The ACES Framework

Access, Curate, Engage, Share

A decade ago if you posed the question, "What is scannable technology?" your answers might have ranged from bar-codes at the supermarket to science fiction on the big screen.

When I started my teaching career in New York City, I could not have imagined how mobile devices would alter both my classroom and my community. In five years my classroom transformed from one with chalk and an overhead projector to a one-to-one iPad learning environment. Working with only free apps on these devices, I introduced a variety of tools to my students—from interactive textbooks to screencasting apps. I discovered how QR codes could be made for free and quickly introduced them into my classroom. As soon as I heard about an exciting, new augmented reality app, I loaded it onto my students' iPads and let them explore in partners. Scannable technology had a huge impact in my classroom. It increased student engagement and created more efficient ways to differentiate instruction.

ACES FRAMEWORK

ACES is a framework for thinking about scannable technology integration: *Access, Curate, Engage,* and *Share*. There is

a chapter in this book dedicated to each of these ideas, but you will quickly see how they can be used together to enhance and elevate learning experiences for your students. Scannable technology lets teachers put content in the hands of their students—content they have picked out just for them. It keeps students engaged in content they are consuming and makes it easy to share content they have created. Scannable technology is all about using the time you have with students wisely. Teachers can empower children to become self-directed learners by placing scannable technology at their fingertips.

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The purpose of a framework is to organize thinking around a set of ideas. The ACES scannable technology framework can be applied to a variety of learning environments. Throughout this book you will see how QR codes and augmented reality can be used to: (1) make *access* of materials easy for students, (2) connect *curated* resources to student devices, (3) *engage* learners with subject matter content, and (4) help students *share* projects and authentic assessments. The ACES Framework provides a context for discussing scannable technology. Although Access, Curate, Engage, and Share will be introduced in isolation, each action threaded together can truly transform your learning environment.

Access

The way students consume content has changed dramatically in the past decade. Inside and outside of the classroom, students have new choices for gathering information to learn more about a topic. With scannable technology, educators can improve the manner in which students access content. In the next few chapters you'll see the specific steps for creating QR codes and augmented reality triggers as well as detailed information on both types of technology. When thinking about access, the big idea relates to content connections.

Educators can connect any web-hosted content they wish— blog post, video, news article, image—to a scannable trigger. For example, students can scan a QR code using a QR code

scanner app. Scanning this QR code will give them access to a website with a YouTube video of Dr. Martin Luther King, Jr.'s "I Have a Dream" speech. You found the YouTube video, connected the video's link to a QR code, and gave it to your students to scan. Maybe you even printed QR codes on sticker labels and had each student add it to page 274 in their old social studies textbooks next to a paragraph on this part of the Civil Rights Movement.

So now anytime a student turns to page 274 in their textbook they can read about the Civil Rights Movement and scan a QR code with their tablet to see the speech in action. Students don't have to type in a long web address and hope all the characters were entered correctly—with a quick scan using any Wi-Fi-enabled mobile tablet they'll be taken straight to a website and easily access materials. In the next few chapters, we'll explore the different types of content students can access using scannable technology as well as the places and spaces QR codes and augmented reality can be added to your learning environment.

Curate

A teacher's role includes the curation of resources targeted to meet the needs of his or her students. As educators expand the type of information they bring to their class from traditional textbooks to multimedia, scannable technology makes it easy to connect students with the perfect resource. We may want a certain group of children to access a specific article written at their Lexile level or give students resources to build background knowledge. Teachers can attach a website they have chosen for students to an activity sheet, book jacket cover, interactive word wall, or corner of the library— somewhere that makes it feel intuitive to scan for more information when they need it.

Providing students with quick access to materials is reason enough to get started with scannable technology. Being able to thoughtfully handpick which resources students will access can be a game changer—especially in classrooms with differentiated learning needs. Educators can support students who are struggling, excelling, or learning the English language (or any language) or would benefit from resources tailored

to their learning style. With scannable technology, just-right resources can be placed in just-right spaces for students interacting with content across subject areas. In Chapter 5 we'll explore how scannable technology can be used to differentiate instruction in whole class learning experiences and for individual students.

Engage

Keeping students motivated and interested during a lesson or learning activity is essential. There is a big difference between technology thoughtfully chosen to engage students in a rigorous academic activity, and technology used simply as a gimmick. Scannable technology lets students engage with information and course content in a completely new way. They can see a video reenactment of a Revolutionary War battle after reading about it in a textbook, watch molecules and the Periodic Table come to life, or see diagrams of the human body pop off their page.

