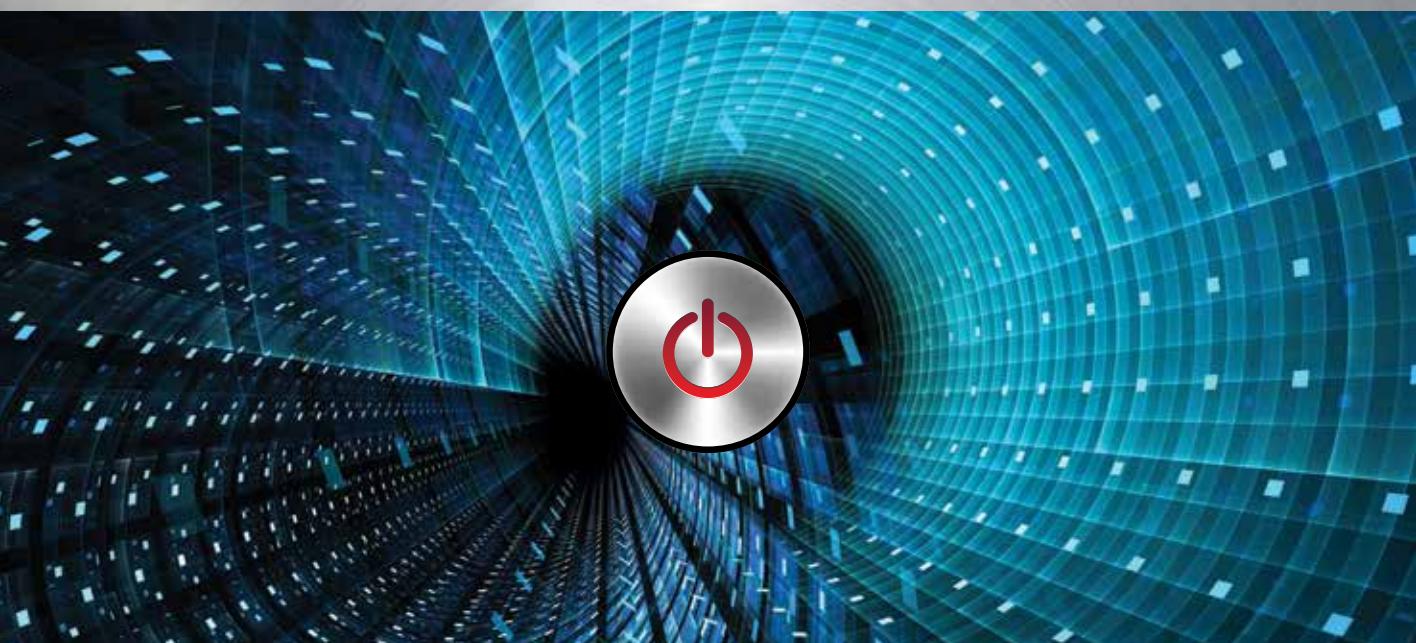


POWER UP

**MAKING THE SHIFT TO 1:1
TEACHING AND LEARNING**



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FOREWORD BY JAIME CASAP



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CHAPTER 9

Rethinking Class Time

Time (n): An opportune or suitable moment.

Teacher: Diana Neebe

Class: Freshman English

If we let it, 1:1 technology has the power to radically transform how we teach and what we do with precious class time. What follows is a case study of how I rethought my ninth-grade English writing instruction curriculum and how, with a little bit of creativity, this new model of teaching and learning has allowed me to meet students' needs in new ways.

To an outside observer, day two of our *Of Mice and Men* drafting workshop must have looked like a scholastic combat zone. Sprawling teenagers littered the once-tidy room with opened books, propped-up iPads, wireless keyboards, and backpacks spewing homework and handouts from a long day of learning. In the front corner of the room sat Chris, a young man silenced by his fear of “looking dumb.” He had many questions but lacked the confidence to ask them. All through middle school, Chris barely made passing scores in language arts, and in his first semester of high school, he appeared to be rapidly falling behind.

I looked down at my iPad, cued to the [todaysmeet.com](#) room I had created for questions and help requests. A new line flashed at the top:

“I think my quote is OK, but I don’t know what to say about it. What do I do next?—Chris”

Seeing my rare opportunity, I beelined over to Chris, crouched down next to him, and zoomed in to his question on my screen. “Let’s see this awesome quote you found and start there,” I prodded.

“It’s the one where Crooks says that the guys ‘ain’t got no right coming into [his] room.’”

“What made that line stand out to you?” I asked.

“I don’t know. I tried to find something with ‘weighty words’ like you said in the video. The word *right* seems like it’s important. But I don’t know,” Chris mumbled, deflated.

“Who’s the speaker?” I pushed.

“Crooks.”

“Why do we care that Crooks is trying to protect his space and *his rights*?” I continued.

“I don’t know. Crooks doesn’t really get any rights unless he stands up for them. It’s sorta ironic.”

“Great!” I jumped in. “Why is it ironic? How might you play off of Steinbeck’s use of irony to prove your point?”

Chris and I conversed back and forth like this for a few minutes to clarify his argument before I moved on to help other students. If Chris had been in my class just a couple of years earlier, our whole-class lesson on quote selection and body paragraphs would have taken up the bulk of our face-to-face time, and Chris would have been left to write at home by himself. The notion of providing “just in time” support was nonexistent in that model. Instead, because I flipped where instruction and practice took place, I was able to work side by side with Chris, tailor my teaching to his specific writing needs, and skip that entire ugly step of Chris feeling stumped, or worse, stupid.

While I was working with Chris, his classmates were typing away, quietly asking each other questions on our backchannel and reviewing the tutorial videos I had posted the night before for homework. Because students shared their docs-in-progress with me, I was able to peek in on their papers while they wrote, and check in virtually with any students who had unanswered questions after class ended.

Of course, to free up class time for highly personalized and targeted instruction, I had to shift something. In the case of my English classes, I moved all of my writing instruction outside of class, and pulled *all* of our drafting and editing into class. This model—where guided practice is done in class, and some portion of instruction is delivered as homework—is often called *flipped teaching*, or *blended learning*.

