



## Flipped Through Design



# Flipped Through Design

*"Flipping the Classroom" Through Instructional Design*

JACOB BANE

Edited by Eva Bradshaw and Randy Spears

THE OHIO STATE UNIVERSITY



Flipped Through Design by [Jacob Bane](#) is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](#), except where otherwise noted.

# Contents

Introduction	vii
What is the "Flipped Classroom?"	1
What is Instructional Design?	6
How can Instructional Design build a "Flipped Classroom?"	14
Using Instructional Design to "Flip" the Classroom	16
Conclusion	23
Works Cited	25
Reader Feedback	27



# Introduction

“The “Flipped Classroom” model of instruction has generated discussion around the world of education. Numerous articles have been written documenting experiences surrounding this method of teaching. The one piece that has been missing from this discussion is a sound framework to design a “Flipped” course using proven design principles. Instructional Design provides a proven framework to design all types of instruction and these principles can be used to design a “Flipped” course. This book introduces the “Flipped Classroom” model of instruction and Instructional Design framework. Using this background, a method to “Flip” a course using sound Instructional Design principles is outlined.

This book is the textbook for the iTunes U Course, Flipped Through Design. This book contains all of the course content, however the course provides activities to guide the design process of “Flipping” a course using Instructional Design. The course can be found [here](#).

## **Acknowledgements**

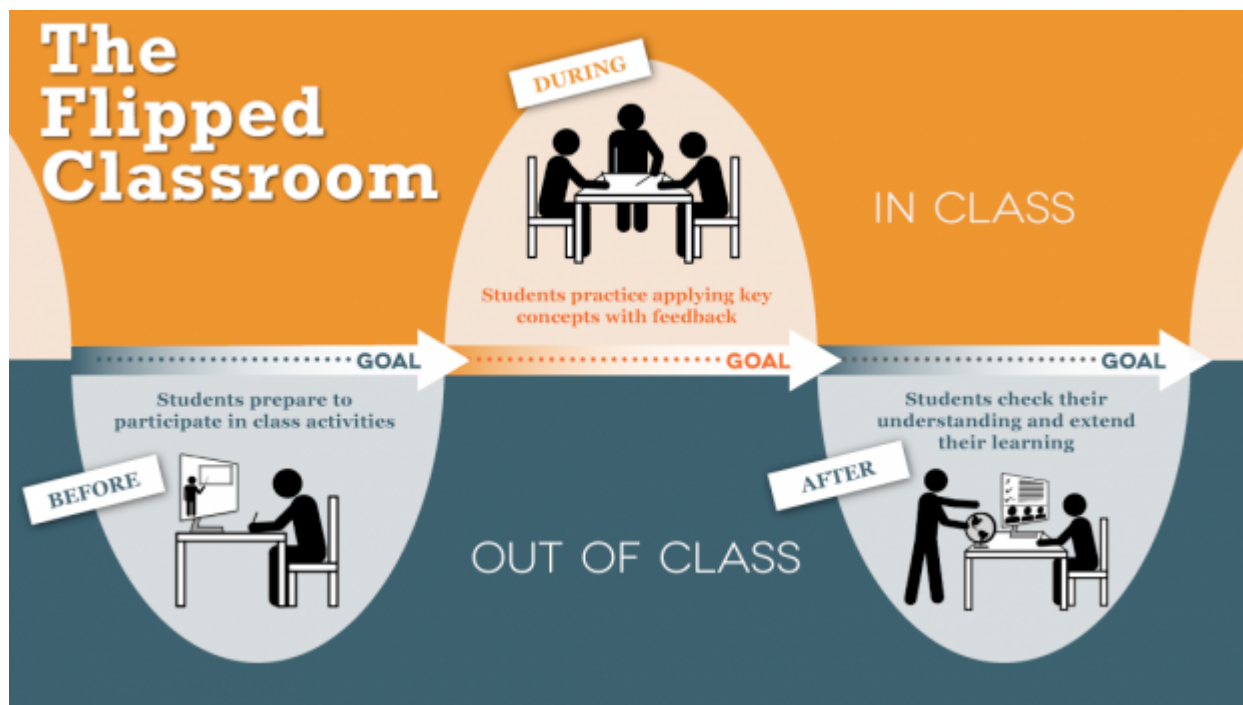
Randy Spears, Associate Director of Educational Technologies at the Fisher College of Business, had the original concept for this text. He and Eva Bradshaw both provided invaluable insight and edits throughout the development process.





