

# Flipped Learning Resources



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## **The Flipped Classroom Described - An Ideology, Not a Methodology**

From my blog post "Khan and Beyond: The Many Faces of the Flipped Classroom"

*When it comes down to it, the tag "Flipped Classroom" is really just a catchy phrase covering a wide range of teaching practices. To quote one of the best educators I know ([Brian Bennett](#)), "the Flipped Classroom isn't a methodology. It's an ideology." In other words, there isn't a single method that is everything to everyone, or an all-exhaustive list of bullet points that will spoon-feed you everything you need to know. For some, the vagueness of the previous sentences will be frustrating, but trust me, this is a good thing! It means the flipped classroom philosophy is fluid and adaptable. It means that when done the right way, it can positively impact student learning regardless of the subject or classroom.*

*Many who are just learning about the Flipped Classroom might jump to the conclusion that it's all about [Khan Academy videos](#) in the classroom. Now don't get me wrong here, I feel that resources like the Khan Academy are fantastic options, but need to be part of a much larger picture. So while I'm grateful for the recent buzz and opportunities for discussion, when it comes down to it, it's not about the videos, it's about learning.*

*What is most exciting is to see the innovation on the front lines, led by classroom teachers, who have taken this idea and modified it into something that meets the needs of their situation and students. In some classrooms, the flipped philosophy takes advantage of teacher or student made content libraries (similar to Khan Academy) or [Mathtrain](#) where students and parents can have on-demand access to class content that is rewindable and reviewable. In other scenarios, it addresses the problem of students having access to teachers when they need help the most by removing direct instruction from the classroom, turning that into the homework (hence the term "flip"), and freeing up class time for more effective learning activities and increased student-teacher interactions. At its best, it means students take ownership of their learning by choosing how they learn content and demonstrate understanding, all while being allowed to master it at their own pace.*

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## Flipped Learning in a Nutshell

The blog post "[Maybe We Should Call It The Shifted Classroom](#)" by Audrey McGoldrick is probably the best descriptions of flipped learning I have ever seen!

Here are a few of the points she makes:

- The idea of "flipped" vs "shifted" learning. I don't want to get into semantics but I feel the word "shifted" describes what happens in my classroom much better than "flipped".
- There are three critical "mismatches" in teacher centered (or "one size fits all") classrooms:
  - Lesson Time  $\neq$  Comprehension Time. Just because students are in class for the same amount of time does not mean they have learned the same amount.
  - Students are alone when they need help the most. See Dr. Ramsey Musallam's explanation of cognitive load and individual learning spaces vs. community learning spaces.
  - What happens when there is only one "dispenser" of knowledge in the classroom?
- When used correctly, technology can help us alleviate those mismatches.
- Notice the sizes of the teacher and student images in the beginning compared to the end. What does that tell you about how learning should be?

## Great Quotes on Flipped Learning

- [Brian Bennett](#) - The Flipped Classroom is a mindset, not a method.
- Aaron Sams - There is no such thing as THE flipped classroom.
- [Ramsey Musallam](#) - "There is no pedagogy, technology or technique that is a silver bullet or the independent variable for good teaching. . . No technology can make the honor of being a teacher an easier thing. Techniques, pedagogies, etc. can make what we do more efficient, but only if we **first**, through hours and hours of sweat, empathy and failure, work towards a system that **transcends technology**."
- [Brett Clark](#) - "Flipping the classroom is not the answer to solving all of the flaws in our education system. However, neither is doing nothing and continuing on like nothing is wrong."
- Aaron and Brian - "Ultimately, flipped learning is not about flipping the 'when and where' instruction is delivered; it's about flipping the attention away from the teacher and toward the learner."
- [Paul Andersen](#) - "The teacher is the most important part of a functioning classroom . . . Just because you create videos doesn't mean you are teaching them . . . 'teacher' implies learning and if you are not getting learning you're not a teacher, you're simply at 'talker'."

## For Fun

- [The Perfect Circle](#) YouTube Clip
  - Can you draw a perfect circle just by watching someone else do it? How do students “master” something? Is lecture the best way to help students reach mastery?
- [Ferris Bueller “Voodoo Economics”](#) YouTube Clip
  - How effective is one-size fits all lecture? Why do some insist on teaching this way?
- [Gus vs. The Pool](#) YouTube Clip by Justkristan
  - Keep at it. Be persistent. It will work if you just keep tweaking.
- [Origami Crane](#) YouTube Clip by Tavin15
  - Can you make an origami crane by just watching this video once?
  - What would happen if you could watch it several times as needed?
  - What would happen if you could watch the video as needed and work with others to learn how to do it?

## “Flipped Learning Spectrum” Examples

- [The Flipped Classroom in 20 Minutes](#) Video
  - Great (but hurried) explanation from one of the original developers of the Flipped Classroom - Aaron Sams. This is the presentation he gave at the 2011 American Chemical Society Conference.
- Points of Pain (Ron Houtman):
  - Big Idea: At the end of the day, what are you sick and tired of repeating? Create a screencast for the next person who asks the exact same question.
  - If you’ve been teaching long you know which topics students have a hard time with and need extra time to grasp. Create a screencast to let them review as needed.
- [A Content Library](#) (Dan Spencer):
  - Big Idea: Creating content that is accessible at any time (doesn’t necessarily have to be on an iPod Touch) and rewindable.
  - Students and parents can then access classroom content and go over it at their pace and on their schedule.
- [The Flipped Classroom](#) (Aaron Sams):
  - Big Idea: What is the best use of classroom time? When do students need their teacher’s guidance the most - during a lecture or when doing homework problems?
  - This shows how teachers can make lectures the homework and do what used to be homework during class.

