

Development and Implementation Guide

This plan should serve as a guide to assist in deploying a flipped classroom pilot at each college. It has been broken into the following sections:

- ▶ General Model
- ▶ Development
- ▶ Implementation

General Model

The basic flipped classroom lesson should include the following three components:

Pre-Class

This is where the students will do the majority of their basic content learning (or lower-order Bloom's taxonomy learning). Examples of these activities can include:

- Readings (printed or online)
- Short video lectures (5m chunks)
- Simulations
- Tutorials
- "Bring-to-class" task (short-answer questions, examples of content covered, etc.)

In-Class

These activities are where students will go into more depth with their learning (higher-order Bloom's taxonomy). Students also have the opportunity to gain clarification on any Pre-Class content, witness expert modeling, and can practice skills. Examples of these activities can include:

- Small group discussion
- Class discussion
- Group work/projects
- Polling
- Hands-on/skill work

Post-Class

After the classroom experience is completed for a lesson, activities are designed to provide some formative assessment of the students' understanding of the lesson. These activities are intended to be completed outside of class. Examples of these activities can include:

- Journaling
- Quizzes
- Discussion boards

Development

The development of each course will include creating learning content that will be uploaded to and/or integrated within the college's learning management system (LMS). Some content may need to be adapted from its current form to fit the flipped model.

The following steps should help keep the process consistent and help determine which lessons would be the most appropriate to flip along with what types of content and assessment may be applicable:

Step 1 – Explore curriculum

The instructor for the selected course should meet with an instructional designer and that course's curriculum developer to establish which lessons would best fit in a flipped classroom.

When making selections, use some key questions to help identify lessons that may work:

- Are learning materials available in a digital format?
- Do external media assets exist? (YouTube, Vimeo, SkillsCommon, etc.)
- Does the lesson already include time set aside for demonstration, hands-on experiences, group work, or guest presentations?

For the pilot to produce some measurable results, it would be best if we aim for 30% of the lessons to be flipped.

Step 2 – Break down lessons into activities

This step involves looking at the objectives for each selected lesson and determining how each component should be handled. Time should be spent to look at any available materials that are already available and determine if their current form is useful in the flipped model. If not, how should the material be adapted?

Pre-Class

Creating/preparing the pre-class activities may be the most time consuming effort during the development. Instructors/faculty will need to spend time with an instructional designer and turn their learning materials (new or existing) into a format that can be provided online. The purpose for this is to have factual content available for students to learn before they come to class.

Technologies often used to adapt existing materials or create new materials for pre-class activities include:

- Lecture capture technologies
 - ***Panopto***
This software allows instructors/faculty to record their lectures with integrated tools for multiple video sources, embedded quizzes, instructor presentation materials, and more.
Northampton already has licenses for this software and should look to it for adapting lectures to an online format.

- **Video/web camera + microphone + editing software**
This combination of technologies may require a bit more time to gather all the digital content and create a streamlined digital lecture video. Any digital video camera or web cam can be used to capture an instructor presenting. The use of an external microphone will aid tremendously in acquiring better quality audio for the lecture. In addition, a screen-recording software will allow an instructor to capture slides, cursor movement, and any other on-screen interactions during a presentation. Screen-recording software (or screen capture) such as **ScreenFlow** (Mac only) or **Camtasia** (Win only) are great options and also may serve as a light-weight video editor. Video editing software with more power, such as **Final Cut Pro X** (Mac only) or **Adobe Premier** (Win & Mac), can be used to combine video and audio sources, screen-capture videos, and other materials into a very professional looking video lecture.
- Tutorial and learning module technologies
 - **Adobe Captivate**
A well-known and supported software product that allows instructors to create interactive tutorials or modules, **Captivate** has a bit of a learning curve but is robust and can deliver a high-quality module. Available for Mac and Win.
 - **Articulate**
Also a popular software product, **Articulate** has different packages offering basic to advanced options for interactive digital learning experiences. Available only for Win.