# What is the "Flipped Classroom?"

The term “Flipped Classroom” is one that has generated discussion around the world of education. Through this method of teaching, content delivery using face-to-face classroom time is “flipped.” In a “Flipped Classroom” students learn the primary material for the course independently outside of the classroom and then come to class prepared to engage with the content. This engagement includes discussion, hands on activities, and scaffolding of student learning beyond just the basics of the text in the classroom. The Center for Teaching and Learning at the University of Texas at Austin created an excellent diagram outlining the “Flipped Classroom” format.



This image above highlights the before, during, and after activities associated with the “Flipped Classroom” and shows how each of these activities should be guided by the performance objectives or goals for student learning.

The “Flipped Classroom” concept started in K-12 Education and is widely credited to Jonathan Bergman and Aaron Sams (Strayer, 2013). The core principle was to record PowerPoint presentations for students who missed class so that they would not fall behind. This basic premise grew until the recorded lectures were used to teach a majority of the core material outside of the classroom so that face to face time could be used for application.



Throughout education, more and more educators are moving towards a “flipped” model of instruction and this trend has migrated toward higher education. “A growing number of higher education individual faculty have begun using the flipped model in their courses” (EDUCAUSE, 2012). Many educators in higher education have found that movement to a “flipped” model does not have to be absolute. According to Bull, Ferster, and Kjellstrom,

“The term flip implies an all-or-nothing reversal, but that is not the case for the flipped classroom. A central goal is to provide more time for interactions with students in class. Teachers can do this in a variety of ways and with different degrees of adoption, ranging from just a few class sessions a year to a complete reconceptualization of a course” (Bull, Ferster, & Kjellstrom, 2012).

### Aaron Sams, Flipped Classrooms and Video as Homework

It is possible to move some of the core learning outside of the classroom without completely moving all direct content assimilation from the classroom environment. Educators are finding what works best for their own students, teaching style, and classroom environment. The movement to higher education has been gradual, but has been positive when change has taken place.

Lage, Platt, and Treglia in their exploration with the “flipped classroom” found that “Evidence suggests that students generally preferred the inverted classroom to a traditional lecture and would prefer to take future economics classes using the same format” (Lage, Platt, & Treglia, 2001). The new breed of student in higher education has access to technology at all times and expects to have access to content when and where they want it. The idea that lecture content can be accessed on their own time outside of the classroom and that face to face time is used for further exploration appeals to those entering higher education today. Daphne Koller of Stanford, “...found that classroom attendance doubled when she used class time for group problem-solving sessions instead of lectures” (Bull, Ferster, & Kjellstrom, 2012).