A few compelling reasons made me consider, and eventually move to, a blended learning environment. The first is what I witnessed in working with Chris: by freeing up valuable class time, I am able to have personalized conversations with kids about exactly what they need, exactly when they need it. Beyond working one-on-one with students, shifting lecture-based instruction out of the classroom gives students more time to work with each other and engage in dynamic activities that creatively push them to apply their learning. I love that as a result, my role unequivocally shifts from the proverbial “sage on the stage” to my dream job of “guide on the side.”

The second reason is that the instruction itself becomes differentiated. Moving my instruction to a video or other multimedia online source is like handing each of my students a remote control. Imagine a class period in which every student could push a button to pause, rewind, or even replay your lesson. You might have to stop every few seconds to meet every student’s demands. But when instruction is delivered at home, students can loop and repeat it without ever having to raise a hand and feel embarrassed. For example, my lesson on quote selection changed from being teacher determined to student paced. As a result, students’

work in class became dynamic and responsive instead of linear and prescribed.

The third reason is that instruction is archived. I didn't fully appreciate the value of having lessons saved online until I started walking around the room during our writing workshops. I was in the middle of a fabulous conversation with my freshman Carrie about race, gender, and being the outcast (conversations I didn't get to have, midpaper, with students while they were writing at home), when I turned around to see Aaron jamming on his headphones. I was about to bust him for being off task when I saw that he was rewatching my video on conclusions. I was working with Carrie while simultaneously teaching Aaron. It was as if I had cloned myself! Because the lesson was archived, Aaron was able to pull up a video from a couple of months earlier and rewatch it during his writing workshop.

The New Time Management

Diana's experience of being able to provide the right instruction at the right time is one of the beauties of blended instruction and one of the gifts we get with 1:1 technology. Instead of her lesson plans being dictated by the bells at the beginning and end of the class period, she had the freedom to listen to her students' needs and plan accordingly. The process becomes a new kind of time management.

Back in the days of the original tablet, the ancient Greeks marked the concept of time with two disparate terms—*xρόνος* and *καιρός*—*chronos* and *kairos*. They used *chronos* to describe chronological time that is quantitative and marches along like the ticking of a clock. *Kairos*, on the other hand, was reserved for qualitative measures, such as moments and opportunities. If *chronos* was “time,” *kairos* was the “right time.”

When we let 1:1 technology transform our classrooms, we no longer have to abide by the same rules of *chronos* that, in the past, governed teaching and fettered learning. Gone are the days of planning an activity simply because it's the next lesson in the sequence, or because we see our students only fifty minutes per day. Rather, by blending the types of learning experiences we do inside and outside of class, and by blurring the boundaries between what is “schoolwork” and what is “homework,” we have the power to maximize our limited face-to-face time for lessons that truly require teacher support and peer collaboration. We have the keys to *kairos*.

The Theory Behind the Practice

Beyond anecdotal success stories, there are many other, more scientific, reasons for blending our classrooms. Bloom's revised taxonomy (Anderson and Krathwohl 2001) gives us language to discuss the types of learning objectives we have for our students. The higher up the taxonomy we go, the more in-depth and authentic student learning becomes. Many of us remember the terms shown in Figure 9.1 from our Ed School days and have thoughtfully created curriculum that moves our students up the ladder.

Create	design, develop, produce, propose, synthesize
Evaluate	argue, critique, defend, recommend, validate
Analyze	compare, interpret, deconstruct, dissect, categorize
Apply	implement, solve, experiment, illustrate, simulate
Understand	explain, summarize, infer, translate, restate
Remember	recognize, recall, define, recite, list

Figure 9.1 Bloom's Revised Taxonomy (Highest-Level Thinking at the Top)

However, higher-level Bloom's tasks are also associated with a greater demand for critical thinking and thus place a higher intrinsic cognitive load on students' working memory (Sweller 2008). It seems intuitive that students are more likely to need our support for the "tough stuff" than for the less taxing tasks of remembering and understanding. And yet, most classes are set up to frontload content (*remember, understand*) during face-to-face sessions and to send students home on their own to practice what they've learned (*apply, analyze, evaluate, create*).

In the traditional model, a math teacher during class might present a new concept, such as the quadratic formula, and give students ways to remember the process steps for problem solving. Then, those students would go home to work through a series of questions that required them to apply the quadratic formula. In a history class, students might come to class to learn about sectional crisis and the Civil War, but then go home to work on a research paper explaining one of the factors leading up to the war. In each of these instances, the work done in class with the support of a teacher is much less challenging than the work done independently. What if we flipped that sequence? What if, instead, we used technology to create a flexible classroom that allows us to support students with the most challenging tasks we ask them to do during our collaborative face-to-face time and then provide the lower-level Bloom's content outside of class through multimedia presentations?

Blending our classrooms not only is a strategic approach for igniting and supporting critical thinking but also creates a responsive pedagogy for the realities of teaching in the "flat" and connected world of contemporary education. José Antonio Bowen (2012), a music professor at Southern Methodist University, writes about the parallel shift he has experienced in the college classroom, and how technology fits into the new paradigm of teaching and learning:

The workforce of the future will always be connected to the Web, and learning how to triage information is a crucial professional skill. Life has always been an open-book exam, but life and work in the 21st century are all about who can find the right information quickly, analyze what it means, and then put it to use before anyone else can . . . As knowledge proliferates, the need for analysis and critical thinking will only increase. The talking head is dead. (145, 47)

We no longer need to be our students' only source of information. In fact, even if we *wanted* to be the oracle, we have to acknowledge that our students will still access and learn from a multitude of sources beyond us. The task of teaching in the twenty-first century is to be "less oracle and more curator" (Bowen 2012, 46) and for classroom time to be less us, more them.

When we make this shift from a traditional classroom to a blended one, the hidden curriculum becomes visible. We reinforce the importance of learning in community with others, and co-creating knowledge with our students. We acknowledge that there are many voices in the learning process, and that ours is neither the loudest nor the most important. We free up time for our students to engage in peer-to-peer learning, to teach each other, to grapple with the biggest challenges we can throw their way, and to share the results of their learning with the world.

The Evolution of a Blended Classroom

Moving to a blended classroom does not happen overnight. And, of course, this model works well only if all of your students have access to your lessons at home, usually via the Internet, and have the same device they use at school. If your school is beginning a 1:1 program with a cart-based model, where the devices remain in the classroom, you will have less flexibility to flip or blend your classroom. What follows is a snapshot of each step of the way—from preparing students for a blended classroom, to creating and curating media, to transforming what you can do with class time once you've made the flip.