- [The Flipped-Mastery Classroom](#) (Jon Bergmann):
  - Big Idea #1: Students need to demonstrate they understand before moving on.
  - Big Idea #2: Students should be able to learn at their own pace.
  - How can we take advantage of technology to individualize learning?
- [“Beyond” or “Student Directed Learning”](#) (Brian Bennett)
  - Big Idea: “I (the teacher) don’t care how you (the learner) learn as long as you learn. Here are your options to learn GLCE/HSCE/Learning Objective X . . . choose what works best for you.”
- The “Internal” Flip ([Erin Klein](#))
  - Big Idea: Erin is an amazing elementary school teacher who creates digital learning stations for her students. One of her centers is a spot where kids can watch introductory videos that help them with their activity without needing the teacher to be there.
- [Teacher Collaboration](#) (Steve Kelly and Zach Cresswell)
  - Big Idea: Kevin Honeycutt says “The cancer of education is isolation.” There is no need to do this all on your own. Find other interested teachers and work on this together.
  - For more ideas check out the [Co-Flip Collective](#).
- [Student Created Content](#) (Eric Marcos)
  - Want to see if students really understand? Have them create the content. You will see quickly whether or not they “get it”.
  - Authentic audiences (beyond just the teacher) matter to students and they will be much more likely to go above and beyond if they know their peers will be seeing it.
  - Students are much more likely to go to a peer for help than their teacher. Empower students to help each other by creating student “experts”.
- [Flipped PD](#) (Kristin Daniels and Wayne Feller)
  - Nothing is more frustrating for a busy teacher than a worthless session of professional development.
  - Nothing is more frustrating for an overwhelmed trainer than a room full of teachers who can’t get their log-ins to work.
  - How can teachers have access to on-demand PD while still getting the personal attention they need to make changes in the classroom?
  - “Flipped PD” allows teachers to have access to PD they want and when they need it, while also allowing trainers and coaches to focus on helping individuals.
  - Check out [this explanation](#) of how they do it and watch Kristin blow everyone out of the water with [her TEDx talk](#).

## Books on Flipping

- [Flip Your Classroom: Reach Every Student In Every Class Every Day](#) by Jon Bergmann

and Aaron Sams

- This is the original book on Flipping. Jon and Aaron do a wonderful job explaining the nuts and bolts of flipping your classroom.
- [Flipping 2.0](#) by Jason Bretzmann
  - Every chapter is written by a different teacher explaining how they have flipped learning in their classroom. I love the concrete examples of how flipping is being done in many different age levels and subject areas.
- [Flipping Your English Class to Reach All Learners](#) by Troy Cockrum
  - Troy is a high school English teacher and the host of the [Edreach Flipped Learning](#) podcast. Many times when I do a training for teachers on flipping English teachers are the most skeptical on what this would like in their classroom. I've used many examples from this book to show how flipping isn't just for math and science classes.

## Flipped Class Done Right - Daily Riff Articles

- [The Flipped Class Manifest](#)
- [The Flipped Classroom: What it is and what it isn't](#)
- [The Flipped Classroom: Are You Ready to Flip?](#)
- [The Flipped Classroom: What a Good One Looks Like](#)

## Explanations on Flipped Learning from the “Best of the Best”

- Aaron Sams (ACS 2011 Conference)
  - [Flipped Classroom Explained in 22 Minutes](#)
- Ramsey Musallam - YouTube Teachers Conference
  - Part 1 - <http://www.youtube.com/watch?v=rub1VNq2NvM&feature=related>
  - Part 2 - <http://www.youtube.com/watch?v=FlwKVRQJ1PE&feature=related>
  - Part 3 - <http://www.youtube.com/watch?v=jjElGeJaHZc&feature=related>
  - Part 4 - <http://www.youtube.com/watch?v=rub1VNq2NvM&feature=related>
- Brian Bennett - The Flipped Classroom and Mastery Learning (YISS PD)
  - Part 1 - <http://www.youtube.com/watch?v=Rtc6ZSXVFA8&feature=related>
  - Part 2 - <http://www.youtube.com/watch?v=v06EKsdfPpg&feature=related>
  - Part 3 - [http://www.youtube.com/watch?v=rBskj\\_Fq3ko&feature=related](http://www.youtube.com/watch?v=rBskj_Fq3ko&feature=related)
  - Part 4 - [http://www.youtube.com/watch?v=Q\\_l4fCAH2rQ&feature=related](http://www.youtube.com/watch?v=Q_l4fCAH2rQ&feature=related)
- John Sowash - Southfield Christian
  - <http://www.youtube.com/watch?v=Xfz3BCUvass>
- ISTE 2012 - [Many Faces of the Flipped Classroom Panel](#)
  - Myself, Kristin Daniels, Stacey Roshan, Ramsey Musallam, Brian Bennett, and Eric Marcos discuss how we use the flipped concept in different ways.

