



ScreenCast Integration – Flip and Face/Flip Models

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Introduction

Recent technological developments development of screencasting tools has given rise to the “flipped classroom” which uses screencasts as the centerpiece of the methodology, and has emerged as a popular teaching model. The flipped classroom flips the classroom/homework paradigm. The teachers lecture is done at home via teacher-created video and what used to be homework (class activities/labs) is done in class. The flipped classroom has many supporter and critics. An alternative model using screencast in a face/flip (blended) classroom can give instructors more flexibility in using screencasts as a supplemental resource. This paper explores how screencasts can be used in the flipped and alternative face/flip models.

There are many outstanding Web 2.0 tools for the classroom to promote teaching and learning. Web 2.0 tools such as a *blog*, *wiki* or *YouTube* are innovative ways of creating, collaborating, editing and sharing user-generated content online. One of the most popular Web 2.0 tool is the *screencast*. Screencasting has emerged as *THE* teaching tool for online instruction.

Screencasting

A screencast is a digital video and audio recording of what occurs on a presenter's computer screen, and can also be used to create sophisticated, information-rich multimedia presentations using PowerPoint. Screencasts can be used as *learning resources*, *learning tasks*, and *learning support* (Garner, 2008).

According to the National Teacher Training Institute (National Teacher Training Institute, 2011), incorporating video in the classroom leads to increased retention of information by students and helps them comprehend the material quicker than students who are exposed to video. Instructors using video as an instructional tool can reach many students who are visual learners and tend to learn best by seeing the material rather than hearing or reading about it (Courts, 2012).

Using screencasting in the classroom has many advantages for both the teacher and the student. Teachers can have students view their own published screencasts online to describe a step-by-step process, explain a particular concept, or present a lesson using a PowerPoint presentation with narration. Teachers can also use screencasting software to conference with students on their work without having to have a face-to-face meeting with each student.

Screencasting is a perfect medium to explain difficult technical concepts to anyone with a non-technical background. The inclusion of using video based in instruction for online instruction such as screencasting and have positive effects on learning and have can be pedagogically equivalent to face-to face instruction (Pang, 2009).

Screencasting allows students to learn by example, seeing for instance a step-by-step sequence of a math or chemistry problem in great detail or viewing a screencast video directly related to a lesson. The ability to pause or review content also gives students the option to move at their own pace, which is not always feasible in the classroom. Students can demonstrate their own competencies by creating a screencast of their work, or provide peer reviews on the work of others. Screencasts can be delivered via streaming or downloaded in their entirety for later viewing (Lee, Pradhan, & Dalgarno 2008).

Screencasting offers new teaching and learning opportunities across the curriculum. The pervasiveness of online instructional videos such as [Khan Academy](#), [TeacherTube](#), [YouTube](#), [Lynda.com](#), [neoK12](#), and many [others](#) gives access to millions educational screencast videos on the Internet. There are many screencast integration models; however, the focus of this article is on two, *Flipped* and *Face/Flip* models.

Flip Model – Guide on the Side

Recently there has been a lot of “buzz” generated on the "[flipped classroom](#)" (Bergmann, and Sams, 2012). So what is a flipped classroom? The flipped classroom concept gained popularity in 2007 when two Colorado high school chemistry teachers, Jonathan Bergmann and Aaron Sams began condensing classroom chemistry lectures to short videos and assigning them as homework. The flipped classroom concept inverts (flips) the class lecture and homework paradigm. A teacher’s lectures are watched outside of class via instructional video, while homework assignments are done during class time. Students spend class time working on activities and problem solving (Figure 1).