Preparing Students for a New Workflow

For most students (and their parents), flipped instruction represents a new model for learning. Your students will probably need several lessons on how to actively engage with the content material they are using at home. Depending on the ages and experience of your students, you may have to teach them about pausing a video to take notes and have them practice the steps for accessing your course material online. You'll also want to be sure students can access any tools you are using to check for their understanding.

When Jen visited Mike Salamanca's eighth-grade math class for the first time, she received an apology: "I know you came to see flipped teaching, and today we aren't really flip-

ping,” he said. “Before I send the students home to watch videos, I want them to practice the process here in class for a few days. So this is just getting them ready for flipping.” Salamanca knew he needed to prepare his students by practicing the flipped instructional process in class. It was a great opportunity for Jen to see the process from the beginning.

Because Salamanca was not giving a lesson to the whole class at once, Jen was free to wander the room and observe students closely. Each student wore headphones and had a laptop on his or her desk. Most were already watching a video about real numbers, but as they watched, students would often pause the video to solve a problem in their notebooks and then restart it to check their answer. The video lasted about nine minutes, but most students spent fifteen to twenty minutes watching the whole thing. When they had finished, they used the notes they had taken to answer some quiz questions on a Google Form that Salamanca had set up on his classroom website.



Figure 9.2 One of Diana's students practices studying with a flipped lesson.

Jen came to Salamanca’s class expecting to see great teaching in action, and she did. He was not at the front of the room delivering an amazing lesson that compelled every student to pay attention. He was wandering the room as she was, checking on students who had questions, reviewing the practice problems in their notes, and helping them navigate to the next step. What was most striking to Jen was that every student heard the teacher’s lesson on the video in a distraction-free way. With headphones on and their eyes glued to their screens, no one was looking out the window, poking a classmate, or making eye contact with a friend across the room.

On a warm day in a classroom bungalow without air-conditioning, students were focused on learning about solving problems with real numbers (see Figure 9.2).

Once he is sure all his students know how to access his website, navigate to the right lesson, keep track of practice problems along the way, and complete the Google Form to check their understanding, Salamanca will move the video lessons to homework. (His students carry home the same laptops they use in class.) And, once students are watching the lessons at home, he can devote class time to more interesting practice problems, differentiated instruction, and projects.

Engaging Students with Dynamic Media

After we have prepared our students for the transition to a blended learning environment, we must think about how we will engage them in meaningful learning outside of school. Surely,

there is a time and a place for a podcast lesson on cell division, or a screencast of the origins of geometric formula, but that is not and should not be the extent of what we ask students to watch and listen to at home. In his 2013 TED Talk on sparking student learning, teacher Ramsey Musallam said it best:

Flipping a boring lecture from the classroom to the screen of a mobile device might save instructional time, but if it is the focus of our students' experience it's the same dehumanizing chatter just wrapped up in fancy clothing. But, if instead, we have the guts to confuse our students, perplex them, and evoke real questions, through those questions, we as teachers have information that we can use to tailor robust and informed methods of blended instruction.

It may be overwhelming at first to realize the nearly limitless potential of the web, but it is also liberating to know that we have options for how we instruct our students and for what actually constitutes “instruction.” Trust us: our students are far more delighted to see a goofy claymation video tutorial about plural versus possessive than to listen to us drone on *again* about when to use an apostrophe, and often we find that the more diverse and dynamic the media, the more memorable the content (i.e., the more it sticks!). Sometimes the best teaching we can do is curating.

Sasha Kelly and her seventh graders were in the middle of a unit on plate tectonics, earthquakes, and volcanoes, and she wanted to teach them the difference between the major types of faults in preparation for their hands-on lab the next day. Instead of sending her students home with textbook pages to read, or a mini-lecture to listen to, she gave them an annotated video with clips of real earthquake footage. The video stopped every minute or so to provide content in context. Kelly used EdPuzzle to add audio comments to the paused video: after students saw a clip of the 1989 earthquake in California with images of the San Andreas fault, she explained how the collision of the Pacific plate and the North American plate caused an earthquake, and why it was considered a strike-slip transform fault. She then asked students a check-in question for which they had to apply their prior learning around plate tectonics to help explain why that collision would happen. The video was a far cry from a boring lecture, and it prepared the students for a collaborative inquiry-based class the next day.

Here are a few more examples from other disciplines that showcase ways to engage students by using dynamic media:

- A US history teacher looking to illustrate the waves of immigration into the country assigned students the interactive immigration map from the *New York Times* and asked them to pick two different counties from two different states and note their change over time. They also were to track one foreign-born group of people and look for trends in how they settled across the United States.

Students came to class the next day with a list of questions for their small-group discussions about potential causes for the immigration trends they noticed.

- A chemistry teacher wanted to maximize the amount of time her students would have for a lab focusing on solubility and conductivity. Instead of spending a class period on the pre-lab, walking students through a teacher-led demonstration, she created a video pre-lab of the experiment for students to watch and required them to take a pre-lab quiz before arriving the next day. A passing score on the quiz was the admission ticket to participating in the lab activity.
- The high school’s band director was hoping to fast-track the acclimation process for his beginning students learning to play with one another, so instead of assigning solo practice for homework, he provided students with SmartMusic, which enabled his budding musicians to rehearse at home with a professional orchestra. By the time they showed up for class, they were ready to play together.
- A computer science teacher flipped her traditional lecture-based lesson on “how search works” to homework. That evening, students thought through an interactive infographic from Google on the story behind search (www.google.com/insidesearch/howsearchworks/thestory/), following along with a graphic organizer. As a result, the next day her students had hands-on class time during which they investigated and tested out the effects of crawling and indexing on their own search histories with their peers.
- An English teacher wanted to flip his traditional author biography background lecture on Ralph Ellison, but instead of recording himself in a podcast, he posted a short video from biography.com for his students to watch. Students found the video engaging, with its integration of images and primary sources, and their teacher was thrilled to buy back enough time to dig into a deeper discussion in class.
- A physics teacher introducing potential and kinetic energy to his students assigned a short video chock-full of real-world examples created by a fellow science teacher from Bozeman, Montana, who creates and curates his lessons on bozemanscience.com.
- Students in a women’s history senior elective course were preparing for a big project in which they were to update the Seneca Falls Declaration of Sentiments and Resolutions, working in teams during class time. In preparation for their discussion around “what still needs to change,” the teacher assigned a series of contemporary speeches by prominent women. Students watched a range of videos, from Sheryl Sandberg’s TED Talk on “Leaning In” to Emma Watson’s address to the United Nations announcing the “He for She” movement.

