Technology for Teachers

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Even the most tech-savvy among us know how easily technology can frustrate us, turning a lesson with great potential into a migraine-inducing waste of time. Sadly, some will use this possibility as the excuse to avoid using technology altogether in their class and practice. We all know of colleagues who are so hesitant to use the available tools that they insist technology has a personal grudge against them.

As a classroom teacher and again as a technology coach, I've have seen far more teachers successfully infuse technology into their classroom and improve their students' learning than I have seen it blow up in a teacher's face. To be sure, transforming a lesson or unit—or an entire year—with technology is risky. However, by taking some of the following steps, you can minimize risk and increase your comfort level as you continue to transform your classroom.

USE THE TOOL YOURSELF

Before launching a tool in class, sign up and use it the way it's supposed to be used. (Don't worry; you'll push it past its limits when you bring it into the classroom. Right now, you are just getting familiar.) This is primarily why I signed up for Facebook so many years ago. I knew students were starting to use it, and I wanted to know why. I also wanted to know if it was presenting any potential problems/risks for my students. It also gives me a little more credibility when I do have to caution them about something ("Hey, kids, did you notice that Facebook just changed their privacy settings...again. You might want to turn off blah, blah, blah...")

Don't limit yourself to using the tool in an "educational" way, either. Many of the tools Flipping teachers and other tech-infusers use were not specifically designed for the classroom. When I first heard about VoiceThread and thought I might try it in my class one day, I created an account, created my first VoiceThread with some current pictures

of my own children, and some voiceover stories about them, and sent it to our parents. I gave them some basic instructions for logging in and commenting. Not only did I learn about where I needed to be explicit in my instructions (there were a number of emails back and forth), but I have a cool little video with all our family's voices on it from when my kids were younger. (Good thing, considering how little I've actually used that video camera Mom bought me...)

More recently, I've had gone through a similar process with Google Hangout. Though I immediately saw the potential as a teaching and connection tool, I wasn't going to set up a Hangout with an author and an entire library full of students just yet. My first Hangouts were with my sister and nieces. After that, I tried with a couple of colleagues, where our awkward trial runs often turned into goofy sessions with pirate hats and snorkels.

Besides just being fun, and increasing your own confidence with a tool (before pretending to be the expert in front of a class...more on that error later), this kind of personal experimentation allows you to see the power of the tool and the way it transforms your own communication or learning. It creates a sense of buy-in that will later keep you moving through minor glitches during implementation. A sense of stick-to-it-iveness that will remind you "*yes, this is not going perfectly yet, but it is worth it because I know how powerful this is going to be for my students.*"

Create a Student Account

Does this sound at all familiar? You have worked with a tool, particularly a nice one for education (Edmodo, Schoology, Moodle, for example), and you are ready to start using it to deliver content and get feedback from students. You feel comfortable with the tool and have spent many hours learning its ins-and-outs, and really trying to leverage all its features. You are a pro at this. The day after you get all your kids signed up and signed in, and the first video or online activity is assigned, you are met at the door the next morning by thirty panicky kids saying they couldn't access/download/upload/view/take the quiz/click on the links/see the assignment/... well, you've been there.

After a few of these gaffs, I started making it a habit of creating a student account right away. (My eldest son has more accounts online

than he has a clue about.) I make sure to make this a *completely separate* account, even creating a separate Gmail account to use, if it asks me for an email. After creating content, I log in as him, and pay special attention to what he *can't* do. What doesn't a student have access to? How does the main menu look different? Do they have to download a file by clicking in a different spot? The point here is to prevent all assumptions by asking how students are going to see and interact with the tool *differently* than I will as a teacher.

CREATE A TESTING TEAM

One of the struggles that many flipping teachers quickly run into is creating video content that all students can view on any device in any setting. The answer to this problem is simple: You can't. Until video and video players and plug-ins and codecs (whatever the heck those are) are all the same (like .jpeg for photos?), the best we can do is test it out.

This is a similar challenge that we faced for a while with some students having Macs and not being able to open our Word docs, for example. First, we figured out that everything had to be saved into a PDF to create a consistent accessibility. Then, the software began catching up, recognizing a variety of other formats and often eliminating this problem altogether.

To minimize this compatibility issue with our video content, one suggestion is to create a testing "team" of people (including students) who are savvy enough to know their own systems and to know how to troubleshoot a little. If you are using a PC, for example, you can determine if the video runs in Chrome, Internet Explorer, and Firefox. But that's when you are logged in as you, on your machine, in your environment (your classroom, on your school's wireless, perhaps?)

To test this as fully as possible, you'll need to consider the following:

- Student vs. Teacher log in (in your building)
- PC vs. Mac
- Different browsers
- In the building vs. out of the building (public Wi-Fi or home)
- Mobile devices (Chromebooks, iOS vs. Android, even iPads vs. iPhones)

This may sound like a lot of work, but there are fortunately two things in your favor. First, many have already done this. So, if you know you are creating your video content with Camtasia, saving it locally, then uploading it to a YouTube channel, most likely someone else has done that and done some of the troubleshooting/glitch-finding already. Do a Google search for your specific tools and situations to see what's been done.

