic.com/>).
- Have students close their eyes and listen to the teacher or a classmate as they move around the room. The person moving will do different things and the other students will guess what is going on based on the sounds they hear. Sounds can include a ball bouncing, shuffling papers, throwing something in the wastebasket, etc. Guide a conversation about what kind of story different sounds can tell. Create a storyboard putting the sounds in sequence and deciding what kind of sound design could be created to tell the story.
- Have students work in groups to create short videos, then have them exchange the videos for other groups to create the soundtracks.

PROJECT: CREATING VODCASTS

A vodcast is a digital video available for download on the internet, usually as part of a series. In Michelle Lewis' 5th grade music classroom at Bloom Elementary in Louisville, students created vodcasts to share their music lessons with other students. Lewis initiated the project to give her students a way to help students in schools without music teachers.

Vodcasts can be a wonderful way for students to make a difference in the world—to share what they have learned with other students. How about sharing art, dance, or drama projects and techniques? Or science experiments? Or social studies projects? When students create vodcast lessons for other students, it opens the door to all kinds of interactive and collaborative learning.

Creating vodcasts does not require a fancy studio. Recording can be done directly on an iPad or other device. If the audio on your device is not satisfactory, you might invest in a microphone that plugs into your device. Pay attention to any background noises in the classroom and eliminate as many as you can. You will need a stand to hold your device steady while you videotape. For a more professional look, invest in a classroom kit with a green screen backdrop, chroma key, and a lighting kit. But even if you don't have these "professional" tools, you can still create a great vodcast series.

The essential ingredients are an engaging script and a clear, smooth delivery. Lewis allows her students to select topics from the range of topics and musical styles they have covered in class. The students begin by improvising, but once they have determined what they want to say, they create and rehearse a script. They use a teleprompter app so that they don't have to memorize their lines or read from the script. They rehearse their delivery, getting feedback from peers and teachers as well as watching recordings of themselves, and they are ready to record the final take.

Although the focus is on music and media arts, students get to practice many other skills, from time management to acting, scriptwriting, using technology, and collaborating.



Background

Watch the video *Creating Vodcasts* (https://ket.pbslearningmedia.org/resource/media_arts_classroom9/vodcasts/). In the segment, Lewis explains why she started the project and how it was implemented in her classroom. Students talk about how they created their vodcasts and what they liked about the project.

Getting Started

Decide on what type of vodcast project you want to do. Lewis' lesson plan can be easily adapted to other subject areas. If you don't have the time or expertise to create a series on your own, could you collaborate with other teachers? Each class could produce one vodcast for the series. You could collaborate with other teachers in your building or even partner on a vodcast project with classes in other schools through your digital network. Even if you don't want to tackle an entire vodcast series, engaging students in creating a single video lesson for other students is a great way to reinforce their understanding of content and introduce them to media arts skills. Creating vodcasts is also an excellent way for students to improve reading fluency.

Michelle Lewis' Music Lesson Vodcast (Project-Based Learning)

TOPIC OVERVIEW

The use of the vodcast in the music classroom promotes student understanding and demonstration of music skills. The students are using 21st century skills and technology to communicate what they have learned in

music class by teaching others. In addition, the vodcast serves the purpose of providing music lessons to students who do not have a music teacher.

DRIVING QUESTION

What types of music lessons can you create for students who do not have a music teacher or a music class?

ESSENTIAL QUESTIONS

Why is it important for you to be able to provide online music lessons for students who do not receive a music education? What lessons can you teach if students do not have instruments? Why is it important to be able to create and teach a music lesson to another person? What music lessons do you feel are important to know?

VODCAST MUSIC LESSON PLAN

Goals: Students will learn what a vodcast is and create music lessons to produce on a school music channel via YouTube.

Introduction to Vodcasts

Students will...

- Learn what a vodcast is and isn't.
- Compare and contrast a vodcast and a podcast.

Activities: Watch a vodcast and listen to a podcast. In small groups, students will list attributes that are the same and ones that are different. Each group will share its discoveries while the recorder posts findings on a Venn diagram.

Research the Music Lesson Vodcast

Students will...

- Watch a selection of music lessons on YouTube.
- Choose a music lesson to analyze.
- Analyze the structure of the lesson.
- Record important elements of the lesson.
- Share discoveries and look for common themes between each of the group responses.

Music Lesson Creation

Students will...

- Brainstorm and create a list of music lessons to teach.
- Rank their top three music lessons.
- Choose a music lesson to teach to beginners.
- Write a lesson plan.
- Teach the lesson to their peers for a peer review.
- Revise the lesson upon review from peers and teacher.

Lesson Script Creation

Students will...

- Create a step-by-step lesson script on Google Docs.
- Teach the lesson to their peers using the student-created script.
- Revise the lesson upon review from their peers and teacher.

Practice

Students will...

- Present their lesson in front of the class during the first run-through.
- Present in front of the iPad.
- Present three takes for a practice recording.
- Revise their presentations each time they are presented using provided rubrics.

Presentation

Students will...

- Present/teach their lessons for a final recording on the iPad.
- Record three takes, using the best of the three recordings.

Production

Students will...

- Add introductions and credits to the vodcast.
- Create a vodcast name and hashtags to help promote it on social media.
- Edit lesson videos.
- Add a background to their lessons.
- Upload videos to YouTube.

Audience Participation

- Upon completion of the music lessons, audience members will ask the students questions about their music lessons.
- Students will respond to the questions of the audience.

Lesson Share

- Students will teach a younger class how to create a music lesson for the school's newly created vodcast.

Resource List

- Light Box—FancierStudio 3,800-Watt Softbox Video Lighting Kit with Carrying Case
- iPad Pro, 12-inch
- External Drive—Samsung T5 Portable SSD, 2TB, USB 3.1, External SSD
- Tripod
- Tripod Adapter

- Teleprompter app—PromptSmart Pro
- Microphone—Shure MV5 Condenser Microphone
- Soundtrap software—<https://www.soundtrap.com/edu/>

RUBRICS FOR SELF- AND PEER-ASSESSMENT OF COMPOSITIONS

VODCAST FINAL ASSESSMENT

4	3	2	1
Includes the objective, lesson plan, script, organized way of explaining how to do something musical in short, easy to understand steps, video recording on iPad	Includes 4 of the 5 elements listed in the first box.	Includes 3 of the 5 elements listed in the first box.	Includes 2 or fewer elements listed in the first box.

VODCAST PROJECT SELF AND PEER ASSESSMENT

4	3	2	1
Includes the objective, script, organized way of explaining how to do something musical in short, easy to understand steps, opportunities to practice, and contains the final product, with resources in the description	Includes 4 of the 5 elements listed in the first box.	Includes 3 of the 5 elements listed in the first box.	Includes 2 or fewer elements listed in the first box.

PROJECT: DIGITAL CITIZENSHIP

In an increasingly digital world of information and communication technologies, connectivity, and surveillance, it is important for people of all ages to have the knowledge, skills, and tools to engage safely, ethically, and constructively with one another. Young people are especially vulnerable to electronic and online threats and exposure.

Principles and practices of digital citizenship can include safety/security issues, information/media literacy, and ethical engagement. Multiple literacies and critical thinking skills are essential for both the “reading” of different media forms, genres, and content and the production of thoughtful, well-developed media arts projects. Through discussions and activities students can explore various areas of digital citizenship to better understand and navigate the potentials and pitfalls of common technologies and social media they interact with regularly.

Background

KET’s Social Media and Teens collection in PBS LearningMedia (<https://ket.pbslearningmedia.org/collection/social-media-and-teens/>) includes 12 videos recorded at an Operation Parent workshop. Videos address a variety of topics, such as safety and security, texting, and red flags. Though geared primarily to parents, these offer a good foundation for planning classroom discussions and activities.

There are also a number of videos in PBS LearningMedia relating to fake news. You might choose one area of digital citizenship to explore at a time.

Getting Started

Ask students to raise their hands if they have social media accounts. (Do not ask if they have a smartphone or tablet because some students may not have access to personal devices.) Invite students to share and discuss how they use social media (e.g., to keep up with friends and family; to share photos, videos, artwork; to learn how to do something; to connect with a special interest/topic group, etc.). Ask students to raise their hands if they have ever deleted a post or photo for any reason, then ask them to raise their hands if they believe that it has been permanently erased from the internet (it has



not). Invite students to discuss what it means to have a worldwide archive of people’s identities and online activities.

Ask students to raise their hands if their friends on social media are all people they know in person. Invite students to discuss why it matters whether they know someone personally or not (e.g., issues of privacy, safety, accountability, bullying, etc.).

Ask students to raise their hands if they have ever checked and set their privacy settings. Invite students to share why account settings matter and why they have or have not checked these settings (e.g., public/private posts and photos, geotagging, facial recognition, password protection, constantly changing default settings, identity theft). If they have, have students discuss the settings they selected and why.

Ask students to define the word “literacy” (e.g., reading, writing, words, language, literature, etc.) and discuss what it means to “read” something (i.e., to look at something carefully for purposes of understanding, interpreting, questioning, etc.). Ask students how literacy might apply to other media and forms of communication (e.g., TV, journalism, movies, visual art, music, social media, etc.).

Ask students to define what a credible source is and help them to recognize different types of sources (e.g., scholarly, news/journalism, op-ed/commentary, etc.). Then ask them to define fake news in relation to popular media (e.g., TV, print, internet, etc.). Finally, ask students to define satire and its role as a valid form of commentary. Invite students to discuss how they can tell the difference between credible sources, fake news, and satire, and

how they can “read” the information or message to learn more about the author/source, the intended purpose/agenda, and the targeted audience. Ask why it matters where information comes from, the credibility of what is presented, and whether other facts or perspectives might have been intentionally excluded. Ask how this relates to social media and the information that people post about themselves, other people, or specific topics/issues.