In-class

The in-class activities to be designed for each flipped lesson will be determined based on the pre-class work and the objectives of the lesson. Some possible examples of an in-class activity schedule:

Example 1:

1. Class announcements/housekeep.
2. Small group discussion of why particular safety concepts learned in the pre-class activities are important on a daily basis in a particular job setting.
3. Class discussion based on the small group discussions to bring together multiple ideas across the classroom.
4. Quick “clicker” quiz about certain safety lessons learned during pre-class activity.
5. Hands-on practice applying safety lessons in small group scenario role-play session.
6. Class review of scenarios and lessons learned.
7. Brief overview of the next lesson and post-class activities.

Example 2:

1. Class announcements/housekeeping.
2. Individual presentations of “bring-to-class” task.
3. Small group discussion of presentations.
4. Expert (instructor or “other”) demonstration of practical tool use.
5. Hands-on practice of demonstrated tool.
6. Brief overview of the next lesson and post-class activities.

Post-class

Post-class activities are design to help reinforce and review content or experiences from the lesson. These activities also allow for another round of formative assessment. The post-class portion does not have to be lengthy and can be a mix of reflection, review, and assessment. Some useful tools for post-class include:

- Journaling, blogging, or short answer written assignments
These types of assignments offer reflection over the lesson’s content and/or experiences and can be guided by the instructor to have students focus on a particular concept or can be broad and free-choice.
- LMS discussion boards or wikis
Discussion boards and wikis allow students to engage each other and work together discussing instructor provided topics. These are also good places for instructors to help students, and students to help each, other clarify any content or practices they may be confused about.
- Quizzes
Brief quizzes over the lesson’s content or the in-class work will allow the instructor to gain some insight into how well students grasped the material or understood any demonstrations or project work.

Step 3 – Create and/or gather materials for each lesson and its activities

Instructors, curriculum designers, and instructional designers should get together to create digital works for the pre-class, in-class, and post-class activities. The tools described in the pre-class activities section in **Step 2** will be instrumental in creating digital content.

A key component to keep in mind is the institution’s LMS. Each college should have staff members that understand the capabilities and limitations of its LMS and the types of content that the LMS can serve well to students. LMS tools may also be appropriate for creating materials such as assessments and discussions.

Implementation

To implement the new course materials and the “flipped” lessons within the course, the materials will need to be added to the LMS. In addition, the course within the LMS will need to be organized and tested. To complete the implementation, some supporting materials should be created to help assist students with access and expectations throughout the course.

Step 1 – Upload and organize the digital content in the LMS

This step may vary by LMS, but the goal of this step is to get all of the newly created/adapted content and assessments into the LMS and organized so the class can be opened to students.

Videos, modules, readings, presentations, links to external sites, and other items will need to be added to the course or a content collection. This will allow instructor and student access to these materials throughout the course. The content should be added to each lesson/unit and organized for logical progression through the course.

Step 2 – Preparing and uploading student welcome and support materials

It may be necessary to update/refine the syllabus for the course. In addition, a brief welcome letter explaining the new format of the course and expectations of the students and instructors should be created. The goal of this is to Inform and prepare students for what may be an unfamiliar instructional style.

In addition, instructions, guides, and/or tutorials for students should be created and stored in the LMS for easy access. These resources would be appropriate if the course requires students to access external services/software where the students need to login or proceed through specific steps to gain access.

Step 3 – Previewing/testing the course

Most LMSs offer the option for instructors and course designers to preview the course in a “student” or “participant” view. This is **highly recommended**. Preview the course and each item to ensure that any digital content appears and functions as it was intended.

It is always a good idea to test any content, notification settings, and other LMS functionality that was integrated into the course. Finding and correcting any issues before opening the course up to students will save both the students and instructors some headaches!



This guide is not the end all and really is to serve as an aid to planning and developing a set of flipped lessons within a course. Specific details on how to work with any of the software or LMS tools are available freely throughout the internet. I have familiarity and experience with many (but not all) of these tools. For questions, concerns, or advice, please let me know:

Benjamin Hammel
bhammel@northampton.edu