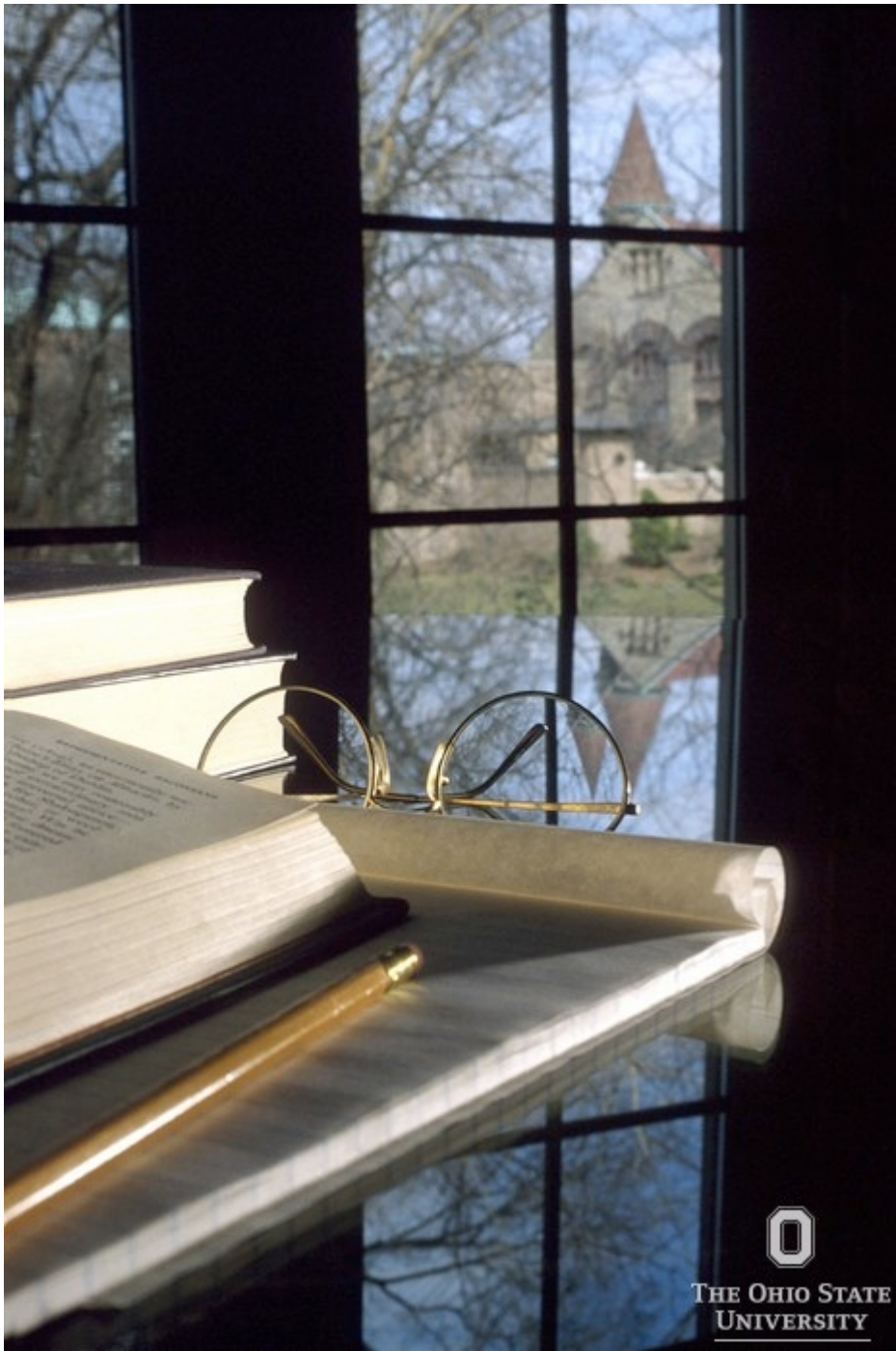
Homeyra Sadaghiani of California State Polytechnic University moved toward a “flipped classroom” by creating multimedia learning modules (MLMs) to access content outside of the classroom and found the results to be very positive, “With students viewing the MLMs prior to class, instructors can focus on helping students learn through problem solving and conceptual discussions during the class” (Sadaghiani, 2012). Today’s students come to class with shorter attention spans and not equipped to sit through a lecture based course. As McFarlin, Weintraub, Breslin, Carpenter, and Strohacker point out “...traditional lecture courses do not always engage these students at the highest level” (McFarlin, Weintraub, Breslin, Carpenter, & Strohacker, 2011). Larkin supports this point as well, “The results would appear to indicate that this generation are indeed discriminatory about the quality of teaching on offer and that they do value the interactive nature of learning that should arise out of face to face teaching” (Larkin, 2010). The “flipped” model tailors the learning environment for today’s learners.

One of the most common concerns of educators is that if all of their content is in a recorded format for access outside of the classroom then educators will not be needed to further students’ education. This is a misconception. The value of the educator in today’s classroom is not entirely the assimilation of material, but interacting with students to immerse them in the content. Sadaghiani supports this point, “MLMs are not intended to replace instructors and should exist as part of a well-designed curriculum” (Sadaghiani, 2012). The content is just one piece of education. As Brunsell and Horejsi point out, “Showing video lectures alone is not flipping your classroom—you also need to increase active learning experiences” (Brunsell & Horejsi, 2013). It is the discussions and activities that complete the education of a student and these are facilitated by the expert knowledge of the educator.