Ask students to define digital citizenship as it relates to personal responsibility, relationships, and respect. Invite students to discuss why it matters how people use digital technologies, how they treat one another, and how information can influence people’s opinions and behavior.

Exploration Activities

If school computers are available in the classroom, exploration activities can be facilitated as in-class exercises and discussion. However, if school technology is limited, students could complete them as take-home activities at home or a public library, which can help address disparities in technological access to devices, social media platforms, etc. The results of the first two activities—Digital Check-up and Google You—are best kept private between the student and teacher as much as possible, whereas the credible source activity is well suited for both reporting back on an individual worksheet and/or a follow-up discussion with the entire class.

DIGITAL CHECK-UP

Have students log in to one of their social media accounts (e.g., email, Facebook, Instagram, Snapchat, etc.). If they do not know how to access their account settings directly, have them use the help or search function to locate it. Is the location turned on or off? (It should be off to prevent automatic “geotagging” of the location where a photo was taken or a post was made.) Are posts, photos, and comments set to public, friends of friends, or friends only? (They should all be visible to friends only. Some settings may require making changes in multiple places.) Is facial recognition turned on or off? (Facial recognition should be turned off to limit the collection and searchability of personal data.) Are ad preferences turned on or off? (They should be turned off to minimize the collection of personal data for targeted advertising.)

Kentucky Academic Standards: Technology: Safety and Ethical/Social Issues

Students understand safety and ethical/social issues related to technology. Students practice and engage in

safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

GOOGLE YOU

Have students “Google” (or search) themselves by typing in quotation marks the name they primarily use (i.e., “First name last name”) in a search engine like Google.com. They may or may not see themselves on the first page or the first try, so encourage them to browse through several pages of search results to see if they can find themselves. If they didn’t find themselves, what did they learn about other people who might be mistaken for them?

Modify the “First name last name” search to include the student’s hometown and state. Again, they may or may not find themselves depending on their access to and usage of digital technologies, so they can continue browsing to see what information is available about other people who share their name. Did they find anything about themselves? Anything unexpected or surprising? Did they discover anything false or private that they may need an adult’s help in addressing? NOTE: This exercise would be best as a take-home/turn-in assignment or an individual search on a school computer. Students may not be comfortable sharing their results with everyone in the classroom, and there may be something they need help correcting.

Kentucky Academic Standards: Technology: Safety and Ethical/Social Issues.

Students understand safety and ethical/social issues related to technology. Students practice and engage in safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

CRAAP TEST

Have students select a webpage, article, or social media post and apply the “CRAAP Test” (Currency, Relevance, Authority, Accuracy, and Purpose) to evaluate the credibility of the source. Using the evaluation criteria developed by librarians at the University of California-Chico (https://www.csuchico.edu/lins/handouts/eval_websites.pdf), have students review and document their selected source and report back their findings. Was their source reliable or not, and how do they know? Did they learn something new about a source or topic that they didn’t know before? Was anything surprising? How would they

use this tool for school-related projects? How would they use this for keeping up with current events? How about social media?

Kentucky Academic Standards: Technology: Research, Inquiry/Problem-Solving and Innovation

Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

Digital Citizenship Exploration with Younger Students

For students in grades 2-5, the PBS LearningMedia collection Ruff Ruffman Humble Media Genius (<https://ket.pbslearningmedia.org/collection/ruffruffman/>) is a good resource to introduce issues in digital citizenship. The collection addresses how kids use technology, providing videos, animations, and activities to help students and teachers explore four topics: texting, sharing photographs, conducting searches, and finding an appropriate balance of technology and media use.

NOTES

PROJECT: DOCUMENTING COMMUNITIES

Southeastern Kentucky is often portrayed as a difficult place to live. Certainly, the region does face challenges: high rates of poverty, lack of jobs, and substance abuse. On the other hand, the region is blessed with natural beauty, resilient communities, and a culture that nurtures artists, both traditional and transformative. In 2017, Berea College's Partners for Education partnered with communities in 10 Kentucky Appalachian counties to develop a website called Our Creative Promise to showcase the region's creative assets. The Berea group invited schools in each county to engage students in creating art that celebrates the unique attributes of their communities.

Students approached the challenge in a wide variety of ways. They wrote poetry, painted murals, created sculptures, recorded interviews, wrote songs, and reflected on the arts programs in their own schools. Media arts were integrated throughout so that their projects could be recorded and added to the website.

While one school, Harlan County High School, had its own video studio, most schools had minimal equipment for media arts and had to make strategic use of what they had. Some schools took field trips to the KET Media Lab in Lexington, where media specialists helped them plan the best way to develop their project. Visual artists, musicians, poets, and media artists also visited the classes to help them with their projects. Students learned to record and edit oral interviews and combine them with photographs and video clips to create media art for the regional website. Some students shared their experiences and projects with one another at a regional Creative Asset Symposium held in Hazard.

Background

Watch the video *Documenting Communities* (https://ket.pbslearningmedia.org/resource/media_arts_class-room1/documenting-communities/). Judy Sizemore, the overall coordinator for the schools' portion of the project, discusses the purpose and processes of the project. Examples of student work from several counties are shown.



Visit the Our Creative Promise website (<https://ourcreativepromise.com>) to learn more about the project and to view student products from each county. These are found in the “Student Lens” section under each county.

Implementing the Project

As Sizemore explains in the video, she began by helping students explore the positive things they wanted to say about their community and how they wanted to say them, offering a range of options for student choice.

One popular project was writing individual or group poems inspired by the poem “Where I’m From” by Kentucky poet George Ella Lyon. Other students chose to interview local artists and educators or take a field trip to unusual sites in their communities. They combined photographs and video clips with oral recordings to create video documentaries.

In Harlan County, students did close-up paintings of the hands of people engaged in a variety of activities, from canning green beans to rappelling, to represent the diversity of their community. They wrote poetry inspired by the paintings and recorded interviews, then combined the projects into a video.

In Leslie County, students wrote new lyrics for an original arrangement of a traditional folk song to share stories from the community's history (“A Story Unbroken”). Owsley County students created a larger-than-

life metal sculpture of an owl, the school mascot, for their school. See the section “Examples and Tips” for more details about some of the individual approaches.

General Advice on Implementation

Whatever the approach selected, Sizemore and Tammy Clemons, media arts teaching artist and consultant, said the project was a learning experience for all involved. If you are considering this type of media arts project, they offer the following advice:

Assess media resources *before* the project begins.

There was much more disparity among schools than anticipated, not only in terms of the resources available, but also the state of repair/disrepair of the resources, who had access to them and when, and who knew how to use them. “We learned to be specific when asking questions or requesting that classes do a self-inventory,” Sizemore said.

- Conduct an inventory of available digital media technologies (audiovisual equipment, cameras, batteries, computers, internet access, editing software, royalty-free music and images, personal smartphones, digital storage for backup, etc.) and other equipment (tripods, carrying cases, etc.). Identify any restrictions on using the equipment (such as cannot be taken off school grounds, must sign up in advance to use, must replace batteries, etc.)
- Find out who knows how to use the technology, what they know how to do with it, and if/when they can demonstrate or assist students. Students often have technological expertise, so do not overlook students as a resource. However, do not assume that they have the specific skills needed or the time to invest.
- Test all equipment and tools to make sure they are working properly and are compatible with one another (e.g., file types and transfers from one device to another).
- Be sure to test internet access and connection speed before using any online content. Download online media ahead of time if internet connections are unreliable.
- Identify other available resources (or lack thereof), such as quiet rooms for recording.
- If there are computer stations, be sure to keep track of which ones that individual students and/or groups are

using for their projects and create a back-up system (using hard drives, student accounts, and/or cloud storage) to ensure no one’s work is accidentally deleted.

- Make sure students know how to access and use their student accounts and student emails.
- If equipment (cameras, computers, audio recorders, tripods, etc.) or media (SD cards, flash drives, external hard drives, etc.) will be made available for student use/checkout, develop a system for keeping track of inventory as well as a system for managing media files to prevent someone’s work from being erased from media storage before it has been transferred or backed up to another device.

Start small and add to your project as time allows.

Remember that whatever technology resources you have or don’t have, you can develop and complete a worthwhile project. Working with technology can be—and almost certainly will be—frustrating. Don’t add to your angst by taking on too big a project, especially if there are time constraints. Start small and add to your project as time allows.

Consider converting photos and audio to video.

In the project, Sizemore and Clemons had students make audio recordings and take photos and short videos, and then had them combine the audio and images into a video. That process yielded the most useful products with minimal equipment. By working with the visual and audio elements separately, students had more control over each element and the editing process was simpler.

A relatively simple way to create a video (even without video equipment) is to begin by creating a PowerPoint or Google Slides presentation. Once your photos and short videos are edited, arrange them in the order that you want them to appear. Insert audio clips to accompany each slide. Review and edit, then export as a video. You may have to make some adjustments for the timing. Be sure to include a title slide at the beginning and a title slide at the end.

Be sensitive to disparity of student experience with and access to digital technology.

Some students have had access to and instruction in using technology all their lives, while others have not. In our digital society, students are sometimes embarrassed to admit that they are not tech-savvy or do not have ac-

cess to digital devices. Students were allowed to use their own devices if they wanted to, but also had several basic cameras and recorders that they could check out if they wanted. Sizemore and Clemons always went over how to use the devices with them as part of the checking-out process.

Be proactive in promoting digital citizenship.

Students often assume that they can download and use any photo they find on the internet. Sizemore and Clemons taught them that they have to go to the source, see if they have permission to use the graphic, and then cite that source. “Google Images” is not a source.