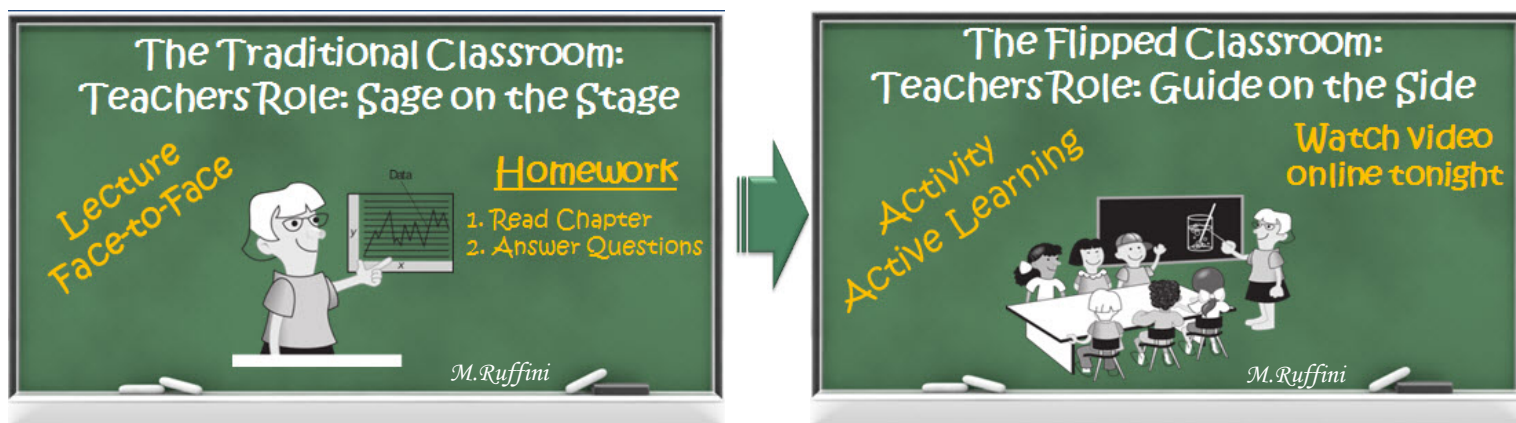


Figure 1. Traditional and Flipped Teaching Strategies

How the Flipped Classroom Works

The flipped classroom is organized around the material students learn out of class by viewing a video of the teachers lecture posted online. By viewing the teachers lecture online, class time is used for answering questions about the material covered on the video and for class activities. Teachers may have students solve problems or answer questions and have them write down any questions related to the material on video that they did not understand (Liles, 2012). Once the students are in the classroom, the teacher will work with the students needing help either one-on-one or in a group setting.

Time Reorganized

The instructional time in the classroom changes significantly from the traditional approach to the flipped method. In the face-to-face model the class is organized around the teacher's lectures. Using the flipped model classroom time is reorganized for hands-on activities either working individually or in small groups. Students are required to learn the material by viewing the instructional video posted online related to the next day's lesson.

The teacher's role at the start of a class is to clarify any misunderstandings the students may have after viewing the video the night before. Teachers have extra time to engage in more interaction, check for understanding, provide guidance and personalized contact time together working on class activities. It also encourages students to take more responsibility for their own learning. If a student misses a class, the lessons are recorded and archived for review or remediation. Flipping the classroom also makes differentiating instruction based on students' needs easier because everyone does not necessarily need to do the same task in class (LessonPlansPage.com, 2013).

For example, a typical high school class is approximately 50 minutes. In the traditional face-to-face class structure most of the instructional time is spent lecturing content, whereas in the flipped method much of the class is focused on learning activities applying the concepts the student learned out of class from the instructional video as shown in Table 1, (Bergmann and Sams 2012).

Table 1. Face-to-Face Contrasted to the Flipped Classroom

FACE-to-FACE CLASSROOM 50 Minute Class		FLIPPED CLASSROOM 50 Minute Class	
CLASS STRUCTURE	CLASS TIME 50 Minutes	CLASS STRUCTURE	CLASS TIME 50 Minutes
Class Introduction - Attendance	5 minutes	Class Introduction - Attendance	5 minutes
Review Homework Q & A	15 minutes	Q&A on Screencast Lesson Video	15 minutes
<ul style="list-style-type: none"> State Lesson Objectives Present new content material Q&A Closure/Summary of Lesson 	20 Minutes or More	Guided practice cooperative learning activity, video or lab	30 Minutes
Guided practice cooperative learning activity, video or lab.	10 Minutes		
	Total: 50 Minutes		Total: 50 Minutes
Homework <ul style="list-style-type: none"> Independent Practice Reading Assignment and/or online materials. 		Homework <ul style="list-style-type: none"> Screencast – Teacher Lecture Reading Assignment and/or online materials. 	

Is Flipping the Classroom Really New?