The “Flipped Classroom” started out as a K-12 trend, but has gained a foothold in all areas of education. The

feedback surrounding those who have “flipped” has been positive. Students have positive feedback about the experience, and additionally student assessments and content retention have improved, “On the unit test, students performed equal to or better than students in previous years” (Brunsell & Horejsi, 2013). In the higher education realm educators have begun to gradually move parts of their content distribution outside of the classroom. When this movement has occurred and time has been freed up inside of the classroom for further exploration, the results have been positive. Today’s learners need to be engaged in the classroom, as von Kinsky, Ivins, and Gribble point out, “Physical presence during a lecture does not mean that a student is paying attention, synthesising new information in the context of prior understanding, or developing insights that will foster learning” (von Kinsky, Ivins, & Gribble, 2009). The “Flipped Classroom” caters to the needs of today’s learner: content when and where they want. The idea of “flipping” the classroom will continue to grow in today’s education environment.”

# What is Instructional Design?



One of the ways that education is adapting to new educational trends, such as the “Flipped Classroom” is through Instructional Design (ID). Instructional Design is the systematic design of the instructional experience. It can be detailed and rigorous, but it can also be flexible to meet specific needs of an individual educational environment. The goal of instructional design is to make learning as accessible as possible for the learner. The core of the instructional design process is the learning objective. This learning objective is the desired outcome for the learner. The instructional design process ascertains how to best create and lay out activities for the learner to meet the desired learning objective.

The practice of designing instruction through Instructional Design is an old concept, but modern day Instructional Design began during World War II. During World War II, United States military “...psychologists used their knowledge of evaluation and testing to help assess the skills of trainees and select the individuals who were most

likely to benefit from particular training programs” (Reiser, 2001). Although at its baseline, this evaluation put forth the objective of ascertaining the best position for the recruits and developed instruction to help meet this objective.

In recent years, Instructional Design has become mainstream as traditional methods of instruction have been put under scrutiny. For years it was normal and accepted that students would come into the classroom and receive content instruction from the instructor. Students would then take this knowledge and apply the principles on their own time through homework. These general principles of instruction have been challenged with the advent of the digital age and access to content anywhere and at any time. The “Flipped Classroom” is a perfect example of this change.

Furthermore, the role of the teacher is changing. Reigeluth points out that, “The teacher’s role has changed dramatically in the new paradigm of instruction from the ‘sage on the stage’ to the ‘guide on the side’” (Reigeluth, 2012). The idea of “sage on the stage” speaks to the old standard in education. The “sage” or instructor would literally be on stage at the front of the classroom and distribute content to student. The change however does not stop with the instructor; the student role has changed as well. Reigeluth goes on to say that, “...learning is an active process. The student must exert effort to learn. The teacher cannot do it for the student” (Reigeluth, 2012). In modern day education the student is expected to take more responsibility in their learning and the instructor is expected to help facilitate this learning. This change has resulted in instructors questioning their instructional methods, and the role and presence of Instructional Designers throughout education has increased.

With the advent of new technology flowing into the education sector it can be tempting to move towards a new tool or method because it is the new fad; however, this must be avoided. New technology, tools, and methods should only be used if they enhance instruction. The incorporation of a new technology or method of instruction can actually be harmful to student instruction if the purpose of the new technology or method is to be “cool.” Design needs to start with a systematic process to help guide development.





The ADDIE Model of design is used throughout education to help guide the design process, “Although more than 100 ID models exist, almost all are based on the generic “ADDIE” model, which stands for Analysis, Design, Development, Implementation, and Evaluation” (University Information Technology, 2013). ADDIE provides a framework to guide all types of design projects.

Analysis is one of the most important parts of the design process. Before any development can take place it is crucial that the course be analyzed and its goals and objectives be created. Many courses in higher education are designed on a week to week basis by educators. Educators wait to see what was covered before designing the lesson for the next class. Although this method of design seems reasonable, it can become confusing for the learner to not have a definite timeline for their learning. A course that is designed with the goals and objectives first ensures that learners have a straight path to reach their goals.