Holding Students Accountable at Home

At some point in the transition, many teachers notice that, without accountability tools built in, students may choose to slack a bit, and either not do the assignment (“There’s nothing to turn in!”) or not do it with care (“It’s like watching TV!”). Dario Flores noticed that students in his Spanish 1 class were falling into these very traps. One night, he sent them home with a short video lesson explaining “*verbos como gustar*,” along with a clip from a *telenovela* that put the verb construction into play. The next day, he was surprised when students came into class foggy about how to conjugate this peculiar verb type, complaining that the video just wasn’t clear. That night, he gave the exact same assignment, but this time he added a couple of checkpoints to hold his students accountable. While listening to the mini-lesson, they followed along with cloze notes, where most of the major bullet points were already written out but strategic words were left blank for students to fill in. After they had finished the lesson and watched the *telenovela* clip, students recorded a two-sentence summary in the target language explaining what each of the main characters mentioned liking most (“*A ella le gusta . . .*”). Then they uploaded their short recordings to Flores’s learning management system (LMS) so he could review their understanding.

When transitioning to a new model of instruction, it’s all too easy to forget that we used to hold our kids accountable for our lessons when we taught them face-to-face. The need for accountability hasn’t changed now that those lessons are online and available at home. Truthfully, the method of holding students accountable isn’t all that different, either. Here are a few simple, and likely familiar, strategies for holding students accountable for content they learn at home:

- Provide a graphic organizer to help students make sense of new material.
- Assign guided notes, cloze notes, or Cornell notes that students are responsible for as they watch or listen.
- Check for understanding after students complete the flipped content. You could use a Google Form with some open-ended questions, create a quick at-home quiz on your learning management system, or choose another method.
- Ask for a discussion question or clarifying question at the start of the next class period.
- Give a quiz in class the next day. Often, we make it easy for students to earn credit at the beginning of the year when they are just learning our blended methods. We might ask obvious questions, such as “Describe the setting for the video. Where was I standing? What details do you remember?” Or, “What did I drop during the experiment?” When we know our students have become comfortable with the process, our questions become more rigorous and content based.

Digging Deeper During Class

After more than a decade of teaching AP chemistry, Kavita Gupta had long since created and refined her “wish list” of what she would do in class if she just had more face-to-face time. She knew that students internalized content best when they had hands-on practice in a low-stakes environment. But it seemed that with the ever-increasing list of content to cover to prepare students for the national AP exam, the labs and projects that she yearned to include kept getting cut from the jam-packed calendar, and class time had become a cycle of lecture-quiz-review-test.

When Gupta’s school moved to the bring-your-own-device model for 1:1 technology, she realized that she had the tools she needed to free up precious face-to-face time for collaborative inquiry. She started by flipping just one unit—the hardest one for students to understand. At night, students went home to a series of brief podcasts, video lectures, and interactive readings from an e-book that Gupta had created to preview the various types of chemical reactions: synthesis, decomposition, single replacement, double replacement, combustion, redox, and complexation. During class, instead of listening to Gupta’s lectures, students worked in teams to investigate and explain the reactions they witnessed in the experiments that Gupta had presented, or to identify the differences between net ionic equations and predict the type of reaction based on the equation.

Over a cup of coffee after the unit came to a close, Gupta reported with a smile that her students fared better than ever before on their unit tests. “What we ended up doing in class was more like what real-world scientists do: ask questions, make predictions, test assump-



PLUG IN

Consider Your Needs, and Check Out What's Already Available for You to Use

1. **Identify the friction points in your classroom.** What takes up time but doesn't include the payoff of student engagement and construction of knowledge? Are there any types of lessons you wish you could shift out of class?
2. **Make a wish list of student-centered lessons and activities** that really require face-to-face time to be effective. If you had all the time you would ever need, what kind of peer teaching and collaboration would you most want your students to have? Which activities and lessons seem to get cut most often when you run out of time?
3. **Watch a lesson about a subject you are interested in.** Start by searching the Khan Academy (<https://www.khanacademy.org/>), a nonprofit that publishes thousands of videos on a variety of subjects for grades K–12. Access is free, and each video lesson is about ten minutes long. There are thousands of videos on YouTube if you search [flipped lesson + subject], or peruse the YouTubeEDU channel (www.youtube.com/education).

tions, collaborate with a team of researchers,” she said. “Every kid was engaged in figuring out how to apply what they had learned the night before. I loved it!”

Moving to a blended classroom offers countless opportunities for crafting instruction that engages students in real-world learning. Gupta’s transformative experience is but one of many that we’ve heard from teachers who are thrilled with the flexibility and creative license that 1:1 technology affords them.

Thinking Through a Blended Unit: *Their Eyes Were Watching God*

Teachers: Diana Neebe and Fehmeen Picetti

Class: US Literature

When I first heard about the “flipped classroom,” I thought it sounded like a great idea . . . for math and science. In those disciplines, it intuitively made sense to me for teachers to push their instruction to homework and pull in guided practice as classwork. But what about a discipline where the boundaries are a bit more fuzzy? I couldn’t imagine the application being relevant or beneficial in an English class. For years, English teachers have refined the tried-and-true pattern of asking students to read at home and discuss in class. My own experiences in English class had been rooted in this seminar-style model. How could I possibly flip discussion? Or reading, for that matter?

I was unconvinced until I met my fourth-period class. They were an energetic crew with loads on their plates beyond academics. Most students in the class participated in sports after school, and many didn’t get home to start homework until 8:00 p.m. on a regular basis. Between balancing multiple courses and fighting off exhaustion, required reading was often last on the list, and was either attempted by half-asleep teen zombies or replaced by a cursory glance at SparkNotes. At the start of the year, the majority of my fourth-period students were self-professed loathers of reading, and a few even mentioned to me with a grin that they had yet to complete an assigned novel for school.

At this point, I was fairly certain that the old “read at home, discuss in class” model would simply perpetuate a cycle of fake reading and yield a number of class periods that could only be described as “bull sessions.” To complicate matters further, our department had just adopted a new text—a beautiful, compelling, and complex novel that had the power to challenge and enchant strong readers but the potential to leave struggling readers (like many of mine) in the dust. As I embarked on teaching Zora Neale Hurston’s *Their Eyes Were Watching God* for the first time, I knew I would need to try something different.