- Paul Andersen - aka “BozemanScience” - [Reflections on Digital Aristotle](#)
  - Fantastic video about the misconception of teachers being replaced by computers but also reinforces where teachers are most effective in teaching and learning.
  - “Are you a “teacher” or a “talker”?” “The teacher is the most important part of a functioning classroom.”
- Brian Bennett - Training on the Flipped Concept and Techsmith tools that can be used to flip your classroom.
  - [Demystifying Flipped Learning](#)
- Jonathon Thomas-Palmer ([FlippingPhysics](#)) shares a very entertaining (Bo is my favorite “student”) video explanation of what his AP Physics class looks like now that he’s flipped it and gives advice on how you can do the same.
  - [How to Flip a Classroom - Inside and Out](#)
- Tom Driscoll ([Flipped-History](#)) shares a series of articles he has written about how he has developed his Flipped-Mastery classroom.
  - [Flipped Mastery Article Series](#)
- Troy Cockrum ([Edreach Flipped Learning channel](#)) has weekly interviews with flipped teacher of all age levels and subject areas.

## Technology Considerations For Flipping ([Flowcharts](#))

1. [Where will you get your content?](#)
2. Where will you store the video content you create?
  - a. [Options](#)
  - b. [Flowchart](#)
3. How will you organize the content for your students?
4. How will students access classroom content?
5. How will you assess what students have learned?
6. How can you modify your classroom space to encourage learning?

## Are You Looking For Content That’s Already Created?

- [Khan Academy](#)
  - FYI - I’m really conflicted about putting Khan Academy as a resource for precreated content. Please, please, please, make sure you watch anything you assign from KA first to make sure it’s right for your students and promise me you’ll only use it for good instead of evil when it comes to attaching the words “flipped” and “Khan” in the same sentence.
- [Brightstorm](#)

- Seems to be aimed at high school subject areas (math, science, ELA, and test prep). Videos are short (2-5 minutes) and taught by teachers.
- Freemium based (some resources are free but they really want you to pay for full access)
- [iTunes and iTunesU](#)
  - I love iTunesU! It's free. Content is from educators and there is a lot of it. If you go to the K-12 category (upper right hand corner of iTunesU) you'll be able to search from the libraries of dozens of educational institutions. My personal favorite is [Michigan's MI Learning](#).
  - One caveat on iTunes, if you want to get to the resources you have to download iTunes onto your computer and have an Apple account. To download iTunes go [here](#). There is also an iPad app.
- [Mathispower4u](#) - Tutorials by James Sousa
  - I like people who share and am a huge fan of content licensed under Creative Commons. James Sousa has created thousands of math videos that are free to use as long as we attribute the work to him, use it only for noncommercial purposes, and promise to let others use anything we create based on his work. Even better, James is promoting open source materials, textbooks, and resources.
- [TED Talks](#) and [TED-Ed](#)
  - Looking for real-world applications to just about any topic? Check out TED's "ideas worth spreading". Get 5-17 minute talks by experts in a wide variety of fields. Here's one of my favorites about the [brain, electricity, and a cockroach beatbox](#).
  - TED-Ed takes some of the best TED talks and teacher lessons and animates them specifically for classroom use. Videos are typically 3-5 minutes long. Teachers can also add questions to create flipped lessons. Here's one of my favorites on [logarithms and red eyes](#) by math teacher Steve Kelly.
- YouTube and YouTube EDU
  - There's a lot on YouTube - good, bad, and everything in between. Sift carefully.

## Creating Your Own Content? Here's Equipment You'll Need

- Computer with screencasting software (I use Camtasia and Jing but there are lots of options)
  - See options below
- Presentations Software
  - PowerPoint, ActiveInspire (Promethean), Notebook (SMART), are the most common and allow you to annotate on the screen - which is very important.
  - Online whiteboards like [AWW](#) or [Educreations](#) (registration required) also work.
- Microphones



- USB microphones work much better than built-in computer mics. Lots of options.
  - I use a [Blue Snowball](#) for my mic (a little more expensive than necessary but it does a good job)
  - [Techsmith has put together a list](#) of microphones they have tested and work well with their software.
- Tablet for annotating slides
  - We're not talking about an iPad here (thought they can be used this way)
  - If you've ever tried to write using your mouse you know how hard that is to do. Tablets are really just computer mice that look and feel like pens.
    - [Wacom Bamboo](#) (shop around, you should never pay more than \$60 for one of these!)
    - [SMART Slate](#) (buy only if you have a SMART brand interactive white board, more expensive because it's wireless)
    - [Promethean ActivSlate](#) (once again, buy only if you have a Promethean Brand interactive whiteboard, also more expensive b/c of wireless)
    - Many, many other brands that do the same thing
- An online place to keep screencasts
  - See options below
- Learning Management Systems
  - "One stop shopping for class content"
  - Moodle, Blackboard, Edmodo, etc

## Screencasting Software Options

- [Camtasia Studio \(PC\) or Camtasia for Mac](#)
  - Techsmith (makers of Camtasia) are located in Okemos, MI. Very educator friendly and give significant educator discounts.
  - You do have to pay for this but you can get a free 30-day trial to test it out.
  - Unlimited time, lots of editing options, allows you to save in different formats
  - Dozens of [free tutorials](#) on how to use it.
- [Jing](#)
  - Free, requires a download and registering for screencast.com.
  - Works on Mac or PC.
  - Up to five minutes of screencapture video
  - Allows you to upload to screencast.com.
  - No editing options.
- [Snagit](#)
  - Similar to Jing but with a few more options - unlimited recording time being one of them.
- [Screenflow](#)
  - Mac Only. Similar to Camtasia