Creative Commons provides searchable access to over a billion media works licensed for reuse. It can be challenging to make sure you are using and citing a work appropriately, so a shortcut is to use the Photos for Class website (<https://www.photosforclass.com/>). These images from Creative Commons are school-appropriate, and when downloaded, automatically cite the author and image license terms, making it simple for your students to give proper credit. If you do not want the citation to show directly below the image, you can crop that out and include it with your credits.

For one project, students wanted to showcase their school’s rock band and took video of its performance at a school event. They were disappointed that they could not use the video because the songs they performed were copyrighted. If the band had performed an original song or a song in the public domain, they could have included the performance.

Tips for downloaded images:

- When using images from websites or clip art, always credit the source(s).
- Always consider the resolution of the photo you are downloading. It may look fine on a Facebook page but not have sufficient resolution for your purposes, especially if you plan to make video poems.
- Download original photos, NOT screenshots of images. Downloading screenshots reduces the resolution and degrades the quality of the photo.
- Download the full-screen version of the photo by right-clicking on it and selecting the location where you want to save it.

- Review how to share photos from one device to another without losing quality.
- Transfer from different devices can include USB connections, cloud storage, text messages, email attachments, flash drives, SD cards, AirDrop etc. Be prepared to use various media transfer processes and devices as well as multiple photo-file formats.

Obtaining signed consent forms was also required. If you are going to be sharing your digital project in a public format, you need to have written and signed permission from the people whose names, images, and voices are included. If some of the subjects are under 18, you also need a signed consent form from the parent, guardian, or legally authorized representative (LAR). This applies to your students as well as to people your students might interview, photograph, or record.

In many cases, the school media form is sufficient for students, but many students do not have school media forms signed by parents. Students who are in foster care, kin care, or not living with their legal guardians may not be able to obtain signed media release forms. It is critical to get these students fully engaged in your project so that they do not feel marginalized and do not have to reveal their circumstances to the entire class. Sizemore and Clemons solved this problem by taking a team approach to interviews, with off-camera roles for students who don’t have media release forms. Each team had a sound technician, a team manager, and a photographer as well as the interviewee and interviewer, and their responsibilities were clearly explained.

The project was sponsored by Berea College, so the college provided release forms and parental/guardian/LAR consent forms and archived the signed forms. Your school or district may be able to provide forms. If not, you can find forms online and modify them for your project. The forms should indicate exactly how the materials will be used and shared. Check with your district’s legal advisor about where the signed forms for nonstudents should be kept if you do not have a designated archive.

Technical Notes

AUDIO RECORDING

Devices—recorders, iPads, phones, standalone digital audio recorders

- Most smartphones (iOS and Android) have excellent recording quality. There are several free, reputable audio-recording apps that users can install on their smartphones.
- iPhone has a native Voice Memo app, but Android devices do not.
- There are mobile apps for editing, but digital audio recorded on your phone can be transferred to a computer for more comfortable and efficient editing. Always test apps for unanticipated limitations or glitches before recording formal interviews. For example, some apps may limit the recording formats available or the maximum amount of recording time allowed for particular file formats without a paid/premium version.
- The best apps give a visual representation of sound levels to show if you're in the range you want.

Quality Control

- If possible, use headphones. Even a cheap pair will help you check for background noise. If you can hear a sound through the headphones, you will hear it on the recording, even though you might not notice it while you are recording. Refrigerators, heaters, air conditioners, fans, and other devices create an audible hum. If possible, turn off or unplug the devices during the recording session. Outside, even a light breeze can sound like a hurricane.
- Minimize fidgeting sounds (clicking an ink pen in and out, tapping a pen or pencil on the table or desk, shuffling feet, scratching, turning away from the mic while talking).
- Check recording levels throughout the recording process. It is especially helpful to have a designated sound person do this, rather than the person asking interview questions.
- Get the device or mic as close to the person as possible.
- Ask the interview subject to repeat the question in their response to avoid editing limitations later. Ideally this allows editing out the voice of the interviewer altogether, so the interviewee's voice and story are presented as one extended narrative.
- Speak slowly and don't be afraid to restate the question again if people get off track.
- Be careful not to speak for the person or try to answer the question before you ask it; you want to capture the interviewee's voice and words instead of the interviewer's as much as possible.
- You don't need to stop recording when there is unwanted dialogue; you can edit later to remove it. It will take less time and leave less room for error if you don't stop and restart the recording. Remember, you can always delete and edit extra material, but you cannot edit what isn't there in the first place.
- Back up devices! Two if not three! Something will fail at some point. This is a guarantee.
- No gum!

MUSIC

- Rehearse your song several times before you record it.
- Be sure to find a quiet location with good acoustics to record the audio.
- If you decide to record vocals and/or each instrument as separate tracks, try to record in the same location so that the ambient noise of the room and the sound quality are as consistent as possible.
- If recording vocals separately, have the singer(s) use headphones to play back the instrumental music so that you record only their voices.
- Multiple soundtracks can be combined using Audacity or another audio editing software, but it is important to use a metronome or a similar phone app to establish a beat for everyone.

AUDIO EDITING

- Audacity is an excellent audio editing program that can be downloaded for free.
- Do not begin by editing the entire interview. First, divide the interview into clips, saving the clips that



you might want to use (e.g., create a cut between each question and response, or between different speakers). Listen to them and decide which are “keepers” and then edit those clips, removing unwanted segments or background noise.

- Think carefully about removing silences. Although a lengthy silence might not be what you want, sometimes a hesitation or pause can add to the audio.
- You can easily combine two or more clips or overlap two or more audio tracks using Audacity, and you can export your project into one or multiple files that can then be imported for use in other programs. For example, if you are going to create a video from a PowerPoint or Google Slides, you may not want to combine the audio clips at all but instead export them as separate files to accompany individual photos, slides, or short videos. On the other hand, if you are going to use iMovie or a similar video editor, you can combine the audio clips to export as a single finished audio file or use the video software to edit one or more audio files.

PHOTOGRAPHIC IMAGES

While students generally have experience taking—and even editing—photos due to the proliferation of smartphones with photo capability, they often overlook some of the basic rules of photography. It will be helpful to review these concepts:

- Use the “rule of thirds” to set up a nice composition before taking a picture or shooting video by dividing the camera frame into a grid of thirds. Some cameras include a setting to show the grid, but it is also easy to imagine with practice. Framing of the main subject, whether a person or a landscape, should follow

along the lines and where they cross one another. For example, rather than place a close-up of a person’s face directly in the center of the frame, align their eyes with the top crisscross on the left or right of the frame with them facing the opposite direction. The “rule of thirds” can be broken, but only with a specific goal in mind. For more information watch *Basic Shooting, Composing, and the Rule of Thirds* (<https://ket.pblearningmedia.org/resource/af36d8f6-0096-4d64-ae04-548f00c593b9/basic-shooting-composing-and-the-rule-of-thirds/>).

- Pay attention to lighting and to the position of your subject in relation to the light source and to shadows. Bright sunlight can cause colors to wash out.
- Pay attention to the background of the photo. You don’t want it to look like a telephone pole is growing out of someone’s head. Simple, uncrowded backgrounds make better photos than cluttered or busy backgrounds.
- Take lots of photos and select the very best for your project.

STUDENT VIDEOS

- Choose video locations carefully. Some student groups conducted interviews using a video camera. The most common problem was that the site they chose for the interview was inappropriate. Sometimes the background was messy or overly distracting or the light caused the subjects to appear washed out. Some times the students chose a spot where they could not control the background noise, or they attempted to do an interview outside on a windy day.
- Pay attention to details during the recording. One otherwise excellent interview was almost entirely unusable because the student conducting the interview chewed gum throughout the interview. Only extensive editing salvaged portions of the video. Another video interview was unusable because the student interviewer wore a T-shirt printed with an inappropriate slogan.
- Advise students not to walk and record video at the same time. At best you will have jerky video. At

worst, you could have an injury.

VISUAL BASICS FOR VIDEO

- In addition to using the “rule of thirds” for setting up video shots, follow the “10-second rule” for establishing the frame, which means establishing the frame and letting the camera remain completely still for at least 10 seconds before moving the camera from side to side (panning) or up and down (tilting) or any other kind of movement. This ensures that there is sufficient usable video in general as well as enough still video at the beginning and the end for incorporating transitions without losing content.
- Since many people are used to talking, texting, and taking photos with the cellphone in the vertical position, it is easy to continue using it this way to shoot video. However, vertical video does not show the full context of the setting or allow for many aesthetically pleasing composition choices for fram-



ing the shot. Most camera phones can automatically detect when you are holding them vertically (in portrait mode) or horizontally (in landscape mode) and will adjust accordingly. It is best to set up your shot by turning the phone to record the video as a landscape as you would with a regular camera.

- Tripods (three legs) and monopods (one leg) are great tools for steadying the camera for both still shots and moving shots, so it’s ideal to use one if you have access to one. However, tripods can be expensive and may be broken easily if not taken care of properly. Some no-cost alternatives include setting the camera flat on a table, chair, or a book on the ground to achieve a stable shot with no movement. For moving shots, a skateboard, office chair, or other

furniture with wheels can serve as an impromptu “dolly” and provide a stable surface for securing the camera while it’s in motion. You can also use your body as a still or moving tripod. Set your feet firmly about shoulder-width apart and your knees slightly bent. Hold the camera firmly in your dominant hand out in front of your face. To stabilize the camera, cup your elbow with your nondominant hand and position your forearm firmly against your torso underneath your ribcage. Keeping your feet in place, you can rotate your torso to pan from side to side or lean backward or forward to tilt the camera up and down.