At the turn of the 20th century John Dewey proposed that learning should be student centered on learning by doing (active learning), not be teacher centered. The flipped classroom model like many other student centered classrooms is not a new concept. There are many student-centered learning models such as: *collaborative, Inquiry-based, problem-based, peer team, peer instruction and just-in-time learning*. However, the difference is the flipped classroom uses technology (video) to give lectures outside of class time which enables more time in the classroom focusing on work and activities.

Pros and Cons of the Flipped Classroom

With the introduction of the Khan Academy and others, the concept of the flipped classroom has become a hot topic in the academic world among k-12 educators, professors, and administrators alike. There is extensive literature on the effect of screencast videos, which have been shown to have a positive impact on student performance (Alpay and Gulati, 2010; Traphagan, Kusera, and Kishi, 2010; Vajoczki, Watt, Marquis, and Holshausen, 2010). However, a case can be made in favor or not in favor of this approach.

Some of the pros include:

- Teacher serves as a guide or facilitator of learning.
- Makes learning central rather than teaching.

- Provides more time for individualized, group differentiated, inquiry based and mastery learning.
- Fosters independent learning and student accountability.
- Promotes peer interaction and collaboration skills.
- Provides more opportunities for and inquiry based learning.
- Students have the option to move at their own pace, review the materials as many times as needed to learn the content and catch up on missed lessons. Students can stop, pause, rewind, and fast forward material for mastery learning.
- Lessons are always available and archived for students absent and can be used for remediation. Substitute teachers can use videos when teachers are absent.
- Students who learn at a faster pace are able to move through the curriculum faster and tackle more challenging problems that may be skipped for the general population.
- Parents are more involved and better prepared to help.

Cons to using the flipped classroom include:

- Internet is not always easily accessible for everyone who can make it difficult for some students to access lectures and online materials.
- Teaching by video is based on a didactic, lecture based philosophy.
- A video lecture is still a lecture.
- Teachers are the content experts and most students want to experience teachers lecture in real-time.
- Screencasts take time to design and create if teachers are interested in creating their own.
- Students cannot ask questions about a concept.
- Student motivation is a key factor in students taking responsibility for the video instruction. While some students are highly motivated others are not.
- Teachers will need to develop techniques to keep their videos lessons/lectures engaging.
- Screencasts take time to develop, especially when recording a lecture every day.
- Video lessons and lectures must incorporate a variety of learning styles and methods to cater to all students and learning styles.
- Some schools cannot afford to invest in the latest technology.
- Flip Classroom model is good for some lessons but not a whole unit.

- Given education's long history of fascination with new instructional approaches that are later abandoned, there's a real danger that flipping, a seemingly simple idea that is profound in practice, may be reduced into the latest educational fad.

Flip or Flop?

The flipped classroom has both pros and cons. Using this method everyday requires planning, training and time designing the instructional videos. One common criticism of the Flipped Model is that a recorded lecture is still just a lecture. Critics say students need to see the content expert (teacher) delivering content, answering questions and leading class discussion in real time. Supporters of the Flipped classroom maintain instead of students sitting in a room and engaged in a lecture, take the lecture out of the classroom to allow more time for self-paced and more in-depth learning activities. There really isn't anything revolutionary about a video lecture just rearranging the traditional lecture around than moving forward into a new learning paradigm. The long-term verdict is still out about the Flipped Model; only time will tell if this method will grow and be the next technology initiative to be entrenched in our schools or will it just fade away.

Face-Flip Model – Alternative

The Face/Flip model combines face-to-face instruction with using screencast videos regularly as a *supplemental* instructional resource for a lesson. *Face-to-Face* instruction is not diminished as in the *Flip Model*, but supplemented by using online screencasting videos along with two other mainstays of learning support which include textbook readings and online resources (Figure2).

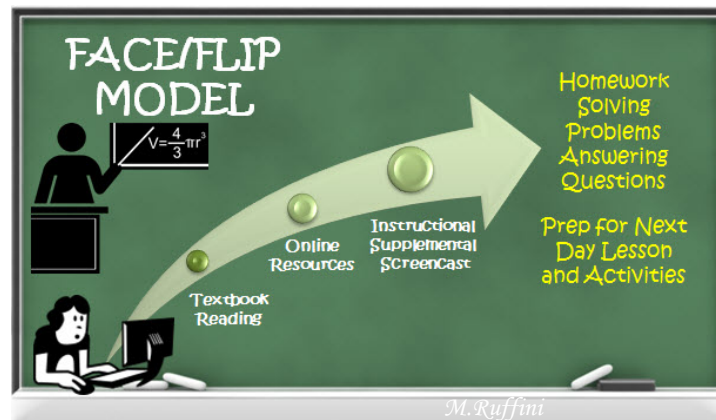


Figure 2. Face/Flip Model

Examples of what a supplemental screencast in a lesson can be used for:

- An overview or summary of unit or lesson
Example - Overview of WWII.
- Further in-depth analysis on a topic
Example - in-depth examination at the Battle of the Bulge.
- Showing a step-by-step process
Example - math problems supporting examples given in class.
- Demonstrations
Example – showing steps in a chemistry lab experiment that will be performed by students the next day.
- Tutorials
Example – showing how to create a PowerPoint Presentation.

In the Face/Flip classroom instructional time is similar to the traditional face-to-face class. However there are two distinct differences: (1) Screencasts are used to *supplement* the teacher's instructional presentation and primarily used to explore more in-depth concepts, and (2) flips the activity/lab sessions as needed to accommodate guided and independent practice as shown in Table 2.

Table 2. Face-to-Face Classroom Contrasted to Face/Flip to Classroom					
FACE-TO-FACE CLASS 50 Minute Class Period		FACE/FLIP CLASSROOM Face-to-Face Class Presentation 50 Minute Class Period		FACE/FLIP CLASSROOM Activity/Lab Sessions as Needed 50 Minute Class Period	
CLASS STRUCTURE	CLASS TIME	CLASS FRAMEWORK	CLASS TIME	CLASS STRUCTURE	CLASS TIME
Class Introduction - Attendance	5 minutes	Class Introduction - Attendance	5 minutes	Class Introduction -Attendance	5 minutes
Review Homework <ul style="list-style-type: none"> • Questions and/or Problems • Q & A 	10 minutes	Review Homework <ul style="list-style-type: none"> • Screencast Presentation • Questions and/or Problems • Q & A 	10 minutes	Review Homework <ul style="list-style-type: none"> • Screencast Presentation • Questions and/or Problems • Q & A 	10 minutes
<ul style="list-style-type: none"> • State Lesson Objectives • Present new content material • Q&A • Closure/Summary of Lesson 	20 Minutes or More	<ul style="list-style-type: none"> • State Lesson Objectives • Present new content material • Q&A • Closure/Summary of Lesson 	20 Minutes or More	Guided and Independent practice, learning activities or lab. 	40 Minutes
Guided and Independent practice, learning activities or lab.	15 Minutes	Guided and Independent practice, learning activities or lab.	20 Minutes		
	Total: 50		Total: 50		Total: 50
Homework <ul style="list-style-type: none"> • Independent Practice • Reading Assignment and/or online materials 		Homework <ul style="list-style-type: none"> • <i>Screencast Supplemental Resource (not used every day)</i> • Reading Assignment and/or online materials 		Homework <ul style="list-style-type: none"> • <i>Screencast Supplemental Resource (not used every day)</i> • Reading Assignment and/or online materials 	

Pros to using the Face/Flip classroom include:

- Makes both teaching and learning central.
- Face-to-Face instruction has been a proven teaching methodology; integrating screencasting technology can make it even better.
- Very flexible in that it allows for as much time needed to complete class activities or lab.
- Can provide in-depth information on a topic using a screencast.

- Fosters independent learning and student accountability.
- Promotes peer interaction and collaboration skills.
- Students have the option to move at their own pace, review the materials as many times as needed to learn the content .Students can stop, pause, rewind, and fast forward material for mastery learning.

Cons include:

- Screencasts take time to develop.
- Teachers will need to develop techniques to keep their videos lessons/lectures engaging.
- If a student is absent, the day's lecture is not available on video.
- Internet is not always easily accessible for everyone who can make it difficult for some students to access lectures and online materials.
- Teaching by video is based on a didactic, lecture based philosophy.
- Student motivation is a key factor in students taking responsibility for the video instruction. While some students are highly motivated others are not.
- Video lessons and lectures must incorporate a variety of learning styles and methods to cater to all students and learning styles.
- Some schools cannot afford to invest in the latest technology.