Ultimately, my teaching partner, Fehmeen Picetti, and I settled on a meet-in-the-middle, blended (or partially flipped) approach. Some of our reading would be done at home, but most

would take place in school. We applied the same strategy to discussion, writing, and direct instruction. At each step of the way, we made decisions about what “stayed” (in class) and what “went” (to homework) based on what we thought students needed the most help to complete. At the beginning of the unit, we knew they needed our support to understand the complex dialect in the novel and make sense of the characters. By the end of the unit, when they had a stronger grasp on the novel and were actually engaged enough in the story to read it independently, we focused our class time around face-to-face discussion and writing practice.

With Bloom’s taxonomy firmly planted in our minds, we designed, produced, curated, and facilitated a fully blended unit that was custom-built for our students. What follows are the questions we had to think through along the way.

Step 1: Designing a Blended Unit

Jen and I have said it before, but I’ll say it again: good teaching is good teaching. With or without technology, our end game is meaningful student learning, and that means we must start with the end in mind. Beyond the general questions about learning objectives and outcomes that we ask with any unit, Fehmeen and I wanted to consider how we could leverage technology to expand what we could each achieve in class. We wanted to move up Bloom’s taxonomy, and from coverage to *uncoverage*.

In his book *Creating Significant Learning Experiences* (2003), Dee Fink expands on Bloom’s taxonomy of higher-order thinking, and includes six elements that make for “significant learning” for today’s young generation:

- Foundational knowledge: understanding and remembering information and ideas
- Application: critical, creative, and practical thinking skills, managing projects
- Integration: connecting ideas, people, and realms of life
- Human dimension: learning about oneself and others
- Caring: developing new interests, feelings, and values
- Learning how to learn: becoming a better student by inquiring about a subject and directing one’s own learning (34–36)

In crafting this particular unit, we asked ourselves questions about our goals and how we could best help students reach them. We drew upon prompts posed by curriculum design classics (Wiggins and McTighe 2005; Fink 2003) as well as the central ideas presented in previous chapters of this book (engagement, collaboration, audience, differentiation, assessment, creativity), and each of us considered the following questions during our design process:

- What core skills will students need to be proficient in by the end of the unit? How can I draw upon their already-established reading, writing, and discussion skills to prepare them for new skills?

- What background knowledge will they need to be successful with this novel?
- How does this unit fit in with previous and forthcoming units of study? How can I help students integrate this unit into the broader arc of their learning and make explicit connections to other courses and disciplines?
- How will I authentically assess their learning, such that the audience matters and the skills are relevant to their lives beyond my class? Along the way, what formative data will I collect to help me understand my class's needs for differentiation?
- What do I anticipate will be the biggest hurdles for students in this unit? Where (and when) will they most need my support to be successful?
- What do I want students to do when they are together for face-to-face meetings? What is the role of our learning community in stretching their individual learning processes?
- What bigger life questions do I want students to grapple with? How do I hope this unit shapes my students as thinkers? As developing young adults?
- How can I best use our 1:1 technology to move myself out of the classroom as much as possible and build our face-to-face time so that it is student centered, collaborative, and hands-on? In other words, how do I make class time “less me, more them”?
- How can I best use our 1:1 technology to engage students outside of our face-to-face time? How will I foster connections between students beyond the four walls of our classroom?

One glance at this list may be enough to make your head spin. It would be a tall order to succeed in each of these areas, and I can honestly say in hindsight that we did not. But it is important to start with our ideal in mind. It helps with the design process and keeps us anchored during the unit itself. Then, we teach. We make adjustments, trim, adapt, and deal with all the curve balls that come with working with teenagers.

What follows is an overview of the completed unit for *Their Eyes Were Watching God* (see Figure 9.3). Each chunk of the unit is labeled with the corresponding category from either Bloom's or Fink's taxonomy. What we loved about this blended approach is that the work we did in class allowed us to increase the rigor of work done at home as the unit progressed, and by sustaining higher-order thinking at home, we were able to take students even further in class. Blending instruction, reading, and discussion made both our face-to-face time *and* our independent time more meaningful.

	IN CLASS—FACE-TO-FACE	OUT OF CLASS—FLIPPED
Week 1	<p>Building Foundational Knowledge</p> <ul style="list-style-type: none"> ▪ Cultural Anthropology Museum Day: historical background for the setting of the novel through a QR code museum. ▪ Preview African American English vernacular language of the novel by reading Hurston's short story, "Sweat," together as a class. ▪ Practice discussion norms for face-to-face discussion to prepare students for flipped discussions. 	<p>Connecting and Reflecting Personally</p> <p>In the past, we used journals as "bell work," or warm-ups, for class. Instead, we flipped a series of reflective "connect" journals and made them homework for students to submit via our LMS. They wrote about everything, from the relationships in their lives to their hopes and dreams for the future, all as a way of prethinking about the themes in the novel. Writing about personal experiences is a great way to preview content while keeping that affective filter low.</p>
Week 2	<p>Working on "Understanding"</p> <ul style="list-style-type: none"> ▪ Guided, teacher-led reading of Chapters 1–4 using an audiobook to help tune the ear to the novel's vernacular language. ▪ Modeled types of questions that strong readers ask before, during, and after reading, and demonstrated strategies for getting "unstuck." 	<p>Building Understanding in Community</p> <p>Typically, all of our discussion of a text would happen in class because we had no other viable option. At this point in the unit, we turned to online discussion boards to flip our conversations about the text out of class so that we would have time in class to lift the heaviest cognitive load: reading an unfamiliar text with complex diction.</p>
Week 3	<p>Applying Skills in Community</p> <ul style="list-style-type: none"> ▪ Students worked in reading teams to debrief the chapter from the night before, check for understanding, clarify confusion, and make connections. Teams discussed teacher-created "after-reading" questions. ▪ Reading teams also previewed the next chapter by writing "before-reading" questions and starting the chapter. 	<p>Building Understanding Independently</p> <p>We knew we wanted to move our class sessions back to a student-centered model where they spent most of their face-to-face time working collaboratively. This meant that our guided reading instruction would have to happen at home. For Chapters 5–10, we recorded a series of "think-alouds" to accompany the readings, so that with each chapter, there was a passage that we unpacked and explicated in five minutes or less.</p>