## Web-based Screencasting Options

- [Snagit for Google Chrome](#)
  - Simple option for those trying to screencast on a Chromebook.
  - Free
  - Need a Google Account.
  - Need to download both the [Chrome extension](#) **and** the [Google app](#).
  - No editing ability.
  - Uploads directly to your Google Drive account or YouTube channel.
- [Screencast-o-matic](#)
  - Free, no download required (\$12/year Pro option allows more time and several other tools)
  - Web-based
  - 15 minutes of screencapture video
  - Partnered with the learning management system [Sophia](#).
- [Screenr](#)
  - Free, web-based screencasting similar to Educreations and Screencast-o-matic
- [Movenote](#)
  - Movenote doesn't record your screen Screencast-o-matic or Screenr. It does however let you upload slides (as long as they are in PDF, JPG, or PNG format) and uses your webcam to create a picture-in-picture effect. [Here's an example.](#)
  - You can use it through the [website](#), [Google App](#), or mobile [iOS](#) / [Android](#) device.
  - This seems to be best for a narrated slideshow type of presentation that doesn't need to be annotated.

## Online Whiteboards

- [A Web Whiteboard](#) - AWW
  - A whiteboard that works on all internet browsers. No screencasting option (see Scriblink below)
- [Scriblink](#)
  - Whiteboard but no screencasting option. You will need to use one of the screencasting programs like Jing, with it to create a video.
  - Requires Java
  - Up to 5 "slides"
  - Annotating options: pen width, color
  - Extras: lines, shapes, text boxes, grid, import images, background color, characters/symbols, equations
- [Educreations](#)

- Free registration
- Allows you to make screencasts but they are available only to registered students in your class. Could be used with Jing for wider audiences.
- Multiples slides
- Only annotating option is pen color
- Extras: Import images, record audio, only people who are registered in your courses can view screencasts

## Low Tech Option

- Camera + Tripod + you in front of a white board. That's how they do it [here](#) at [FIZZ](#) and it works just fine. [One-take video resources](#)

## Screencast/Video Hosting Options

- [Screencast.com](#)
  - 2GB of free storage, more available for paid version
- [Youtube](#)
  - Students are already here but many districts block YT. [YouTube EDU](#) is a good alternative.
- [Vimeo](#)
  - Less commercialized alternative to YT. May be blocked but I've found districts are much more willing to unblock Vimeo than YT. Upload limits for free accounts.
  - **Be careful** - some content Vimeo views as "artistic" is not safe for school or work.
- [TeacherTube](#) and [SchoolTube](#)
  - Similar to YT but on a much smaller scale. Education related videos only. Any uploaded videos must be approved before becoming available. Time frame for approval can last anywhere from a few hours to days.
- [Dropbox](#)
  - Dropbox is a cloud storage site. You can get a free 2 GB account and get extra storage by getting others to sign up. 2 GB fills up fast. Each file you upload to your Dropbox folders has a unique URL for students to watch online and can be downloaded for watching offline.
- [Google Drive](#)
  - Google's version of Dropbox. You'll need a Google Account to sign up. You get 5 GB free storage when you sign up. This is great for teachers in Google Apps for Education districts.

## Learning Management Systems

You'll need one place where your students can go for class content whether they are in your class or not. Here are a few options:

- [Moodle](#)
  - Open source LMS (free) but you'll need a dedicated server to host it. Many districts have their own Moodle server but if you don't there are companies that will host your Moodle site for you for a small fee.
  - Lots and lots of options available from quizzes, to grading, to SCORM. That may be frustrating for some because they get overwhelmed trying to learn it all. One teacher I know described Moodle perfectly - "It takes 5 minutes to learn and a lifetime to master." My advice - start out using it as a place to keep all assignments and content and then build from there.
  - I used it because it allowed my students to take quizzes and grade
- BlackBoard
  - Similar to Moodle but more polished. Used more at the university level.
  - Need to pay to use BB - usually per student and that can get very expensive.
- [Edmodo](#)
  - I've never used Edmodo but many teachers swear by it. Only people that can view content are those who are members of your class.
  - Set up similar to Facebook.
  - Calendar, post links, documents, take polls, and even create quizzes.
  - Free
- [Schoology](#)
  - Very similar to Edmodo/Facebook but also has some nice features similar to Moodle:
  - [Per Joe Huber at Education Studio](#): "Schoology, at first, appears to look like Facebook but operates like a more user-friendly version of Moodle . . . What's nice about Schoology is that it is a true CMS in that you can create tests and quizzes within the platform or import test items from Blackboard that will also be graded for you. Analytics are provided so that users can also examine the results of test questions to identify the validity of specific items."
- [Sophia](#)
  - More of a "social learning" site than LMS but it allows you to collect digital content and package it for your students. Also allows you to access other content on the site.
  - Free
- [Lore](#) (formerly Coursekit)
  - Very interesting LMS with the ability to post calendar, course resources, a syllabus, submit assignments, and a gradebook.
  - Free

- [Lectrio](#)
  - Simple LMS with the ability to post calendars, lessons, assignments, discussions and student reports.
  - Powered by Google Docs
  - Free for up to 30 students. Paid versions for more.
- [Brainhoney](#)
- [Haiku](#)