PROJECT EXAMPLES AND TIPS

Clay County Middle School—This project engaged every student in five language arts classes. By signing up in advance, they were able to have access to computers in the library and the computer lab and access to a quiet room adjoining the library for recording. The students worked in small groups to write and record

poetry, sometimes with just one or two students reading and sometimes with all students reading a portion. They shared photos from their phones by AirDropping or emailing the photos to their teacher, Tiffany Murphy. Murphy and the students combined the photos and recordings into PowerPoint presentations, which were exported as videos.

With so many students involved, Murphy’s organizational skills were critical to the success of this project. She created master files on her

computer with all photos and recordings from each group. She kept a chart showing who had completed all necessary consent forms and organized the forms in class folders. She reminded students daily if they were missing consent forms or if their group needed additional photos.

Jackson County High School—Students in three tourism classes created individual or group projects. Colby Jackson used photos, video, and a recording he made about the history of Flat Lick Falls. He put the materials into a PowerPoint presentation, which was exported as a video file.

With the help of the on-site coordinator, the other students produced and refined the different media

elements for their three projects, and the teaching artist worked remotely to edit all of the content pieces together. The coordinator used Dropbox to share the short audio files (two poems and one original music composition) and photos selected by the students for their digital stories. The teaching artist used Adobe Premiere CC video editing software (on a Windows 10 laptop) to add titles and sync the students' finished audio productions and images. These projects are a successful example of collaboration with a remote teaching artist that still emphasized the students' topics, creative content, and voices.

Students also visited Oakwood Acres, a re-creation of the 1920s village built and maintained by Travis Sparks. During their visit, the students took photos and videos of the tour and recorded a video interview with Sparks. The interview required extensive, careful editing to eliminate the sound of students chewing gum. Editing was accomplished by Jackson King, a student who spent hours to create a fitting tribute to Sparks and his village. Sparks passed away several months after the interview at the age of 96, making this video all the more important in documenting the history of the community.

Knox County (Barbourville Independent High School)—The audio performance of “My Old Kentucky Home” by the Barbourville High School Choir was recorded in the stairwell of the school, which provided the best auditory environment available. The audio was inserted into a PowerPoint with a single photo of the choir.

Knox County (Barbourville Independent Elementary School)—Students created group poems that were a compilation of lines from individual poetry written by fifth-grade students in two classes. Students decided which lines they would read and practiced reading their lines. They also practiced remaining completely silent during the recording, which was done in the classroom. Some students brought artwork or crafts made by family members so that photos of the items could be included in the PowerPoint. Additional photos were copyright-free images from Creative Commons or photos from the Knox County and Barbourville Tourism and Visitor Center, used with permission. The PowerPoint was exported as a video.

Owsley County (Owsley County High School)—OCHS produced short interviews and digital stories related to their school and local artists and musicians.

The coordinator and the teaching artist assisted with all the video projects to varying degrees, depending on the level of help needed. On site, both helped collect and organize media content (photos, audio, etc.) and helped do interviews. The teaching artist also helped several groups using Audacity to edit their final audio pieces, which included interviews with a couple of painters, a musician, a jewelry maker, and the OCHS principal and two teachers. The teaching artist worked remotely using Adobe Premiere to edit together the audio and photos for all of the OCHS digital stories. One required only a minor video edit and the addition of opening and closing credits. Others entailed matching audio and multiple photos or a single still image and creating titles.

One interview project featured the photography, poetry, and voice of a talented young woman involved with several OCHS projects. However, because she lived in a foster setting at the time, she had to remain anonymous by law and could not be credited by name for any of the projects that she worked on. For one group project, classmates chose to interview her about her nature photography and poetry and why she writes. She discusses being in the foster system, her forced namelessness, and how writing enables her to express herself. The teaching artist worked remotely and used Adobe Premiere CC to edit the interview audio to focus on her writing, followed by her reading one of her poems. A single photo that she mentioned as an example of her visual work was included. This project highlights the importance of this young woman's voice despite the requirement that she remain anonymous.

The teaching artist was most involved in production of a video showcasing the design and construction of a giant owl sculpture representing the high school mascot. The sculpture was the collaboration of OCHS arts and humanities classes and the vocational school. The teaching artist worked remotely using Adobe Premiere CC to edit images together with the interview audio where students describe the project. The video emphasizes student perspectives about their active involvement in building a substantial work of art. Another team of students has since completed the sculpture.

Perry County (Hazard High School-Independent)—Students from several schools produced personal or group versions of “Where I’m From” poems about their lives and communities. These poems are based on the original poem by Harlan County poet George Ella Lyon. Hazard High School students from several class-

es collaborated to write and record a single “Where I’m From” poem. The students recorded different people reading different stanzas of the collective poem they had written, and the teaching artist helped students record or re-record some of the stanzas using the iPhone Voice Memo app. The teaching artist shared a rough edit of the complete audio of the poem with the teacher and students, and later used Adobe Premiere CC video editing software to combine corresponding photos that students collected or produced. Some missing imagery was filled in with photos from the websites for the city of Hazard, Perry County, local non-profit organizations, etc. This project is a great example of students using the well-known poem as inspiration for their collective voice to represent the diversity and uniqueness of their community. You can find the poem at Lyon’s website (<http://www.georgeellalyon.com/where.html>).

To help students get started writing their own poems, ask them to share similar memories with questions like these: What are some names from your family? What are sayings that people use in your community? Do you—or did you—have a favorite climbing tree? What do you see when you go outside your home? A good source of inspiration is the photographs students have on their phones. Ask them to look through their photographs and find a variety of portraits, landscapes, close-ups, and action shots that represent different aspects of family or community life.

Remind students to use strong sensory images and concrete words and phrases. When they have a list, ask them to edit the list into stanzas and create a poem using the phrase “Where I’m from” or “I’m from” at least three times. If desired, have students work in small groups to write a collaborative “We Are From” poem.

Whitley County (Whitley County High School)

—WCHS students had access to a high-quality radio studio adjacent to the drama classroom. One student produced a video about a school play called “Digging Up the Boys.” One group produced a video about the WCHS rock band, a new school-sanctioned group. The students shot all the video from the rock band’s first school concert, took photos of the band, and interviewed all of the band members and their faculty sponsor in the WCHS radio studio. Because of copyright issues, the video could not include the performance audio in the final cut. The teaching artist worked remotely and used Adobe Premiere CC to edit the student-produced content together and integrate

the voices of the band members with their respective images as much as possible.

Another student produced an individual “I Am From” poem and recorded her own audio voiceover and used her own photos. The teaching artist worked remotely and used Adobe Premiere CC to match the audio and images and add opening and closing titles.

PROJECT: DOCUMENTING THE SCHOOL COMMUNITY

Video artists and filmmakers often make documentary films about the communities they live in. Exploring the school community is a good way to introduce documentary filmmaking, especially with younger students. This project of exploring their school community through questioning, interviewing, and collaboration was created with students in grades 3-5 in mind.

Background

In planning your project, consider and gather the media tools you will use—a video camera, tablet, or even cellphone. See if your school has any microphones that can be used. Familiarize yourself with the basics of using these tools. You can find additional information about equipment, techniques, and processes in the Video Production section of the binder. This lesson is designed to introduce the foundational skills—both technical and decision making—involved in making a documentary.

Getting Started

Introduce students to the tools they will be using and basic camera shots. Let them explore using the cameras to take a variety of shots in the classroom.

You can show the videos *Audio Recording Tips* (https://ket.pbslearningmedia.org/resource/tips_how_to2/audio-recording-media-arts-toolkit/) and *Video Production Tips* (https://ket.pbslearningmedia.org/resource/tips_how_to/video-production-media-arts-toolkit/).

Implementing the Lesson

Ask students to think about all of the people in the school and the many different jobs people do to make their learning environment a better place. As a class, brainstorm to create a list of these people and the jobs.

Divide students into groups of three or four and have each group choose one person in the school they would like to know more about. The list might include teachers, teaching assistants, cafeteria workers, maintenance staff,



hall and playground monitors, office staff, counselors, and others that students come up with.

Have each group invite the person to be the subject of their documentary.

Have each group write six questions that would prompt their subject to tell who they are and where they come from, what their hopes and dreams are, and something about their life outside of the school. What do they do for fun? What are their hobbies? Do they have any pets?

Assign or have each group divide the roles and responsibilities of the documentary crew:

- One person will operate the camera (videographer).
- One person will ask the questions (interviewer).
- One person will tell the crew when to start and stop filming (director: “Quiet on the set! 3-2-1 Action!”)
- One person will look for and choose a good location in the school in which to film the interview (production designer).

This will be an in-camera edit project, meaning that everything will be shot in the order that is intended for the final film. The title can be the name of the person being interviewed and their occupation at the school.

After students complete their films, each group can pres-

ent its film to the rest of the class. Have the audience tell each group what they liked about each film and allow them to ask any questions (e.g., why did you choose a certain location?) Have students individually or in their groups reflect on the experience. What did they like? What was challenging? If they had it to do over what would they do differently?

Kentucky Arts Standards

Anchor Standard 2: Organize and develop artistic ideas and work.

Anchor Standard 3: Refine and complete artistic work.

Anchor Standard 4: Select, analyze, and interpret artistic work for presentation.

Anchor Standard 5: Develop and refine artistic technique and work for presentation.

Anchor Standard 10: Synthesize and relate knowledge and personal experiences to make art.

Lesson Extensions

- Introduce a basic editing program and allow students to edit their video, add music and/or narration, etc.
- Have students brainstorm ideas for other possible documentary topics.
- Publish the videos on the school website or server to share with other students and/or parents.

PROJECT: EXPLORING GREEN SCREEN

Green screen or chroma key is a technique used in film, TV, and video production in which an actor or object is photographed against a monochromatic backdrop (usually green or blue). This can be a piece of bright green poster board, fabric, or a professional or portable green screen. Once the video has been shot, the background is replaced with a different image or video, creating the illusion of the actor or object being in a different place. For example, students might be able to show themselves “swimming in the ocean with sharks,” broadcasting “live” from the top of Mount Everest, or entering and becoming part of a painting.