Figure 9.3 Blended Unit At-a-Glance

	IN CLASS—FACE-TO-FACE	OUT OF CLASS—FLIPPED
Weeks 4–5	<p>Analyzing and Evaluating in Community</p> <ul style="list-style-type: none"> ▪ Reading teams generated and asked their own questions about the text. ▪ Using the video think-alouds as a model, reading teams guided whole-class think-alouds of selected passages. ▪ Students evaluated the novel through a Socratic seminar and creative project to consider contemporary connections to race in America and Hurricane Katrina. 	<p>Applying Skills Independently</p> <p>Gradually, we removed the scaffolds of teacher-guided reading and replaced the video think-alouds with the pared-down reading guides that students created in their reading teams. These guides prompted students to consider a series of before-, during-, and after-reading questions. They read the second half of the novel this way. On nights that students weren't reading, they previewed the contemporary content we would discuss and debate in class the next day.</p>
Week 6	<p>Analyzing and Evaluating Independently (with Teacher and Peer Support)</p> <ul style="list-style-type: none"> ▪ Essay drafting in class, with built-in teacher conferencing time and ongoing feedback through Google Docs. ▪ Peer instruction through brainstorming buddies and editing partners. 	<p>Reviewing Foundational Writing Skills</p> <p>The culminating analytical assignment for the unit was to write a thematic response to the literature. To clear up time for students to draft their papers in class, we flipped our review of writing instruction and brainstorming time to homework. Students watched a series of mini-tutorials on thesis statements, body paragraph organization, introductions, and conclusions, and outlined their “plan of attack” for the next day.</p>

Figure 9.3 Blended Unit At-a-Glance (continued)

Step 2: Curation and Organization

Ask any librarian: curation is an art. Regardless of whether you create your own resources or direct your students to resources that are already available, you will need a system for storing and organizing your flipped content.

For my unit on *Their Eyes Were Watching God*, I turned to my YouTube channel to curate all of my videos. I created a new playlist for the unit and added my own videos first. Then, I copied the URL for each of the preexisting videos and added those to my playlist as well. Now, when I go to teach that unit again, all I will have to do is pull up the playlist: all of my resources are in order and ready to go. For my nonvideo flipped resources, I leaned on my

learning management system to host everything from discussion boards to audio recordings to image galleries. Just to stay organized, I have links to all of my resources saved in a spreadsheet in my Google Drive. Jen inspired me to organize that way when she showed me the spreadsheet she shares with her grade-level team.

Step 3: Production of Online Resources

To support the blended model of teaching and learning for this unit, Fehmeen and I knew we would have to create a handful of online resources for our students. For the contemporary connections, we planned to search for videos on Hurricane Katrina and remix a CNN documentary called *Black in America*. Those videos would be easy to find and just as easy to host on my YouTube channel as a part of our unit playlist. We felt fairly comfortable with the writing tutorials we would need for the end of the unit; I had already created three of the videos for my students over the course of the year and would only need to make the video on conclusions; I knew I could get my partner teacher to help me on our common prep, and we already had a couple of handouts on conclusions that we could work from. The most time-consuming part of gathering our “flipped” resources would be creating the video think-alouds for the early chapters in the novel.

Step 4: Facilitation

The last major piece to figure out in planning our blended unit for *Their Eyes Were Watching God* was how to facilitate and assess the work that students were doing at home. The biggest departure from our traditional teaching repertoire was the discussion board. Our students hadn’t participated in one before, and we had no idea what to expect from them in terms of posts, replies, or even the potential for inappropriate or insensitive comments.

As a class, we started by brainstorming a list in class of what makes for a good discussion. Students said everything from “Ask interesting questions” to “Actually listen to what your peers are saying so that you are replying to their comments instead of just waiting to say your own.” Our next step was to think about how these elements would transfer to an online forum. It seemed logical that we should practice what that would look like, and debrief. We set up a discussion board in class that day, and I gave the students twenty minutes to silently participate and think about the “dos and don’ts” of online discussion.

What follows is our top ten discussion board dos and don’ts, adapted in part from American University’s online library resources (see Figure 9.4). For more on facilitating online discussions, see Chapter 3.

Step 5: Reflection

As with any unit, there is a lot I would go back and change in hindsight. But a lot about it worked, and I will gladly repeat those parts. By blending our instruction, Fehmeen and I know that our students did significantly more reading—some even reported that it was the first

<p>Do think before you post. Complete the reading or preparation work before you write.</p>
<p>Do post your response early to give your classmates more time to reply. Check back later to see what comments have been added.</p>
<p>Do explain your opinion and use examples to help others understand your points.</p>
<p>Do post something that furthers the discussion and shows depth of thought. The best part of a discussion board is that you get lots of think time before you post. Use it.</p>
<p>Do reply to several of your classmates' posts, adding examples or asking questions.</p>
<p>Do remember that it is harder to tell when something is a joke online. Use humor sparingly.</p>
<p>Don't agree with everything you read. It makes for a really boring conversation. Politely disagree when you have a difference of opinion.</p>
<p>Don't reply to the same people each time. Try to bring in other voices.</p>
<p>Don't get personal. Focus your criticism on ideas and arguments, not on your classmates.</p>
<p>Don't bring the outside in. No inside jokes, references to people who aren't in the conversation, or comments you wouldn't say face-to-face.</p>

Figure 9.4 Top Ten Discussion Board Dos and Don'ts for Students

“school book” they read in its entirety. They also complained less. The workload at home was less arduous, and they got the support they needed when they needed it. Often the flipped lessons took less time, which meant more sleep for my teen zombies. Most important, the process was more collaborative and more “about them.” When the bell rang for class, students knew they would be working with peers to examine pieces of the novel, apply skills, ask questions, debate ideas, and draw contemporary connections . . . but they certainly wouldn’t show up to listen to their teacher talk for fifty minutes or their classmates shoot the bull in response (see Figure 9.5). As far as I’m concerned, that’s a huge success.

Behind the Scenes: The Nuts and Bolts of Blended Instruction

We know what you’re thinking: that’s great, but how do I actually *do* all of those steps in my own classroom? Let’s go back and take a behind-the-scenes look at the nuts and bolts of blending instruction.



Figure 9.5 Diana's students make the most of face-to-face time.

ing conclusions, and we found it on Flickr in their Creative Commons search area.