## iPad Whiteboard/Video Apps

- [Explain Everything](#) (~\$3)
  - By far my favorite whiteboard app because of all the extra features (multiple slides, multiple types of media - including video, the ability to export as an mp4, integration with YouTube/Dropbox/Google Drive/Evernote, etc) that simply aren't available in free apps. Well worth \$3.
- [Screenchomp](#) (free)
- [Doceri \(free\)](#)
- [Knowmia Teach](#) (free)
- [Showme](#) (free)
- [Educreations](#) (free)

## Other Tools

- Google Form with embedded YouTube video ([example](#) from a Flipped Staff Meeting)
  - Google Forms now allows you to embed YouTube videos into forms you create.
  - Check for understanding by having students submit answers to questions you've asked during the video or have them summarize what they learned.
    - [How to insert videos into Google Forms](#) by [Richard Byrne](#) at [FreeTech4Teachers](#).
- [Ed.Ted.com](#)
  - Take any TED video or YouTube video (whether you created it or someone else) and create a flipped lesson complete with questions and extra resources. Student responses are emailed to you.
- [VideoNotes](#)
  - Take notes on YouTube videos and sync with your Google Drive account.

## Curating Content

A flipped classroom content consists of more than just a library of videos but will include all sorts of digital media. How do you keep it all arranged? Here are a few tools I've used to:

- [MentorMob](#)
  - MM lets you create “Playlists” of links, files, and/or text from your content. Here’s an [example of a playlist](#) I’ve made for my Flipped Classroom presentations.
- [Pinterest](#)
  - This may be blocked in your district but I’m seeing more and more educators use it to collect ideas ranging from pedagogy, to classroom management, to content.
- [Learnist](#)
  - Similar to Pinterest but designed specifically for learning.
- [Educlipper](#)
  - Once again, similar to Pinterest but designed specifically for educators.
- [Blendspace](#)
- [Symbaloo](#)
- [EDPuzzle](#)
  - Review on EDPuzzle from Quim Sabria - “Make any video your lesson! Take any video from YouTube or upload you own and create a flipped lesson. Crop it and take only what you need, complete it with questions or make it more personal with audio notes. Besides, you have a collection of lessons created by other teachers (with questions and comments). Check out the new “Student project” where students create the videos for the teacher!”

## Screencasting “Scenarios” and the Tools You’ll Need

(adapted from Ramsey Musallam’s [MCOE workshop](#))

- A computer and tablet (like the Wacom Bamboo) are needed for all of these scenarios.
- All tools listed are free or standard programs. Some may require downloads.
- Scenario 1: I don’t need anything fancy, just a simple whiteboard to record my inking
  - Tools needed (Mac or PC): Educreations or Jing and Scribblink
- Scenario 2: I want to record myself filling in a worksheet
  - Mac Tools: Jing or Quicktime and Open-[Sankore](#)
  - PC Tools: Jing or Screencast-o-matic and Word
- Scenario 3: I have presentation slides and want to record myself inking
  - Mac Tools: Jing or Quicktime and [OmniDazzle](#) or Open-Sankore
  - PC Tools: Jing or Screencast-o-matic and PowerPoint
- Scenario 4: I want to record myself inking all over my computer screen
  - Mac Tools: Jing or Quicktime and Open-Sankore
  - PC Tools: Jing or Screencast-o-matic and Open-[Sankore](#)

## Creating Effective Content

- [The eLearning Coach](#) - Connie Malamed

- [How To Stop Making Boring Videos](#) podcast
- [Khan Academy and the Effectiveness of Science Videos](#) by 1veritasium
  - The importance of actively addressing misconceptions in content videos.

## Helpful Networks, Blogs, Articles, Websites, etc

- [My Diigo Collection](#) (pro, con, and everything in between) of Flipped Resources
- [\\*The Flipped Class Network](#)
  - Network for teachers of all age groups and subjects who are flipping their classroom.
- [\\*Cycles of Learning](#) website authored by Ramsey Musallam Ed.D
  - Ramsey teaches in San Francisco and his focus is on research-driven pedagogy of the flipped classroom. He gives some great models, resources and ideas for teachers on his website.
  - His post “Flip Instruction: Questions that Must be Addressed” (posted 9/2/11) is one of the best explanations I have ever read on how to teach the flipped classroom the right way.
- [\\*Flipped Learning](#) website authored by Jon Bergmann
  - TONS of great resources on the Flipped Classroom by one of its pioneers - Jon Bergmann.
- [\\*The Flipped Class Manifest](#) - Daily Riff article
  - Several of the top “flippers” around the country co-wrote this article explaining what the “Flipped Class done right” should look like.
- [\\*Webinar with Alan November and Dr. Eric Mazur](#) - November Learning
  - Fantastic podcast about how Harvard physics professor Eric Mazur uses the FC (though he doesn’t call it that) in his courses. In terms of pedagogy and learning Dr. Mazur is often quoted by Ramsey Musallam.
- [\\*Should You Flip Your Classroom](#) - Edutopia article by Ramsey Musallam
  - An honest discussion about the pros and cons of the Flipped Classroom and whether or not this might be something for you.
- [\\*No Such Thing As THE Flipped Classroom](#) - Blog post by Aaron Sams
  - Addressing some of the criticisms and misconceptions regarding the Flipped Classroom.
- [\\*To Flip or Not To Flip](#) - Blog post by Brian Bennett
  - A synopsis of the Flipped Classroom done right in response to ISTE’s point/counterpoint.
- [\\*To Flip or Not To Flip](#) - Article by Stacey Roshan
  - A very honest explanation of why Stacey chose to flip her math classes. I especially love the concept of “the compassion of technology.”
- [\\*The Truth about Flipped Learning](#) - eSchoolNews article by Aaron and Brian
  - Addressing misconceptions about the FC.