Student engagement is the foundation for learning, and scannable technology can motivate learners of all ages. Just listen to the *Oohs* and *Ahhs* accompanying the sound of a QR code scanner app taking a user straight to a video clip, or the excitement in the eyes of students when an augmented reality image is layered on top of the real world. Keeping students interested about all parts of the curriculum across the content areas is the goal of educators at every level. Scannable technology can help students engage with text, multimedia, resources . . . you name it. Whatever curated materials you want students to access can be used to energize lessons and enliven your classroom practice . . . the A-C-E working together to develop and empower lifelong learners.

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Share

One of the great things about mobile devices in educational settings is the range of opportunities for content creation.

Students might design a webpage for a digital portfolio, make a narrated slideshow documenting a science experiment, or create a movie telling the story of a period in history. These digital creations are often hosted by a link or saved as a file—not a tangible project that can be posted on a bulletin board to celebrate publicly in your school community.

Powerful technology tools give students opportunities to create content demonstrating their understanding and connect to an authentic audience. Scannable technology helps take these products off a device to display and share student learning with the community. A link to their creation can be attached to displays in your building to turn a two-dimensional poster or piece of student writing into a website, slideshow, movie, or any digital product your students have designed. Providing an audience for student work is an important motivational tool and connects to college and career readiness. Scannable technology lets educators and students easily share and celebrate their work.

WHAT DO I NEED TO GET STARTED?

Scannable technology is used with any mobile device connected to the Internet. This includes smartphones on a cellular network and tablets on a wireless network. The device must be able to download a QR code reader app and/or augmented reality apps. Once these apps are downloaded on student devices the next step is to create QR codes and augmented reality triggers, or find ones that have already been made (more on all of this in the next two chapters). You can create and scan QR codes completely for free, and this is true for many augmented reality apps too. Depending on the type of apps you choose to use in your classroom, scannable technology can be integrated into your instruction at no or low cost.

Devices

The devices you choose to use in your classroom can look the same or different from one another. All of the tablets or smartphones must be preloaded with the scanning app of

your choice. QR codes are designed to be scanned by any QR code–scanning app. This means each device could have a different QR code scanner app. For augmented reality, each device will need to have a dedicated app. Many of these AR companies have made apps that work on multiple platforms; for example, Aurasma and Blippar both have an app for iOS devices and Android tablets. In Chapters 2 and 3 you will discover different options that will make it easier to decide the pathway you would like to take as you begin your scannable journey.

Needs

In addition to identifying what apps to load on your school's devices, it's important to step back and take a look at your class. Take into consideration your students' needs and interests as you dive into the next few chapters. What type of activities will keep this class engaged? Which resources will they need access to as they work on a new unit of study? We all know that every group of students is very different. Even if we've taught the same grade every year for two decades, each group of students has a distinct personality and combination of unique needs. Take all of this into account as you design learning activities for your students and leverage the power of scannable technology in your lessons and school community.

WHAT IF . . . ?

I have an assortment of devices in my school . . .

In mixed-device learning environments, it can sometimes be a challenge to keep everyone on the same page—especially when it comes to workflow. Depending on how you use it, scannable technology can be implemented on all devices in your learning environment. QR codes are completely device agnostic, so any QR code you make can be read by any QR code scanner app. Augmented reality requires a dedicated app, but many of these are now available on multiple platforms so you just have to choose the one that works best with the devices you have access to in your building.

Every student brings their own device to school . . .

BYOD (Bring Your Own Device) environments are increasing in popularity. If students in your school bring their own device, make sure they have scannable apps pre-loaded. Everyone should have a QR code scanner app, and you may want to provide families with a list of example apps for each type of device. Depending on the devices students are permitted to bring to school as part of your BYOD initiative, you can give students the names of augmented reality apps you or other teachers in your school will use. Just like any other required apps, you can ask students to download them to their devices before arriving to class.

My students' families have limited access to technology . . .

In this book I provide examples for ways teachers can use scannable technology to increase parent engagement at school and at home. No matter where you live, there will be families in your district with limited access to technology. In Chapter 8 we will talk about ways to engage families with scannable technology when they visit your school. This will include strategies for families who might not have a smartphone in their pocket. When it comes to sending students home with scannable technology, we'll also examine options for supporting children who might not have access to a consistent wireless network or a mobile tablet.

As you dive into the next few chapters, I encourage you to paint a picture in your mind of your classroom, school, and district. Think about the needs of your current or prospective students as you work through the pages of this text. Technology integration needs to be thoughtful and purposeful. Scannable technology helps teachers increase access, easily curate, engage all learners, and share student creations, with a simple scan!