Background

Watch the *KET Tips for Green Screen* video in PBS LearningMedia (https://ket.pbslearningmedia.org/resource/tips_how_to3/green-screen-media-arts-tool-kit/). Decide on and gather the tools and equipment you’ll need: iPad(s), iPhone(s), and the Do Ink app for iPad. Familiarize yourself with the app before introducing it to the class.

Your students can use their own original photographs, videos, or artwork as background for their videos, but if they are also going to use images or videos found on the internet, you need to explain copyright, fair use, and crediting. An excellent animation explaining the topic can be found in the blog entry “The Right Stuff: Teaching Kids About Copyright” at the Common Sense website. (<https://www.commonsense.org/education/blog/the-right-stuff-teaching-kids-about-copyright>)

Creative Commons provides searchable access to over a billion media works licensed for re-use. It can be challenging to make sure you are using and citing a work appropriately, so a shortcut is to use the Photos for Class website. (<https://www.photosforclass.com/>) These images from Creative Commons are school-appropriate and when downloaded, automatically cite the author and image license terms, making it simple for your students to give proper credit.

Also, give some thought to any students in your classroom who do not have a media release form signed by a parent or guardian. How can they participate in the activity while respecting media restrictions? Have



them take on roles in the creation process that do not involve their images being on camera.

Getting Started

Grades 3-8: This is a simple lesson plan to introduce students to green screen (and for older students the term “chroma key”) and let them practice the basics. Begin by asking if students have heard of green screen. Show the *KET Tips for Green Screen* video and the screen they will be using. Ask students to guess why the most common chroma key color used is green. (It’s because it is the farthest from human skin tones. Human skin shares only two of the primary colors of light—blue and red—but not green.)

Introduce the Do Ink app to students (an introductory video is provided on the app), and tell students they are going to practice using green screen by exploring the idea of weather and how people react to weather.

Planning and Production

Have students work in teams of three, with one student as the director/camera operator and two students as actors. Have each team brainstorm a type of weather event they want to work with and then look for and download images that represent that weather event. Ask students to work together to decide how they are going to interact with the weather event they’ve chosen in a scene to be recorded using the green screen.

- How will you respond to the weather?
- How can you exaggerate your response to the weather event you have chosen?

- How will you interact with the weather event you have chosen? Will you look in horror at the approaching weather? Run away?

Remind students that they will use their imaginations and pretend they are part of the weather scene. Encourage play and improvisation.

Introduce students to the green screen and model how to move in front of the green screen and stay within the perimeter of the screen. Allow time for students to practice moving in front of the screen. Have them experiment with what the results look like when they stand at various distances from the screen, with various types of shots, and with lighting.

Lighting is one of the most important elements to successfully applying the green screen effect. A key light, fill light, and back (or hair) light are all necessary to make your subjects pop and to avoid the green outline that sometimes appears when applying the green screen effect. The green screen itself needs to be evenly lit so that there are no shadows.

Have students develop their concepts and scripts, and then have each group shoot its scene in front of the green screen. Have them review the footage and reshoot as needed, then use the app to combine the video footage with the still image or images they have chosen.

Completion and Follow-up

Have each group share its green screen video with the class, and allow students to share what they like about each video. Invite students to reflect on the product and process: What did you learn? What did you like? What was challenging? What do you think you need to learn more about? If you did this again, what would you do differently?

For teacher reflection, consider these questions: What did the students respond to most enthusiastically? What are some of the challenges they faced? How can we address these challenges? Are the challenges focused on collaborative group skills? Generation of ideas? What are the comfort levels of the students in using the technology? How can we address these challenges?

Kentucky Arts Standards:

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Anchor Standard 2: Organize and develop artistic ideas and work.

Anchor Standard 3: Develop and refine artistic technique and work for presentation.

Anchor Standard 7: Perceive and analyze artistic work.

Additional Green Screen Ideas

Creating a Journey Map: Grades 3-5. Have students draw a map of their journey to school, from leaving the house in the morning to arriving in the classroom. Photograph the map. Then have students film the story of their journey to school in front of the green screen, using the photo of their map as the background in the finished piece. (You can point out that this is the same effect that weather forecasters use on television to explain the weather conditions each day.) Students can create a storyboard of their map video and the things they will highlight when they share the story of their trip to school.

Video Dance: Grades K-12. Have students choose video scenes that are dynamic in nature (such as nature footage, lively city streets, abstract light and color, various forms of energy, etc.). Have students work in groups to create choreographed movement sequences to coincide with the background.

Public Service Announcements: Grades K-12. Video producers often create public service announcements (PSAs) to call attention to and/or offer solutions to a community problem or issue. Ask students if they have seen any PSAs. They can research examples or you can show examples. (There are a few in PBS LearningMedia.) Then have students work as a class or in groups to brainstorm a cause or community problem they would like to address, then choose a topic and write a script for a green screen video. PSAs are often “talking head” videos with news footage or images relating to the cause in the background.

Responding to Art: Grades 3-12. Looking at paintings, whether created by students or by famous artists, provides a great springboard for student media arts projects. Students can create a green screen portfolio taking the viewer on a gallery walk while talking about their paintings. Students can look at an art reproduction and use it for the scene in the story. For example, the students can create a three-part story with the actual

reproduction being the middle part of the story. Then they can create images or find images for the beginning and end, and then perform the image story they create using the reproduction and original background.

Video Poem: Grades 5-12. Have students write a poem, then choose still or moving imagery to illustrate the poem. Have them read or perform their poetry in front of the green screen and combine the performance with the images to create a video. This project can be done with any type of poetry at any grade level. If you wanted to use an “I Am” poem, students can use this template to write their poems. (Shorten or adapt as needed for younger students.)

Video Poem Template

First Stanza:

I am (name two special characteristics you have) _____ and _____.
I wonder (something you are curious about) _____.
I hear (an imaginary sound) _____.
I see (an imaginary sight) _____.
I want (an actual desire) _____.
I am (first line of poem repeated) _____.

Second Stanza:

I pretend (something you pretend to do) _____.
I feel (a feeling about something imaginary) _____.
I touch (an imaginary touch) _____.
I worry (something you actually worry about) _____.
I cry (something that makes you sad) _____.
I am (first line of poem repeated) _____.

Third Stanza

I understand (something you know is true) _____.
I say (something you believe in) _____.
I dream (something you actually dream about) _____.
I try (something you try hard to do) _____.
I hope (something you wish for or want to happen) _____.
I am (first line of poem repeated) _____.

Example:

I am

I am funny and kind
I wonder why hummingbirds are in such a hurry
I hear clouds crashing in the sky
I see oceans in the air
I want a fluffy dog
I am funny and kind

I pretend that I am a world traveler
I feel fine on a summer day at the beach
I touch the wings of a butterfly
I worry that all is not well
I cry about nothing at all
I am funny and kind

I understand why play is fun
I say we should play all the time
I dream about fish that fly in the air
I try to be artistic
I hope my parents live long lives
I am funny and kind

PROJECT: FILMMAKING

For students in Vanessa Miller's popular film studies course at Central High School in Louisville, Kentucky, the year begins by analyzing a single still image from a film: the child playing on the floor in Stanley Kubrick's 1980 film *The Shining*. How do the camera angles and colors create the meaning of this scene? From images, students move on to analyses of short scenes and the history of filmmaking. They learn about elements of filmmaking like sound, costume, and setting, and do small projects to get comfortable with various aspects of filmmaking.

In the second semester, the classroom turns into a production studio, and students work on their own films. They begin with production meetings, in which they determine their own schedule for the semester. They write screenplays and create a shot list using the language of film that they've learned. Students act, direct, film, and edit using cellphones, cameras, and other equipment already owned by students and the school. They edit and add sounds on the computer with Adobe Premiere editing software.

Miller says she doesn't teach her students how to edit. She gives them basic technological skills like importing their files from their phones to the editing program, but if they want to learn how to do something specific like add transitions or sound effects, she sends them to YouTube to find tutorials. Finding and using those tutorials is a valuable skill to practice, and one most students already have experience doing. She believes they learn more about how to edit their videos by teaching themselves, and they learn what they want to know rather than what she would choose to share. Miller believes that the skills students learn in the film studies class are useful for a variety of careers and endeavors. In their film projects, they work on problem solving and perseverance, and they listen to each other and collaborate. As a teacher, she gets to have fun and experiment, which helps keep learning fresh for both her and her students.

Background

You may not be able to devote an entire year to a film studies course, but if you are interested in at least getting started in filmmaking with your students, get



ideas by watching the video *Filmmaking* (https://ket.pbslearningmedia.org/resource/media_arts_class-room3/filmmaking/). Miller's course began as a creative writing class, which she first adapted into a film analysis course to improve student interest and engagement. She notes that in hearing about the full year project you don't see many of the early steps building to that ambitious endeavor.

The video also features students talking about their roles in creating the films, a good option to show to your students no matter what the scope of your filmmaking project.

Getting Started

Comprehensive information about production is found in the Video Production section of the binder. Here are several activities to get your students started on learning the skills of filmmaking:

ANALYZE A SCENE OR IMAGE

Miller describes how she starts small in her film class, having students first analyze a single scene or image in a film. Use this macro approach to introduce filmmaking by asking students to consider how the composition of the shot conveys meaning and sets the scene. You can use famous imagery such as the snow globe scene from *Citizen Kane*, the view from the window in Alfred Hitchcock's *Rear Window*, or the playing child from *The Shining* that Miller uses. Or you can choose a contemporary film that students are likely to know. Discuss why the filmmaker made the choices he or she did, and what effect the visual elements have on viewers.