- [\\*Supporting Students in a #Flipclass](#) - Blog post by Brian Bennett
  - Things to consider when structuring an effective flipped classroom
- [“Flipped Classroom”: You Keep Saying That Word...](#) - Guest post by Brian Bennett
  - Many teachers and businesses are casually slapping the label “Flipped Classroom” on just about everything right now. Brian explains the philosophy behind a flipped classroom done right.
- [Redesigning Learning in a Flipped Classroom](#) - Blog post by Brian Bennett
  - How do we change the way we teach if we want the FC to be effective?
- [Khan and Beyond: The Many Faces of the Flipped Classroom](#)
  - A blog post I wrote for Techsmith addressing different examples of the Flipped Classroom in action.
- [Why the Flipped Class is Here to Stay](#) - Blog post by Brian Bennett
- [Flip Your Classroom Through Reverse Instruction](#) - Blog post by John Sowash
- [The Flipped Classroom Model: A Full Picture](#) - Blog post by Jackie Gerstein Ed.D
- [Teachers Turn Learning Upside-Down](#) - eSchoolNews article by Meris Stansbury
  - An article about different teachers and classrooms using the Flipped Classroom ideology.
- [The Flip: Why I Love It, How I Use It](#) - MindShift article by Shelley Wright
- [Ending the Tyranny of Lectures](#) - eSchoolNews article by Dennis Pierce

## Moving Towards Mastery

Focusing on “mastering” content rather than just “covering” it may mean you have to make some changes in how you teach. Here are some resources that can help you move towards mastery in your classroom.

- Differentiation
  - Differentiation has been a buzzword in education circles for a long time. People talk about it all the time but actually doing it is whole other issue. Here’s some resources that might spark some ideas:
    - [Dare to Differentiate](#) wiki
- Giving students choices in their learning
  - [Layered Curriculum](#) - I was using the concept of Layered Curriculum before I had even heard about the Flipped Classroom. The idea is that students take ownership of their learning when they have choice in how they do it. For examples of LC units go to Dr. Kathie Nunley’s website [here](#).
  - [Choice Boards](#) - Brian Bennett shared this example in his Flipped Classroom Conference 2012 keynote. The idea is that you create a tic-tac-toe board of different ways students can learn the content. Students then choose three of those assignments forming a straight line.
  - You Choose Assignments - I used these at the end of every unit as a way for students demonstrate what they had learned. It usually went something like this:



- “Show me what you understand about learning objective \_\_\_\_\_ by creating one of the following: (Teacher chooses 3-5 different options that students can choose from to demonstrate understanding).”
- Standards Based Grading
- Learning Spaces
  - Learning doesn’t always happen in straight rows. If you want your students to work together, collaborate, or be able to work on different things at different times straight rows of desks might not be the best arrangement.
  - Here’s something to think about: What happens when everyone is pointed towards the front of the room? What could happen if there wasn’t a “front” of the room?
  - Every classroom is different but here are some ideas of how you could rearrange your room to make it more Mastery friendly.
    - My attempt at Pinterest - [Classroom Seating Arrangements and Learning Spaces](#)
    - Websites on classroom seating arrangements:
      - [Seating Arrangements for Dummies](#) - Things to consider and examples.
- Kids Teaching Kids
  - A huge part of mastery is helping students take ownership of their learning. There are a lot of moving parts necessary to make that happen but helping students understand how they can use each other to learn is a big piece. But there is a big difference between “collaboration” and “mooching” and students will need help learning how to work together effectively.
  - Edutopia Article on how to scaffold student collaboration by Rebecca Alber - [Deeper Learning: A Collaborative Classroom is Key](#)

## A Few Misconceptions about Flipped Learning

Be sure to read Aaron and Brian’s article “[The Truth About Flipped Learning](#)” where they discuss several misconceptions related to the flipped classroom.

- Misconception: “You don’t need teachers anymore” -or- “I can cram 50 kids into a computer lab to teach them chemistry so I don’t have to pay for a teacher”
  - It’s not about the videos or technology. It’s about learning. The teacher is one of the most important parts of the learning process. Flipping done right doesn’t replace teachers, it gives them more flexibility to work with students when they need help the most.
  - How do we leverage technology to give teachers more time to do what they do best?
    - Technology makes content rewindable and accessible. Teachers can only

give a lesson a certain number of times before they need to move on.  
Use technology to allow students to learn at their pace.