Secondly, you likely only have to do this for the first one. Once you've decided you'd like to create all your videos in iMovie, upload them all to Vimeo, and embed them in Edmodo, test a video with your test team, and you should be good to go for a while.

SHOOT QUALITY VIDEO LIKE A PRO

As you've read in previous chapters, no one expects a teacher's original video content (a demonstration, a mini-lecture, a lab experiment) to be professional-quality. Most of us don't have access to much more than the very basics of video equipment and software. However, you can achieve much better results by keeping just a few things in mind as you prepare and shoot your video.

Camera Movement

Obvious as it may sound, mounting the camera on a tripod or bracing it carefully creates a much easier-on-the-eyes video. If you have to move during the 'shoot', move slowly and steadily in a straight line (whether vertically or horizontally). Remember that this high-quality video may be compressed, which makes jerky original footage into *really* jerky thumbnail-size mobile device viewing.

Lighting Placement

Unless you are going for a dramatic silhouette, avoid backlit situations and pay attention to where the bright windows are when setting up the camera. While you don't need expensive studio lighting, you should try to create a "three-point" lighting setup. This consists of a "key light" (the strongest one) off to the side and hitting you at a roughly 45 degree angle. The "fill light" is a weaker light or reflector (or even a window with a translucent drape) coming from the other side. Often a "backlight" is used to separate the subject from the background. If you want to see a demonstration of this, search *three-point lighting* on Wikipedia.

Light Quality

With lighting, also consider the harshness or softness of the light. A bare bulb cast a lot of light, but it's pretty harsh, casting distinct shadow (and highlighting wrinkles!) A light with a shade, or a diffuser (a piece of fabric hanging in front of the bulb) or a light bounced off a white wall all create a softer, more pleasing light.

Background

A plain white brick wall might not provide any distracting elements while students are watching you, but it's also pretty boring. Depending on what you are teaching and your setting, a bookshelf, an equipment cabinet, or some furniture all provide a more natural setting. You want to strike a balance here between bland and distracting.

As a photographer, I've also learned the value of paying attention to the background. While shooting some shots of my friend and her family, I had turned all my attention to my subjects and their poses while snapping away. Only later did I realize that one of my best shots, which was taken in front of a large oak, created the impression of a significant branch growing directly out of her husband's head.

Sound

While you don't need to invest a small fortune in lighting, you may want to pick up a decent microphone that plugs into the camera (wireless lapel mics are even better, but get your credit cards ready.) Even a decent "shotgun" mic attached to the camcorder will improve the sound greatly. Of course, if all you have is a Flip camera, or your phone, you can get some very decent sound if you control your environment.

If you are at school, watch the clock for bells or regular announcements. If you are home, wait until the kids are asleep, or the evening train has gone by, or they dryer buzzer has buzzed. Be aware of all the sounds *you* make when you are shooting, too. Rustling clothes or jewelry, adjusting things on the table that also holds your laptop, or moving the microphone all create unwanted, distracting sounds. One of the sounds that I try to minimize the most (because it bugs me the most) is keyboard clicking when I'm screencasting a tutorial. I try to use the keyboard as little and as

quietly as I can. You find out just how LOUDLY you type when you do your first screencast.

One last thought about shooting like a pro, don't be intimidated by all this. You are not creating a studio-quality production and no one is expecting you to. As a matter of fact, students often comment that they like seeing the teacher's home office in the background or having the teacher's four-year-old run in to say good night to daddy. You don't need perfect, you just need to make sure the students can see you and hear you clearly. The rest, especially at first, can be rough around the edges.

TAKE IT EASY

If you've never flipped your class before, start by taking the pressure off. It's not going to be perfect. Listen to the advice many flipping teachers received (from Bergmann and Sams) when they started: *"Do you want it perfect, or do you want it Tuesday?"* If it's easier, start by simply recording your lesson/lecture/discussion in class and posting an unedited clip. If you don't want to try filming yourself, then start with just a screencast of you annotating a PowerPoint slideshow for your students. Eventually, you'll want to create a more polished blend of you talking to the camera and you demonstrating what you are explaining. Isn't this how most cooking shows are put together?

Also, don't over-rehearse. Really. How many times do you rehearse your lectures before you walk into class at 7:45 and deliver it to your 1st period class? Exactly. Students will generally receive it better if it seems more like you are just talking to them. Sure, use notes or a teleprompter app for your iPad sitting nearby, but don't let the student lose your personality as a teacher.

The best advice I've ever heard regarding the infusion of any technology into your classroom? Start small—advice that is just as applicable to the flipped classroom. Don't try to create 30-minute lessons (will students watch these anyway?) Shoot for five-minute mini-lessons, or very specific demonstrations, or one clear and succinct definition each in a series of one-minute videos. Try flipping with just one class for a quarter or semester. Take notes, be reflective, adjust and improve as you go.

In this book, you've heard the stories of many successful flipped class teachers. Most of them began in small ways transforming their instruction. They all hit snags, and struggled with some of the technology. They ignored naysayers, convinced administrators, and encouraged students because they knew that this shift would transform their classroom into a more student-centered, personalized, relevant learning experience. They connected, reflected, and perfected as they went. They quickly passed the point where the flipped classroom went from being a "technology" thing to a "learning" thing. They charted a course, launched the ships, and flipped their class.

And so will you.

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