To expand on the analysis of an image or theme, explore a longer sequence or whole film. For a guided example, see the PBS LearningMedia resource *Deconstructing the Documentary* (<https://ket.pbslearningmedia.org/resource/40fd0467-3b1c-4825-a783-ad5e9c-c81511/40fd0467-3b1c-4825-a783-ad5e9cc81511/>).

MAKE A STORYBOARD

Even if students are not going to make a full film production, they can practice telling stories and imagining shots by creating a storyboard. A storyboard highlights the main narrative points of a story. It can be a grid of a few drawings, or a digital map of every shot students envision in their hypothetical scene or film. Ask them to think about perspective, and to mix close-ups with wider scenes. Resources to help you with this activity are found in the Video Production section of the toolkit.

CREATE A SPECIAL EFFECT

Have students create a short scene using a special effect. These can be added digitally, using an editor like the free HitFilm Express or Adobe's Premiere and After Effects, or by using techniques like forced perspective, green screen, and chroma key.

A number of low-tech special effects can be used. Make someone or something magically appear and disappear by stopping and starting a stationary camera. Build a miniature set to make a wide shot. Use makeup and costumes to create a zombie or monster. Paint a large piece of polystyrene foam like a rock to make someone appear to have superhuman strength.

Encourage creativity and discuss how the results can trick the eye and the mind. Why do filmmakers use these and other techniques? For older students, you may follow Miller's teaching method and ask them to find out how to make different special effects by watching YouTube or other tutorial videos.

Find out how important math concepts are in creating special effects in the PBS LearningMedia resource *Math in Special Effects* (<https://ket.pbslearningmedia.org/resource/gtm12.math.algebra.var.splmatheff/math-in-special-effects/>).

Intro to Filmmaking Discussion Questions

Can you think of a single image from a film that you found striking or memorable? What made it stand out to you? How did it relate to the rest of the film? Did it

reinforce the theme or mood, set the stage, or foreshadow the story?

Can you think of a scene in a movie that is inseparable from the soundtrack? How does the song or score change your reaction to the scene? Can you imagine the scene without music? How would it feel different? How are film and music linked, and why did the director choose to use that song or piece of music in that moment?

If you were going to make your own short film, what would be your first steps to get started? Would you start with a script or a storyboard? How would you organize your time and production plan and why?

Think of one of your favorite film characters. Who is it, and what motivates them throughout the film? Does the character change much over the course of the film?

If you got a job working on a movie, what would you choose? Would you prefer to be a screenwriter, director, producer, actor, cinematographer, editor, grip, set designer, costume designer, or something else? Why? How does that job best match your skills and interests?

Have you ever used a tutorial or video from a site like YouTube to learn a new skill? What was it? Was that an effective way to learn how to do something?

Kentucky Arts Standards

Anchor Standard 1: Generate and conceptualize artistic ideas and work.

Anchor Standard 2: Organize and develop artistic ideas and work.

Anchor Standard 6: Convey meaning through the presentation of artistic work.

Anchor Standard 7: Perceive and analyze artistic work.

Anchor Standard 8: Interpret intent and meaning in artistic work.

Anchor Standard 9: Apply criteria to evaluate artistic work.

Anchor Standard 10: Synthesize and relate knowledge and personal experiences to make art.

Anchor Standard 11: Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.

PROJECT: PODCASTING

Jason Behler's students at Henry Clay High School in Lexington, Kentucky, make podcasts in journalism and English classes. "When I first started the broadcast journalism class, we focused on a daily news broadcast and partnered with a local company, iHigh, to stream live sporting events," he said. "Their mission and ours grew apart over time, and we shifted focus five years ago to producing the news, and the up and coming medium of podcasts. This offers more diversity in our content offerings for the class, drawing a wider range of interests."



A podcast is a recorded audio program that is uploaded to a digital platform, like SoundCloud. Listeners access them via apps, web pages, or even the radio. They can also subscribe to them for download on their devices. Podcast topics in Behler's classes have ranged from sports and politics to music and movie reviews.

Students, inspired by popular podcasts like *Lore*, *Serial*, *Stuff They Want You to Know*, and *Radiolab*, also do their own investigative, storytelling podcasts.

Background

See how Behler implemented this project by watching the *Creating Podcasts* video (https://ket.pbslearningmedia.org/resource/media_arts_classroom7/creating-podcasts/).

Learn more about podcasting in the video *Podcasting with Youth Radio* (<https://ket.pbslearningmedia.org/resource/podcast-ing-youth-radio-kqed/podcasting-with-youth-radio/>).

Gather your equipment. To get started, equipment needs are minimal. "All you really need is a computer with audio recording software and a microphone," Behler said. "You also need a platform to upload the files to, such as SoundCloud, YouTube, or iTunes."

Behler recommends using the free software available for professional audio recording and editing. He said that GarageBand, for use with Macs, and Audacity, for use with PCs, are both user-friendly.

Getting Started

Discuss podcasting with your students. Do any of them listen to podcasts? What podcasts do they like and why? Where and how do they listen to podcasts? Have any of them created a podcast?

Listen to a variety of podcasts as a class and discuss. How do they vary in terms of purpose, content, technical quality, and format? What are the elements used (such as host, interviews, music)? What qualities make a podcast interesting? What technical skills are required?

Podcast Creation

Working in pairs or small groups, have students brainstorm ideas for podcasts. What topic would they like to explore? Who is the target audience? What elements would be used?

Behler has his students produce a written outline reflecting their ideas and research. "They come up with an outline to show me the show's rundown, as well as documents that they are going to reference. Also, they choose intro/outro music," he said.

Behler's broadcast journalism students are required to create 60 minutes of material in the first semester, and 90 minutes in the second semester. If working with elementary or middle school students, or if the project is being integrated into another subject area, you might have students create shorter podcasts.

Either way, allow time at the beginning of the project for students to learn how to set up and operate the equipment. The podcasting project can be worked on throughout the year in phases.

“We begin the fall semester by learning how to set up and operate the equipment—mics, mixer, amp, and computer,” Behler said. From there he teaches students how to edit the audio files in post-production, cutting sound files into segments and repositioning them.

As groups work on their podcasts, have periodic class discussions about what they are learning, challenges they face, and solutions they find. Compare how various groups are approaching their podcasts. For example, in his classes, Behler said, most students both produce and speak on air in their podcasts. “A few groups opt to have a member that just produces and others that just speak,” he said.

Completion and Follow-up

As students complete and publish their podcasts, have their classmates listen and discuss the podcasts. Also have students self-assess the experience: What do they think worked well in their podcasts? What would they do differently in the future?

Consider continuing the podcast production with expanded topics as time and interest allow. Students can work on their initial topic, switch to a group doing a different topic, or choose new topics.

Kentucky Arts Standards

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Anchor Standard 2: Organize and develop artistic ideas and work.

Anchor Standard 3: Refine and complete artistic work.

Anchor Standard 4: Select, analyze, and interpret artistic work for presentation.

Anchor Standard 5: Develop and refine artistic technique and work for presentation.

Anchor Standard 6: Convey meaning through the presentation of artistic work.

Anchor Standard 7: Perceive and analyze artistic work.

Anchor Standard 10: Synthesize and relate knowledge and personal experiences to make art.

Additional Tips from Behler

- Keep it simple at first. As you and your students gain experience, expand your equipment as possible. For example, if your school does not have a mixer for use, consider buying one, which lets you mix multiple microphones into a single recording. And an amplifier allows multiple people on headsets to hear everyone

as the recording is made. Behler’s classes use RØDE condenser mics (\$230 each), a Mackie ProFX12 digital mixer (\$250), a Behringer Powerplay 4-channel amplifier (\$150), and Behringer Headphones HMP1000 (\$10 each).

- Grade students on technical skills, like audio volume and clarity, and professional demeanor as well as content. There should be no awkward pauses, on-air giggling, or talking over one another. The content should be well researched and well written. Behler also grades on how engaging the podcast is, looking for entertainment value and/or listenability.
- Publish the videos on the school website or server to share with other students and/or parents.

Additional Resources

- *Audio Recording Tips* video in PBS LearningMedia (https://ket.pbslearningmedia.org/resource/tips_how_to2/audio-recording-media-arts-toolkit)

PROJECT: SONGWRITING AND RECORDING

Kentucky educator Jonathan Stovall started using songwriting with his fourth-grade math students and saw a noticeable improvement in student engagement and scores—so much that now he uses songwriting across grades and subjects. Students learn key concepts in math, science, and other subjects while learning music, creating songs and lyrics, working together, and learning about recording and engineering.

Stovall encourages teachers and administrators to give songwriting and recording with students a chance, even in the earliest grades. Experimenting with music teaches them critical thinking skills, collaboration, and communication, even when the final product isn't a professional-sounding song. Showing enough confidence in students to let them try it gives them more confidence.

Background

Learn how Stovall implemented this project by watching the *Songwriting and Recording* video. (http://ket.pbslearningmedia.org/resource/media_arts_classroom4/songwriting-and-recording).

Listen to 11 songs written by students at the school on topics ranging from multiplication tables to bullying at the New Age Curriculum Songs media gallery. (ket.pbslearningmedia.org/resource/media_arts_classroom4/songwriting-and-recording).

Getting Started

Before beginning the project, discuss with students:

- Why do you think song lyrics stay in our memories so well? What songs can you remember that you heard or learned a long time ago? What songs have helped you learn something (e.g., the “ABCs Song”)?
- What do you know about how music is created and recorded? Are you more interested in the creative or

technical side of recording music? Would you rather be an engineer and mix tracks and work with the software, or write, sing or rap, or play instruments? Or would you like to do it all?