- Teachers make content relevant, engaging, and individualized. When it comes to building positive relationships, motivating students, and making learning personal a computer screen can never replace a human being.
- Using technology without the human element needed to check for true understanding misses the point.
- Misconception: Teachers can sit at their desk during class now and grade papers or update their Fantasy Football teams.
  - Teachers will have to spend a lot of upfront time to have this ready for their students. That does not mean class time is when they can sit at their desk and do other things.
  - The human element is the most important part of the flipped classroom.
  - Now that all the content is available at any time, teachers need to spend their time moving around the room and working one-on-one with their students to guide, check for understanding and motivate students.
  - Depending on the amount of class time it's not unrealistic to expect teachers to make contact with every student during a block class period or every student over two 50-minute classes.
- Misconception: This will be chaos - there's no structure if every kids is going at his or her own pace.
  - I am a firm believer that choices in learning can lead to ownership of it. When students have choices in how, when, and where they learn they will be much more likely to take ownership of their learning. Because many students are used to being told how, when, and where they are supposed to learn, downtime in the classroom often turns into wasted time and apathy.
  - Learning doesn't always have to take place in organized rows. There will be a lot of kids doing a lot of different things. Activity doesn't necessarily mean chaos.
  - Once again, this is where the human element comes in. Teachers need to spend a lot of time at the beginning of the year modeling how they expect students to behave, teaching time management skills, and demonstrating how students take ownership of their learning.
  - Classroom management is key.
- This is just bad pedagogy (or "status-quo") with a technology twist.
  - Bad teaching is bad teaching and putting a kid in front of a computer or having students watch a screencast at home doesn't magically fix the problem. In fact, it makes the problem more apparent.
  - Some people feel direct instruction has no place in the classroom. I feel the way it's done currently is not effective but it does have some positives. Some kids do learn this way. More kids would learn if they had a way to do it at a pace that works for them. We at least need to let it be an option for those who want it.
    - Great blog post - "[Using Video to Help Learners](#)"
  - Ask yourself, "what is the best way for my kids to learn \_\_\_\_\_." Do you have

enough class time to do that? Are there ways that you can free up class time so there are more opportunities for the “good stuff”? Do you even need a video, or is there something else you can use?

- This is a “cookie-cutter” solution. This will look the same regardless of student level, subject, or teacher.
  - This will not look the same for every teacher or every subject.
  - Don’t use technology for technology’s sake. Use it for a purpose. If a screencast isn’t the best option for learning then don’t use it.
  - Focus - what is the best way for my students to learn \_\_\_\_\_. That may or may not involve video.

## Issues to Consider

- Computer/internet access
  - There is not a silver bullet (one solution that will work for everyone) for this but there are lots of silver BB’s. There’s always a way and those ways are becoming increasingly accessible and cheap! Give kids options and expectations then let them decide.
    - High-speed internet at home - no problems
    - Computer but no internet - save on USB at school, view at home
    - Smartphones - download videos onto phones (free)
    - iPods/iPads - set up free iTunes account, students subscribe and get free updates
    - No computer - burn onto DVDs. I’ve even heard of teachers who bought cheap portable DVD players to loan out to kids who didn’t have DVD players at home.
- Grading
  - Works amazingly well with Standards Based Grading systems.
  - Unfortunately, we live in an A-E world but it can be adjusted to work.
    - My system (not perfect, not the only way, but it worked for my situation - find the system that works best for you and your classroom)
      - 50% Summative Assessments
        - I allowed students to retake quizzes/tests as many times as necessary without penalty. They needed to earn 70% or better before moving on.
      - 50% Weekly Progress (“By Friday of this week you earn 8/10 points if you are here, 7/10 points if you are here . . . )
  - Build notes into your grading system. I made them part of my progress grade.
    - To get notes checked off students had to write at least one page (this is a random amount I picked - nothing scientific about it) and ask me one question about something they didn’t understand.

- I could tell very quickly whether or not they really paid attention by the question they asked. I had no problem asking kids to rewatch the screencast if it was obvious they learned little from it.
  - Many of my other assignments were based on completion and being able to demonstrate they understood.
    - Example: when they are ready to check off an assignment I first look to see if they have everything done and then ask them to show me how they did one of the problems. If they can show me how to do the problem I assume they know how to do the others.
- Time Required
  - Same amount of time required, it's just shifted.
  - Most of the work is now front-loaded. Frees up time for teacher to be with students one-on-one, but it requires planning and working ahead.
  - Baby steps. This is not something you decide to do on Friday and have up and running perfectly on Monday. For me, this was a several year process.
  - The payoff comes when you have created content libraries that you are happy with - once created they are always available and only change if you want them to.
- Assessment
- What if students don't watch the videos?
  - Check out [this video](#) by Katie Gimbar explaining how she handles this.
  - Several options here:
    - Traditional options:
      - What do you do when students don't do their homework? Treat notes the same way. It helps when notes are built into grading systems. Very "carrot and stick" but it makes students accountable.
    - Progressive options:
      - Give videos/notes as an option and let students choose to use them as needed. I was amazed at how my students use my videos more when they weren't required but they were expected to demonstrate understanding before moving on.
  - Be very careful about allowing students to watch videos in class. You will need to find what works best for you and your class but remember that the focus of the flipped classroom is to improve face-to-face time and allow students to use class time for more effective learning activities.
  - It's important that you create a classroom learning environment where if students do watch videos during class they are missing out on something much more engaging.
    - For example: If a student doesn't watch the video he/she will have to watch it alone during class rather than working with friends on a lab.