### The ADDIE Analysis Phase

Bloom's Taxonomy is a tool that Instructional Designers use in conjunction with educators to design learning objectives. "In 1956, Benjamin Bloom headed a group of educational psychologists who developed a classification of levels of intellectual behavior important in learning" (Overbaugh & Schultz, 2013). This original classification has since been updated, but the baseline is the same. By using the different levels of Bloom's and the associated action words, objectives can be defined specifically for the desired learning level. The baseline level of remembering can create a baseline objective for a learner, such as "Students will be able to define Bloom's Taxonomy." In the Design phase of ADDIE, the preliminary planning has taken place and now it is time to design the course. Designing the course encompasses determining which activities, assessments, and content need to be delivered throughout the course. In addition to content selection, it must also be determined when they should be delivered so that the learners meet the desired learning objectives. All of the content and activities can then be "chunked" into learning modules that can be used to sequence the content. The practice of "chunking" content into small segments makes the content more manageable and accessible to the learner. As Evmenova and Behrmann point out in their research surrounding "chunking" of video content, "The presentation of content in smaller segments allow students especially those with intellectual disabilities to better focus on the video content and do not seem to overload the cognitive comprehension and retention processes" (Evmenova & Behrmann, 2011). Course assessments should also be created during this phase. It is common practice to develop assessments at the end of a course, however by developing initially around the course learning objectives this ensures that the assessment is designed to cover exactly what the students need to know by the end of the course. This is called backward course design.

### The ADDIE Design Phase

The Develop phase of ADDIE takes all of the planning and puts it into practice through the gathering and creation of all of the course materials. Many educators will already have course materials developed, however new courses may require new learning objects. Once created and gathered, all of the course content can be prepared for the learning modules that were sequenced during the Design phase.

### The ADDIE Develop Phase

The Implementation phase is the stage of ADDIE that most educators are familiar with in the classroom. During this phase the course is delivered. This is where all of the hard development work pays off as the course materials

and schedule have already been designed. The main obstacle during this phase is ensuring that the learners do not have any obstacles to their learning, including technological or physical barriers.

### The ADDIE Implementation Phase

The last phase of ADDIE is the Evaluation phase. This phase is meant to not only evaluate the students' learning, but also the instruction and course itself. Formative evaluation takes place throughout the Implementation phase. This type of evaluation encompasses all of the formal and informal evaluations that have taken place so far in the course. Formal evaluation may take the form of module quizzes and informal evaluation may take the form of participation in class discussions.

### The ADDIE Evaluation Phase

Throughout the course formative assessment data can be gathered on the student learning levels, but also on how well the learners responded to the instruction and the delivery of the content.