- Have you experimented with software or an app to create something? What did you create? Do you think that experimenting is a good way to learn?

Play some of the New Age Curriculum songs for students and ask what they would write about if they were creating a song for their school.

Song Creation

There are many options for the writing and recording. You can assign groups or partners and assign a specific subject, let students work individually, or start by brainstorming ideas with the class and then have them collaborate on the lyrics as a group. Display the lyrics in the classroom and let students decide when the lyrics are ready to put to music and record.

A guest musician or producer can inspire students and bring expertise to the songwriting or recording experience. Bringing in guests for different stages of creating a song or different styles of music gives students a broad sense of what is possible. Invite a community member or parent who is knowledgeable about writing, playing, or recording music to visit the class and discuss the process, and let them lead the students in a songwriting activity. See if there are music producers or a studio in your community that would be willing to assist or partner with you.

Stovall, now an assistant principal at Adairville School in Logan County, started using songwriting to teach math to fourth-graders at Parker-Bennett-Curry Elementary in Bowling Green. He thought that students would respond to music and that it would help them

memorize facts like multiplication tables. They responded so well that he contacted friends in the music industry and started writing songs based on Common Core standards. He later enlisted his cousin and local hip hop artist Allen Witcher to help create more polished songs. Stovall and Witcher partnered with Justin Eckerd, a music producer and engineer at NF Records in Bowling Green, to expose students to more aspects of song creation, including making beats and backing tracks. Students work with all kinds of technology to record and mix, and even make music videos.

Eckerd recommends programs like GarageBand, the free recording program for Apple products, and Reaper, an inexpensive recording and mixing program for PCs or Macs. If students are more interested in the technology of recording and mixing, he recommends industry-standard software like Logic Pro X, Pro Tools, or Cubase. The basics of using digital audio workstations (DAWs) apply to them all.

Let some students help engineer the recording, making sure the levels don't go into the red and that the recording doesn't stop, and let others take turns singing or rapping parts of the song. Make a new track for each part and mix and export them into a final music file. Use video tutorials to learn how to do each step, including adding effects. Remind students that you are all experimenting! If something doesn't work exactly as you'd hoped, you will learn more for the next time. Let students listen to the song with headphones.

Completion and Follow-up

Have students share their songs with each other and other classes in the school. Lead a discussion about learning through experimentation. Ask students to share what they learned as they created their products. What do they feel good about? What would they like to improve?

What did students like about learning this way? What was challenging? Do they plan to continue experimenting on their own? What do they want to create? You may ask them to write a journal entry or share their thoughts in some other format.

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Anchor Standard 5: Develop and refine artistic technique and work for presentation.

Anchor Standard 6: Convey meaning through the presentation of artistic work.

Anchor Standard 7: Perceive and analyze artistic work.

Anchor Standard 10: Synthesize and relate knowledge and personal experiences to make art.

Technology and Tools to Use

GarageBand

Free on Apple devices. Recommended by producer and engineer Justin Eckerd, GarageBand can be used for recording and mixing all parts of a track. www.apple.com/mac/garageband

Audacity

Free, open source, cross-platform audio software for any computer. This easy-to-use, multi-track audio editor is student-friendly. www.audacityteam.org

Reaper

Also recommended by Eckerd, Reaper is available for PC and Mac with an inexpensive educational or personal use license. www.reaper.fm

Logic Pro X

Full-featured professional digital audio workstation for Apple. www.apple.com/logic-pro

Adobe Audition

Full-featured professional digital audio workstation for PC or Mac. www.adobe.com/products/audition

Pro Tools

Full-featured professional digital audio workstation for PC or Mac. www.avid.com/pro-tools

Fruity Loops

Recommended by Eckerd for its portability and versatility, FL Studio can be used on portable devices as well as desktops and includes many instrument samples and drum pads. A range of versions and an educational license are available. www.image-line.com/flstudio

PROJECT: STOP MOTION ANIMATION

Stop motion animation is an animation technique in which a material or physical object is manipulated to create the illusion of movement. The object is changed or moved in small increments, and a photo is taken after each movement. The photo frames are then sequenced together using an app or software to create a video animation.

Stop motion animation can be used to tell a story, illustrate a process, demonstrate a simple action, or communicate an idea. Students of all ages can learn to create simple animations, such as a paper figure dancing or a horse galloping across a child's drawing.

The technique can also be used to explore more complex content. At Bowling Green Junior High School, students in reading teacher Brent Van Meter's class used stop motion animation to share their research about the serious topic of child labor. Van Meter says the project gave students problem-solving and collaboration skills. He encourages teachers to try technologies such as stop motion animation even if they aren't experts—they can learn along with their students, he says

Background

The video *Stop Motion Animation* (https://ket.pbslearningmedia.org/resource/media_arts_classroom2/stop-motion-animation/), shows how the students at Bowling Green Junior High School used stop motion animation with the child labor research project.

Additional ideas about the use of stop motion animation in the classroom are offered in the video *Stop Motion Animations*, located in the PBS LearningMedia collection Video Production: Behind the Scenes with the Pros (<https://ket.pbslearningmedia.org/resource/ket-vid-production-30/stop-motion-animations/>).

A variety of equipment can be used, including iPads, smartphones, Chromebooks, and computers. A variety of apps and software can also be used (see list at end of this section).

Getting Started

Show students a variety of stop motion animations. Here are some good ones for all ages in the Everyday Learning



collection in PBS LearningMedia:

- Clouds and Weather (<https://ket.pbslearningmedia.org/resource/evscps.sci.life.clouds/clouds-and-weather/>) shows different types of clouds.
- Tangrams (<https://ket.pbslearningmedia.org/resource/ket-earlychild-art12/tangrams/>) introduces young students to tangrams.
- Clean Up Time (<https://ket.pbslearningmedia.org/resource/ket-earlychild-math4/clean-up-time/>) teaches sorting and graphing skills.

Show some student-made animations from the Media Arts Toolkit collection (https://ket.pbslearningmedia.org/resource/media_arts_classroom8/student-stop-motion-animations/), so that students can understand that they won't be expected to create a professional-looking video on their first try.

Discuss: Which animations appeal to the students? What materials are used to create the animation? How are narration and music used? What is manipulated or moved to create the animation? (In some animations cut-out or created materials or objects are moved around a background. In others, a portion of a picture might be replaced with a similar shape; for example, the face of a monster can go from smiling to growling by removing a smiling mouth on a portrait and substituting a growling mouth.)

For middle and high school students, *Frame by Frame: The Art of Stop Motion* (<https://ket.pbslearningmedia.org/resource/af864ab1-7a43-457a-a315-946fd3024ce8/frame-by-frame-the-art-of-stop-motion-off-book/>) provides a good overview and history of stop motion animation. You can also show the video about the student projects at Bowling Green Junior High.

If students have had no experience with stop motion animation, begin by having them try a stop motion technique. Practice one technique used in the videos or that you have seen in other stop motion videos. You could have students make a 15- or 20-second text video in which they keep adding a letter or part of a letter on a whiteboard or paper until a statement is completed. Or try moving a toy or a clay or block figure.

Experiment together with frame rates and speed and with the best way to keep the board and the camera still. The students in the Bowling Green Junior High video used 6-8 frames per second, while professional videos often use 24 or 30. Discuss: Do students like it better if a hand is visible in some shots writing the letters or do they prefer having the letters seem to magically appear?

Animation Project Creation

Have students choose content or you can assign content. Stop motion videos can be a great way to share information with an audience, which means it works well with almost any subject. Students can work individually or in groups.

For the child labor project at Bowling Green Junior High, students began by researching and gathering relevant facts. Van Meter gave them a few prompts to help them find important statistics. Students then created storyboards to plan how they would present the information. A storyboard highlights the main narrative point of a story or presentation. It can be a grid of a few drawings or a more detailed plan.

You may want to set a minimum length for the final project, like 20 seconds. Discuss with the class how many individual frames or images that time length would require. (It would be over 200 depending upon the frame rate chosen.) Discuss how to choose a frame rate. More frames per second lead to a smoother animation. Fewer frames, like the 6-8 used by the students in the video, result in a choppy animation. It is a stylistic as well as a practical decision.

The Bowling Green students used apps on their phones to create their animations. A variety of apps and software can be used. (See list at end of this section.) Students animated some of the facts by writing one word at a time on a whiteboard. They illustrated others with combinations of clay, building blocks, and models.

Completion and Follow-up

Have students share their animations with the class. Ask them to reflect on the experience: What was most challenging? What did they enjoy about it? What do they think worked well? What, if anything, would they do differently in the future? Do they think stop motion animation is a good way to share information? Why or why not?

Kentucky Arts Standards

Anchor Standard 1: Generate and conceptualize artistic ideas and work.

Anchor Standard 2: Organize and develop artistic ideas and work.

Anchor Standard 3: Develop and refine artistic technique and work for presentation.

Anchor Standard 4: Select, analyze, and interpret artistic work for presentation.

Anchor Standard 6: Convey meaning through the presentation of artistic work.

Anchor Standard 11: Relate artistic ideas and works with societal, cultural, and historical context to deepen understanding.

Stop Motion Animation with Younger Students

See examples of these animations in PBS Learning-Media (https://ket.pbslearningmedia.org/resource/media_arts_classroom10/elementary-stop-motion-animations/).

Grades K-3: Animating Toys

Introduce students to stop motion animation by allowing them to move toys around to improvise a story. Provide a basket of small toys and use a foam-core or tri-fold board for the set. Have students experiment with moving the toys around the set, recording an image each time the toy is moved. As students begin playing with the toys they will naturally begin to make up stories to go along with the toy animation. You can have students save the animations so they can play them back and watch them, but keep in mind that the main point of this activity is exploration.