## Questions and Concerns about Flipped Learning

- Questions/Concerns from administrators
  - This does not look like the typical class. If they feel learning can only happen in straight rows this will be a tough sell. Remember, activity does not necessarily mean chaos.
  - Communicate early and often about why you are doing this and what they should expect to see.
  - Selling Points:
    - How do we know students really “get it”?
    - How do we meet the learning needs of all students?
    - How do we make students accountable for their learning?
- Questions/Concerns from teachers
- Questions/Concerns from parents
  - Typical comments:
    - “That’s not how I learned when I was in high school.”
    - “Billy says you don’t teach him any more.”
  - Communicate early and often. Transparency, especially with grading, is vital.
  - Hard to logically argue after they understand that:
    - Students get to work at their pace.
    - They have choices in how they will learn the content.
    - They have choices in how they demonstrate understanding.
    - You (the teacher) are available to help students in any way.
  - See how math teacher Graham Johnson introduces flipping to parents in [this video](#).
- Questions/Concerns from students
  - This requires some major potty-training. In my experience, many students are used to being spoon-fed information. Some are really good at “playing school” but not necessarily learning. Help them focus on learning the content, not just going through the motions.
  - They won’t like it, but it’s ok (even necessary) to tell them to redo something they finished but don’t understand. This will be a huge paradigm shift for kids who have the “. . . but I finished it” mentality, but it’s crucial for this to work. Don’t worry, they get used to it soon and it completely changes the learning culture in your classroom.
  - My favorite story: 2010-2011 School year I taught my chemistry using the Flipped-Mastery format. I was there the 1st half of the year and then moved to the ISD for the 2nd half and was replaced by very traditional teacher. One student in particular took every opportunity to tell me how much she hated how I taught. Her mother came to talk to me one day (very concerned) about my “little experiment”. They were very happy when I left and could go back to their

comfort zone. Fast forward four months - this same student approaches me and tells me how much she missed the Flipped Class set up after I left. She had learned to appreciate the freedom it gave her to learn at her pace and missed being able to have choices in how she learned the content.

## “Flipped” Educators Who Share

Are you flipping your classroom and would like to share? Please let me know and I will add you to this list. (Name, State, Subject Area, Twitter Handle, Class/personal website/YT Channel)

Name	Subject Area	Twitter	Digital Footprint
Jon Bergmann Illinois	HS Science	<a href="#">@jonbergmann</a>	
Aaron Sams Pennsylvania	HS Science	<a href="#">@chemicalsams</a>	<a href="#">Chemicalsams Blog</a>
Brian Bennett Indiana	HS Science / Techsmith	<a href="#">@bennettscience</a>	<a href="#">BrianBennett.org</a>
Dan Spencer (me) Michigan	HS Science / Tech Coach	<a href="#">@runfardvs</a>	<a href="#">DanielVSpencer.org</a> <a href="#">Chemistry Videos</a>
Deb Wolf South Dakota	HS Science / Tech Coach	<a href="#">@nebbie_n</a>	
Phil McIntosh Colorado	MS Math	<a href="#">@mistermcintosh</a>	
April Gudenrath Colorado	HS English	<a href="#">@agudteach</a>	
Ramsey Musallam California	HS Chemistry	<a href="#">@ramusallam</a>	<a href="#">Cycles of Learning</a>
Marc Seigel New Jersey	HS Science	<a href="#">@DaretoChem</a>	
Christina R. New Jersey	HS Social Studies	<a href="#">@smallbutfeisty</a>	<a href="#">US1</a> <a href="#">US2</a>
Stacey Roshan Maryland	HS Math	<a href="#">@buddyxo</a>	<a href="#">TechieMusings</a> <a href="#">YouTube Channel</a>
Kristin Daniels Minnesota	Tech Coach	<a href="#">@kadaniels</a>	<a href="#">FlippedPD</a>
Lindsay Cole	HS Biology	<a href="#">@lindsaycole</a>	
Cheryl Morris	HS English	<a href="#">@guster4lovers</a>	<a href="#">Co-Flip</a>

California			<a href="#">TMI</a>
Andrew Thomasson	HS English	@thomasson_engl	<a href="#">Co-Flip TMI</a>
Steve Kelly Michigan	HS Math	@bigkxcountry	
Dan Muscarella Virginia	Math	<a href="#">@danmuscarella</a>	
David Fouch Michigan	HS Social Studies	<a href="#">@davidfouch</a>	
Karl Lindgren-Streicher California	History	<a href="#">@LS_Karl</a>	<a href="#">World History w/ LS Flipped History blog</a>
Tom Driscoll Rhode Island	History	<a href="#">@Mr_Driscoll</a>	<a href="#">Flipped History</a>
Tara Becker-Utess Michigan	HS Government	<a href="#">@t_becker10</a>	<a href="#">iPads for All</a>
Kerry Cule Quebec	HS Science	<a href="#">@Science_LEARN</a>	<a href="#">CuleChem</a> <a href="#">CulePhys</a>
Delia Bush Michigan	Elementary (5th grade)	<a href="#">@DeliaBush</a>	<a href="#">Blog</a>
Dayson Pasion North Carolina	MS STEM	<a href="#">@MrDpasion</a>	<a href="#">STEMpunk</a>
Bryan Braack Iowa	Math, Project Lead the Way	<a href="#">@bryanbraack</a>	<a href="#">Class Website</a>
Heather Witten	Spanish	<a href="#">@SraWitten</a>	<a href="#">Flipping My Spanish Classroom</a>
Jennifer Newitt New York	HS Science (Biology)	<a href="#">@jnewbio</a>	<a href="#">Jnewbio's Flipped Teaching</a>
Vincent DuBeau New Jersey	7-12 Band/Choir	<a href="#">@maestrodubeau</a>	<a href="#">Delsea Music</a> <a href="#">Mused Maestro Blog</a> <a href="#">YouTube Channel</a>