PowerPoint Screencast

[Camtasia Studio 8](#) has a PowerPoint plug-in which can record a PowerPoint presentation and narration. Most all teachers use PowerPoint presentations for teaching. Using a PowerPoint presentation as a framework for a screencast makes sense because the content is already created. In Camtasia including a narration and infusing multimedia elements such as music, audio, video and quiz makes for a powerful learning resource tool.

A Screencast PowerPoint Model (SPM) steps include: (1) Introduction Bumper, (2) Content PowerPoint, (3) Content Video, (4) Credits, (5) End Bumper, (6) Assessment (Figure 3).

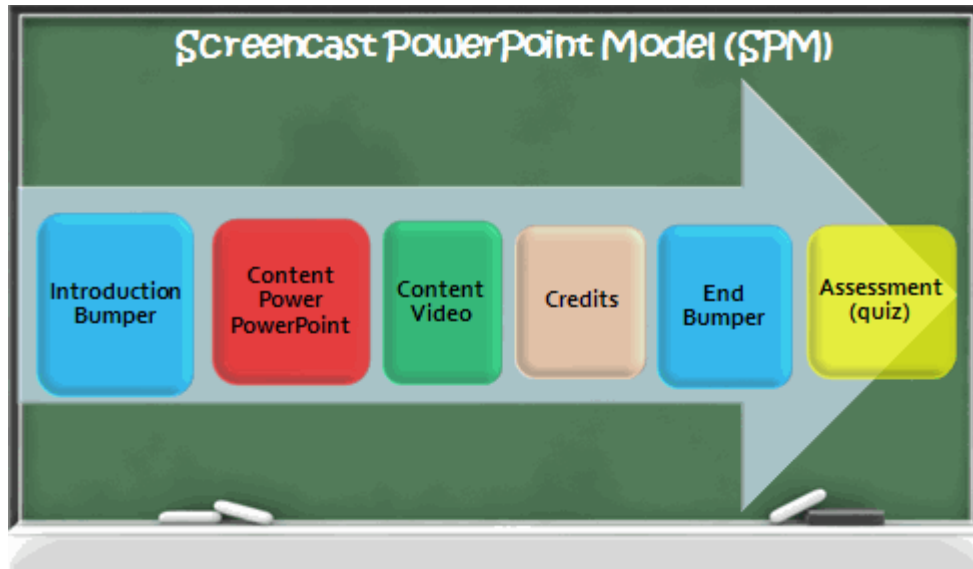


Figure 3. Screencast PowerPoint Model

The SPM model can be used in both the Flip and Face/Flip Models. The design and an example ([Battle of the Bulge](#)) of the SPM Model can be retrieved at [TechSmith Educational Blogs](#).

Conclusion

Screen casting has emerged as one of the most popular online technology tools used by teachers because they are *motivational, multimodal, engaging* and can accommodate any *learning style*. Integrating screen casting with either the Flip or Face/Flip Models screen casting has many benefits which include self-paced learning, just-in-time instruction, and 24/7 access. Students can benefit from creating screen casts also. For example a student in a biology class can use a screen cast to explain the parts of a cell, by recording their explanations as they draw arrows over different parts of a diagram on the computer. One goal as educators is to learn and integrate technology tools to increase learning and meet the diverse needs of all students. As Web 2.0 Internet technologies and applications continue to evolve, and tools that allow users to share “screen casts” are presently at the forefront of that evolution. Flipped teaching enables instructors to become facilitators of learning and avoid the sage-on-a-stage teaching approach, and it can be integrated across almost any curriculum. The face/flip model is an alternative to the flip model, in that it retains real-time lectures, uses screen casts as supplemental resources and incorporates class activities. Try both integration models and see if one works better for you!

Screen cast Resources

[A practical guide to creating learning screen casts - 1](#)

[A practical guide to creating learning screen casts - 2](#)

[A practical guide to creating learning screencasts - 3](#)
[Common Elements of Effective Screencasts](#)
[Creating a PowerPoint Screencast Using Camtasia Studio](#)
[Designing a PowerPoint Screencast Using Camtasia](#)
Record a PowerPoint Presentation Using Camtasia
[Screencast Academy](#)
[Screencasting in the Classroom](#)
[Screencast Rubric](#)
[Screencasting to Engage Learning](#)
[The Flipped Classroom](#)
[The TeacherCast Academy](#)
[7 things about screencasting](#)

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