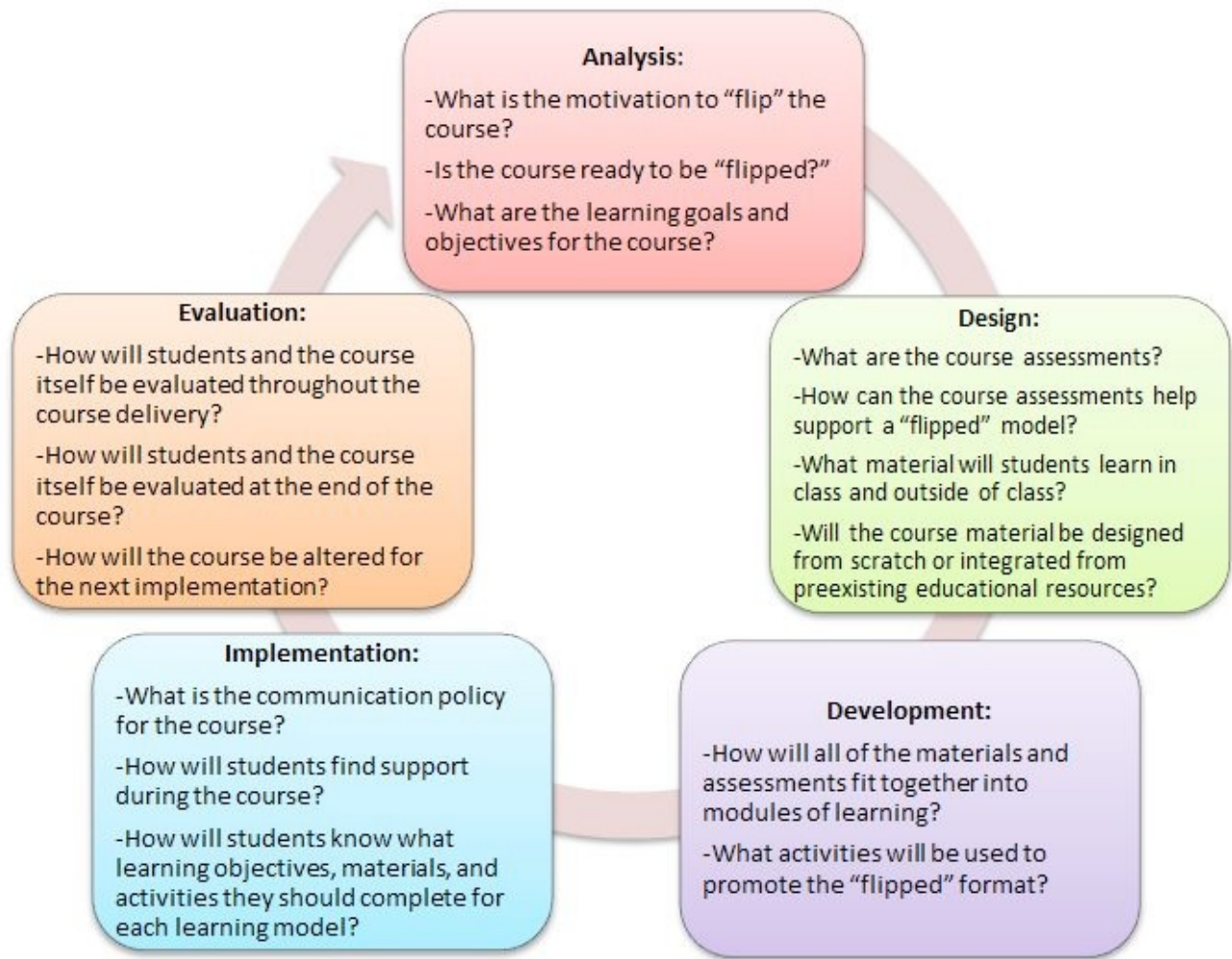
Summative evaluation must also take place. This type of assessment ascertains if the students have met the learning objectives for the course as a whole and how well the course delivered the content. This commonly takes the form of a final exam. The data gathered by the final exam can show how well the students met the learning objectives for the course. Beyond this final exam, a final survey where students can voice their opinions of the course itself is a valuable tool. It should be the goal of the course to have students meet the learning objectives and for students to feel comfortable in the environment where the learning took place.

# How can Instructional Design build a "Flipped Classroom?"



“The ADDIE model of design provides a solid foundation for the development of courses and for all design projects. Many times in education, new technology and theories are incorporated into courses because they are “the next big thing” or for a “wow” factor; however, this practice should be avoided.

Unless the new developments and technology can be integrated seamlessly into the instruction, they can actually deter from the learning experience. This same short-coming can happen with the “Flipped Classroom” This is where Instructional Design and design models like ADDIE can be used to determine if “flipping” is right for a particular course and if so, what steps should be taken to reach this reality. Image 3.1 below offers a set of questions to guide this process.



# Using Instructional Design to "Flip" the Classroom



Flipping” the classroom has proven to be a positive force in higher education. Despite this success, a “flip” must undergo the process of design in order for a successful transition from the traditional classroom and it must be done for the right reason. A course should not be “flipped” because “flipped” is a buzzword right now.

In education new buzzwords and styles are constantly changing. Moving from one style to another in a course too often will only create a discombobulated course. A course should not be “flipped” because an educator is tired of lecturing in the classroom and wants to alleviate some of their duties. Although content delivery will happen outside of the classroom in a fully “flipped” model, the educator is still active in the classroom facilitating discussion and activities.