Grades 2-5: Making a Portrait Talk

Have students use stop motion animation to make a portrait come alive and appear to be talking or singing. This is an example of cut-out animation using manipulation.

Have students create a portrait painting. Cut out a series of mouths in a variety of expressions.

Place the portrait under a wire rack that holds the iPad or Chromebook.

Use the features of the mouth positions to create the illusion of the portrait singing or talking. To show the mouth slowly opening and closing, you can use a shot plan shooting 3 frames of each mouth position. For example:

- Original mouth—3 shots
- Mouth partly open—3 shots
- Mouth open a little more—3 shots
- Mouth open wide—3 shots
- Mouth open wide—3 shots
- Repeat shot plan in reverse to close the mouth.

If you want to show the character singing and holding a note, use the open mouth and move it back and forth on the face. First, move up 3 shots. Then move down, left, and right, 3 shots each.

Save the animation and export to an editing app or program. Add voice and titles. Create a singing Portrait Gallery of students' work.

Grades 3-5: Drawing and Toy Animation

This activity combines drawing with toys to create an animation. Provide students with sheets of paper, crayons, and several small toys. Have students come up with an idea for a short story and have them draw the background.

Place an iPad on a plastic or metal rack and position the background drawing underneath.

Make sure to tape the paper down to keep it from moving as the children create their drawings. Shoot the animation, moving the toys across the background they have created. Export to the editing program, add video and sound effects, and share.

Stop Motion Programs and Apps

- Chromebook ClapMotion is a user-friendly app for animation. It has a feature that allows you to clap your hands to take the pictures.
- Stop Motion Animator is a very basic stop motion app for creating animations using a webcam.
- Stop Motion Studio is a free and simple animation for iOS.
- Stop Motion Studio Pro helps make stop motion videos on Kindle Fire devices.
- Do Ink Animation is a more complex program for iPad.
- Stop motion animations can also be made using iMovie (for iOS), Adobe Premiere, and Adobe's free Spark program.

NOTES

PROJECT: VIDEO DRONES

When video drones became popular, Victor Darrigrandi, media specialist at Kammerer Middle School in Jefferson County, Kentucky, decided to try them with his students. They learned how to operate these “cameras in the sky” together, and now the unit is one of his most popular class projects. Darrigrandi believes that as drones become more common in video production and other commercial uses, operating them is a valuable skill for students to learn.



Background

Watch the segment *Video Drones*, (https://ket.pbslearningmedia.org/resource/media_arts_classroom12/video-drones/). In the segment Darrigrandi talks about why and how he teaches the drone unit, and students explain what they like about the experience. Students work in groups of four, each with a specific role to learn to operate the drones. They begin practicing indoors, then move outdoors to capture five basic types of aerial shots.

Watch the video initially for your planning purposes. It's also great to show to students at the beginning of the project since it demonstrates the indoor practice session and shows the five basic shot types.

Since drones are regulated by the Federal Aviation Administration, become familiar with FAA rules and regulations (https://www.faa.gov/uas/educational_users/). There are restrictions around airports, height limitations, and rules prohibiting flying over crowds. And, as Darrigrandi points out, common sense should always be used.

Darrigrandi's Weeklong Lesson Outline

DAY 1: INTRO TO DRONES

Show sample footage. Pass around drone (without battery). Discuss rules, roles, laws, etc.

Demonstrate with a single group how the groups will work: In each group, one student will be the pilot, who flies the drone. Another student will be the cameraperson, who monitors the screen and holds the iPad to the right of the pilot. Two students are spotters. One stays

near the pilot and cameraperson and must keep visual contact with the drone at all times. The second spotter walks and follows the drone, looking for obstacles or other issues, and helps when the pilot loses depth perception. Emergency shut-off operator is an optional role. This team member stands to the left of the pilot, and their only job is to slowly land the drone if pilot is confused or something goes wrong. (The teacher can also do this job.)

DAY 2: INDOOR PRACTICE

Groups rotate to work with the teacher. Other students use a drone simulator app on iPad or computers to practice and understand controls.

Have students place Hula Hoops on the ground to create takeoff and landing areas and practice taking off, flying straight, and landing. Extend the exercise with four Hula Hoops in a cross pattern. Practice taking off, flying left and right, and then landing. As shown in the video segment, cardboard boxes can be used to hold the Hula Hoops upright for additional challenges or Hula Hoops can be hung from a drop ceiling with two pieces of string on each side for stability.

DAY 3: ADDITIONAL PRACTICE OPTIONS

Option 1: Practice with Hula Hoops outside over a larger space. Be mindful of wind, outdoor groups, and trees. Clearly define boundaries.

Option 2: Set up Hula Hoops in a racing obstacle course. Boxes can be used for height, and Hula Hoops can be put in the folded flaps of boxes to make them stand upright.

DAY 4: PRACTICE FLYING OUTSIDE WITH DIFFERENT SHOT TYPES

Have students practice capturing five shot types: high pan, chase, flyby, reveal, and explorer. These are illustrated in the video segment. Another great video, *How to Pull Off These 5 Classic Drone Shots*, can be found at No Film School's website (<https://nofilmschool.com/>).

Before flying, students should write down what they want to get footage of and the shot type they plan to use for it on a notecard. This pre-visualization step will help keep things moving quickly and make sure students have a clearly defined goal. It also helps keep track of who is going next and who has flown.

DAY 5: OUTDOOR FLYING CONTINUES

Use multiple memory cards so that groups can download footage as soon as they are finished.

Upon completion of the weeklong activities, you can use the Drone Rules Questions handout as a quiz or discussion. If you want students to plan and create a finished product they can use the First Project Checklist handout and a photo app or iMovie.

Darrigrandi's Equipment Suggestions

Drones are available in a wide range of prices, and there are many brands out there in addition to these. Parrot drones have several hardware and software options geared towards education. However, DJI has a clear majority of the drone market share and is most likely to be what students will encounter in the future.

Adorama is a photography/video equipment company that offers a good discount on DJI equipment.

If a budget to purchase a drone or drones is a challenge, consider using a crowd-funding website such as Donors Choose. There are frequently matching offers from a variety of corporations. You are limited to a few select vendors, but they include Amazon and Best Buy.

UNDER \$200

DJI TELLO

Pros: Great toy drone for beginners. Excellent for flying indoors. Educational version available with extra STEM features. Programmable with drag and drop coding. DJI software allows students to become familiar with layouts, features, and concepts present in DJI platform.

Cons: Not a good choice for outdoors. Fixed camera.

Relatively low camera quality.

Note: Educational version is only available from DJI (<https://www.dji.com/>) and Apple Store.

UNDER \$400

DJI SPARK

Pros: Kid-friendly size. GPS allows for outdoor flight. Moderate range. Acceptable image quality for photos and videos. Great entry price.

Cons: Lightweight, so it may be pushed around by wind. Short battery life (about 13 minutes). Probably soon to be updated.

UNDER \$800

DJI MAVIC AIR

Pros: Relatively kid-friendly size. Collapses into a small area. Moderate battery life (20 minutes). Excellent image quality.

Cons: Price. Limited range compared to Mavic Pro and Phantom.

OVER \$800

DJI MAVIC PRO

Pros: Collapsible. Good image quality. Extremely far range. Good battery life (25-30 minutes).

Cons: Price. Propellers start getting into a larger size. Complicated folding of arms needs to be taught to students.

Note: Various models available.

DJI PHANTOM 4

Pros: Extremely stable in wind. Long battery life (30 minutes). Payload capable. Extra GPS sensors create higher precision for mapping applications.

Cons: Price. Larger propellers can present extra risk with younger students.

Note: Various models available.

Lesson Extensions

- Coding—There are a variety of apps that can be used to code with drones. Drone Blocks is an app that has a feature called Tello Blocks that we have used to program the DJI Tello drones.
- Autonomous Flight—DJI GO App has a Waypoints feature and a Point-of-Interest feature that allow for autonomous flight modes. Other apps include Litchi for autonomous flight.
- Industry Use—Agricultural uses include fence surveys, herd counts, and crop mapping.

- Drone Racing—This is a growing hobby area.
- Drone Kits—Build a drone to learn about electronics and aeronautics. There is even a kit to build a drone using Legos.
- Videography/Photography—An activity creating specific shot types or a scavenger hunt for specific items helps students focus on a specific task and area.
- iMovie Project—Students plan and create an iMovie using their drone footage. See the First Project Checklist handout.

Drone Rules Quiz/Discussion

Name _____

1. What is the maximum height that you are allowed to fly normally?
2. Explain the rule about being able to see your drone.
3. Why do you think flying over crowds poses a safety risk and is never allowed?
4. What is the distance from most airports where you start encountering flight restrictions?
5. If there is a newsworthy emergency and there is some great drone footage to be had, why can you still not fly?
6. When can you fly over major events like sports games or concerts?
7. If your drone weighs more than _____ you need to register it with the FAA.
8. If you are making money with your drone, what extra step do you need to take in order to fly?

First Project Checklist

Please initial next to each item indicating you have completed it.

_____ 1) Create new project.

_____ 2) Import raw footage.

_____ 3) Trim raw footage to 3- to 10-second segments.

_____ 4) Add titles identifying the shot type on each segment. Include three of the following:

Fly-by
Reveal
Chase
High Pan
Explorer

_____ 5) Add appropriate transitions. What transition type did you choose? Why?

_____ 6) Add either audio effects or music.

_____ 7) Dub (microphone icon) and narrate.

- 1) "My name is _____."
- 2) "This is a _____ drone shot."
- 3) "This is a _____ drone shot."
- 4) "This is a _____ drone shot."

_____ 8) Include a credit with your name at the end. If there isn't a "credit" option, how can you create your own?

_____ 9) Finalize and save the video file.

NOTES