Create a master document. You might include a spreadsheet with links to online content and file names, a page on your blog or website, or an online curation site where you store bundles of resources. In all cases, it will be helpful to have a central hub that links you to all of the content you plan to use with a particular unit and includes titles and descriptions of those resources. There are fabulous curation tools available online (see Figure 9.6), which also allow teachers to connect with each other, share resources, and save time.

Creating Your Own Online Content

For any videos we create—the most frequent being a screencast recording of a slide deck—we go through the same process and follow similar design rules.

1. *Create a concept map.* What do you need your students to understand, and how can you explain that concept in a meaningful way? We like to start by determining a story arc, angle, or metaphor to connect students to content.
2. *Storyboard.* The slides in the slide deck are fabulous for this purpose. We label the slides with key points for starters, and then we go back and fill in with images, words, and details.
3. *Write the script.* We strongly suggest having a script. We know teachers who can record themselves talking off the cuff and have it sound totally polished. But most of us ramble without a script, and rambling leads to unnecessarily long videos.

Curating Your Resources

There are a few key principles to follow when curating online content to ensure that you won't have to start your entire search process all over again the next time you want to use that one perfect video.

Adopt a naming convention. Our “go-to” convention is Unit_Content_Source, where the unit is what we are teaching, the content title is a description of the file, and source is where we found it. For example, if we have an image for a video on conclusions with the title Writing_ConclusionFunnel_FlickrCC, we know just by looking at the file that it goes in our writing curriculum, it's an image of a funnel for teach-

Generally, any video that tops seven minutes is likely too long for a teenager's attention span. We use the slide notes section to write what we want to say about each slide in the presentation while we are recording.

4. *Design your visuals.* Our general rule for slides is that they need to be simple, clear, and contain an anchoring image to ground the story. We like to find images through photosforclass.com, and we use only images that are Creative Commons licensed, in the public domain, or photographs we took ourselves. Try to keep words to a minimum, unless you are analyzing a chunk of text. In that case, consider highlighting specific words and phrases with a contrasting color or font. If you are new to presentation design, we recommend picking up a copy of *Presentation Zen* (Reynolds 2012) or his follow-up book, *Presentation Zen Design* (Reynolds 2014). Slide:ology is also a great resource (Duarte 2008).
5. *Do a run-through.* Talk out your slides at least once before recording to make sure the images and script match, and that the words flow well.
6. *Record!* Launch your screencasting software, select the area of the slide on your screen, and click the red "record" button. When you are finished recording, check the video to make sure everything looks and sounds okay. Then post it where your students can find it, and link to it on your learning management system.

Video Curation	<ul style="list-style-type: none"> ▪ YouTube.com (uploads from almost any production tool) ▪ Vimeo.com (very easy to password protect)
Audio Curation	<ul style="list-style-type: none"> ▪ SoundCloud.com ▪ Spreaker.com
Image Curation	<ul style="list-style-type: none"> ▪ Instagram.com ▪ Flickr.com ▪ Pinterest.com
Article Curation	<ul style="list-style-type: none"> ▪ Diigo.com ▪ Evernote.com
Central Hub	<ul style="list-style-type: none"> ▪ Online curation sites such as Dropmark.com, BagTheWeb.com, PearlTrees.com, or Bundlr.com ▪ Classroom blog or website ▪ School website or learning management system ▪ Shareable spreadsheet or document, like Google Sheets ▪ Educlipper.net

Figure 9.6 Staying Organized

If you want to get more sophisticated, consider taking a short course in video editing. You can also search for video-editing tutorials on YouTube specific to the software you have available. Being able to edit your videos can help you feel more confident about making them because you know you will be able to fix any flubs you make while recording. Also, remember that your videos do not have to be perfect to be effective. Your live classroom teaching is not perfect, so give yourself permission to make flawed videos as you learn more about the process. And remember that videos you create are not the only source for content material. The chart in Figure 9.7 has other ideas based on your objective.

TEACHER OBJECTIVE	CURRENT LIST OF TOOLS
Bring Outside Experts In Much of the content you may want to create is already available from other sources, and often is very high quality	Search <ul style="list-style-type: none"> ▪ YouTube ▪ Nat Geo ▪ PBS, Smithsonian ▪ Bio.com ▪ Discover Education ▪ History Channel ▪ Khan Academy ▪ Bozeman Science ▪ TED
Embed Your Lesson into Preexisting Content Fortunately, technology has evolved to equip teachers with the power to annotate preexisting videos. It's just like what you would have done while showing a video in class: pushing "pause" and pointing out an important tidbit before moving on. Now you can embed those salient points and checks for understanding right in the video as voiceovers, quizzes, and text.	Remix <ul style="list-style-type: none"> ▪ EdPuzzle (free web-based software) ▪ YouTube Video Editor (free web-based software)

Figure 9.7 Flipped Lesson Objectives and Tools

► For an updated list of our favorite tools, check out pluginpowerup.com.

TEACHER OBJECTIVE	CURRENT LIST OF TOOLS
<p>Quick Mini-Lesson</p> <p>Record the action on your computer or tablet screen with your voice (but not your face) included so that students can watch at home or at school. Some apps give you a blank whiteboard or image to “ink” on while you record your voice. This type of video is particularly effective for demonstrating process instead of content.</p>	<p>Screencast</p> <ul style="list-style-type: none"> ▪ Screencast-o-matic (free web-based software) ▪ QuickTime Player (built into every Mac) ▪ Explain Everything, ShowMe, Educreations (iPad apps) ▪ Snagit (screencast software for Mac, PC, Chrome) ▪ Jing (free screenshot/screencast software) ▪ Screenflow for Mac (free downloadable software) ▪ Movenote (record yourself giving presentations, multiplatform)
<p>Deliver Content or a Lecture</p> <p>Record your voice over a slide presentation you already use so students can watch it at their own pace. The easiest way to do this is with screencasting software while you progress through the slides and narrate them. We use the “presenter’s notes” section of the slide deck to write out our script.</p>	<p>Recorded Slide Deck</p> <ul style="list-style-type: none"> ▪ Google Presentations ▪ PowerPoint ▪ Keynote ▪ Prezi
<p>Grab Students’ Attention</p> <p>Make a creative version of your content using animation or stop motion to grab students’ attention or show how a process works. (Also great for student projects.)</p>	<p>Animation</p> <ul style="list-style-type: none"> ▪ GoAnimate! ▪ Stop Motion HD App ▪ Hyperlapse ▪ Lego Movie Maker ▪ Telegami
<p>Polished Tutorial</p> <p>Sometimes, there’s a lesson you know your students will come back to over and over again. When you want to create something really impressive that you know you can get a lot of mileage out of, try cutting together multiple videos, or integrating video and still pictures for a more movielike effect.</p>	<p>Video Editing</p> <ul style="list-style-type: none"> ▪ WeVideo (free web-based software) ▪ Camtasia Studio (paid software download) ▪ Pixorial (online editing; great for Chromebooks) ▪ Apple iMovie for Mac ▪ Windows Movie Maker for PC

Figure 9.7 Flipped Lesson Objectives and Tools (continued)

Common Questions About Blended Instruction

Isn't "blended instruction" just code for "go home and watch videos"?

Understandably, any radical shift in how we approach teaching and learning will spark questions and doubts. When we disrupt the working order of "how things have always been," we naturally wonder what the trade-offs will be and how we'll navigate the shift. We had our doubts, too, and have included them throughout the remainder of the chapter.

Our first doubt was this: isn't blended instruction just code for "go home and watch videos"? No more than class time is just code for "sit in your seat and listen to your teacher lecture." We can—and should—vary the modes of instruction we provide for students, both in class and at home. For some classes, video instruction at home may be the most effective means of communicating content, but those videos will likely look different from each other. For other classes, like Diana's, a mixed-methods approach works best: some video, some audio, some discussion, and some traditional homework assignments (such as reading). Each teacher will have to be the judge of which tool is right for the job.

Regardless of what the homework looks like, the underlying goal of blending instruction is to free up valuable face-to-face time for collaboration, peer instruction, differentiation, and increased, personalized contact time with each student (Bergmann, Overmyer, and Willie 2011).

When will I have time to create all these flipped resources?

It's true that creating flipped resources, whether videos, podcasts, discussion boards, or interactive texts takes time. A lot of time. And there is a learning curve that comes with any new software program we use. But creating resources is an investment: you pay up front and accrue the benefits over time. We would not recommend making a set of mini-lecture videos for a unit you never plan to teach again or for a concept you don't plan to return to. We invest our energy in resources we know our students will return to this year and that we are likely to reuse next year. We also consider how other teachers might use the same resource and benefit students beyond our own classes.

So, when will you have time to create these resources? The answer is *over time*. Diana made her first two writing mini-lessons at the beginning of the year for one unit; then she added to it over the course of the school year. Jen has been known to use an app to record her lesson while she does it live, and then use it for a flipped lesson the next year. (It also helps students who were absent.) Some teachers make a set of videos during a break or over the summer and wait until their next break to add to their playlists. Other teachers use only videos that already exist online for the first year or so and then dabble in creating their own resources once they have seen the process work for their students.

Doesn't all this online teaching make me kind of replaceable?

We actually think all this online teaching makes us less replaceable. Try this: The next time you are about to teach a concept, start by asking your students to do an online search about that concept. Ask one of them to read the definition they found or share some of the information they encountered in the search. Then ask the student to connect it to something else you have studied or apply it to a new situation. We find that most of the time, our students can't connect and apply the information they find in their searches without our scaffolding and guidance. Jen likes to joke that this is job security before she goes on with her lesson. At the end of the period, she circles back to that found definition and asks students to read it again. "Oh, this makes sense now" is the common response.

Think back to the quote from Bowen (2012) earlier in the chapter—"The talking head is dead." Students can find content with or without us. We don't need to spend our precious face-to-face time delivering information that they can find elsewhere. Rather, the more we make class time student centered instead of teacher centered, the more valuable that time becomes. We spend our class time making sure students have the context and scaffolding to understand their online learning. We become irreplaceable and our students learn more when we create authentic, engaging experiences in a dynamic learning community that students couldn't get anywhere else.

Shooting for the Moon: A Final Thought

Advances in technology are never easy. Transition always takes time. Imagine what the streets of New York were like a hundred years ago as horse-drawn wagons shared the roads with early automobiles. For a few decades they coexisted uneasily, and then gradually, the horse-drawn carts became fewer and trucks took over deliveries. But both the wagons and the trucks needed drivers. It was the horses that were replaced, not the humans. We absolutely still need teachers, but we need teachers who can cope with change, adapt to new pedagogy, and creatively innovate their way through the next few decades of transition.

Back in 1913, just before those trucks took over from the horses, Thomas Edison said this to a newspaper reporter from the *New York Dramatic Mirror*: "'Books,' declared the inventor with decision, 'will soon be obsolete in the public schools. Scholars will be instructed through the eye. It is possible to teach every branch of human knowledge with the motion picture. Our school system will be completely changed inside of ten years.'"

Using 1:1 programs *does* have the potential to completely change our school system inside of ten years. We have seen far more change in pedagogy and instruction after the introduction of 1:1 devices than we did from rolling in a television cart or strapping a screen to the wall. Edison, it's worth noting, was looking forward to this change—but Edison could walk into many of our classrooms today and not see much difference. Diana teaches at a school

founded in 1898, and in a brick building that has been standing since that first school year. If Edison walked the halls without students there, he could think nothing had changed in the world of education. Bring in the students and their devices, though, and he would see the beginning of what he had hoped for: an education system that is dynamic, visual, technologically driven, and open to innovation.



POWER UP! Take Some Steps to Change the Way You Think About and Use Class Time

1. **Expand your lesson library by curating multimedia content** to accelerate or remediate instruction. Think of a topic that you currently deliver in a “traditional” way. Now go online and look for other means to the same end. Are there YouTube videos, Ted Talks, photographs, audiobooks, apps, or games that communicate what your go-to lesson does? Start a spreadsheet of links for easy repeat use, or create a YouTube channel of your own with saved playlists.
2. **It’s time to get brave and test your skills at creating your very own flipped lesson.** It can be a one-minute screencast showing students how to submit work on your LMS, or even a brief refresher on a couple of equations to help students study for an upcoming algebra test. Plan your content in advance, write out your script, and click “record.” See the tools listed in Figure 9.7 for software suggestions.
3. **What are you going to do differently** in class once you have moved some of your instruction into the homework space? Think through a unit you are planning with blended instruction in mind. How can you move understanding and remembering tasks to homework and move practice, analysis, and synthesis into your class time?