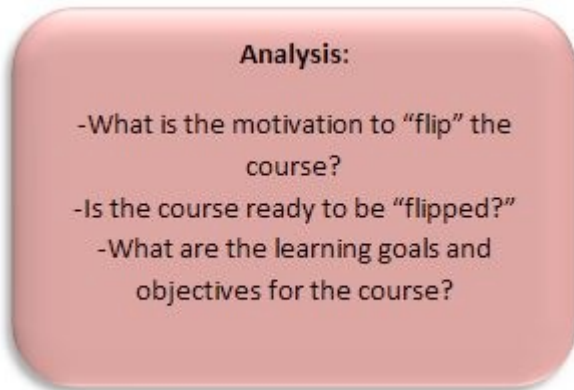
A course should be “flipped” because the course lends itself to a delivery where hands-on activities, discussion, and case studies can occur in the classroom and build upon the basic content that students could learn independently. If a course is at the point where face-to-face class periods are full of lecture and reciting of text-based language that students could read or watch outside of the classroom, it is time to “flip.” Today’s learners do not want to come to class to hear what they can learn on their own time. Today’s learners want to learn from the expertise of the educator and use this expertise to further their learning.

This may seem like a role reversal for many educators because in the traditional classroom educators dispense their expertise through lecture. In today’s world content is readily available for students outside of the classroom. The educator’s role and expertise have migrated to how they put their own persona on the content and allow the students to interact with this content. This interaction takes place through activity and movement in the classroom. The learner today has access to content anytime and anywhere. It is the educator’s role to make sure that they can interface with the material.



Not all educators and courses are ready to make the transition to a “flipped” model. A “flipped” model requires buy in from the instructor as well as the students, and requires careful design. If a course is ready to be “flipped,” ADDIE can be used to facilitate the design process.

By choosing to “flip” a classroom, the Analysis phase has already begun. To start the design process, the learning goals and objectives must be designed for the course. These goals and objectives will be the same as the goals and objectives designed for delivering the course in the traditional classroom.



Although the delivery format of the course may change, the goals for the learner should not necessarily be different. The goal of the change is to make the course as effective as possible in ensuring that the learner meets the objectives. Certainly, the goals and objectives for the course should be created if they have not been created in the past and should be reexamined to ensure current relativity or relevance if they already exist, but the underlying goals and objectives should not change for the course no matter the delivery format.

When constructing a performance objective it is best to look at what the learner should be able to do at the end of the course. If the course in question is an entry level economics course, then perhaps stating the underlying principles of economics will be an important objective. In order to meet this objective, students will have to first understand economics before they can understand the depth behind the term. Objectives should be worded with the student in mind, such as “At the end of the course, students should be able to...” In this way the student as well as the educator will be able to instantly know what the expectations are for the learner. In examining the goal for the course “stating the underlying principles of economics,” multiple levels of objectives may be required. For example, starting at the bottom of Bloom’s Taxonomy and progressing through the levels, objectives to meet this overarching course goal could be:

At the end of the course, students will be able to:

- Define economics.
- Explain major factors that influence economics.
- Demonstrate the underlying principles that influence economics.

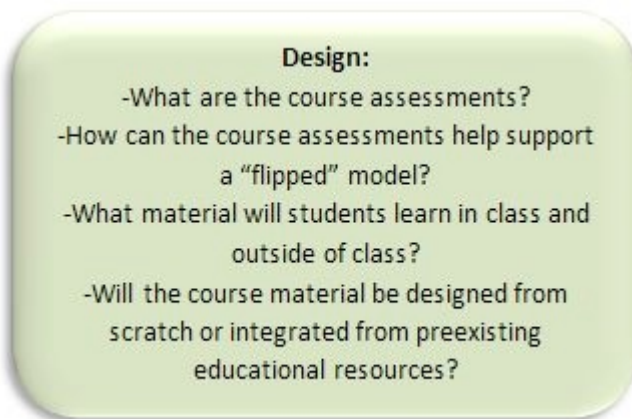
In those objectives, the key words are the action words, “define, explain, and demonstrate.” These action words each correspond to a higher level of Bloom’s Taxonomy and therefore a deeper level of understanding of the topic. Having a learner “define” a topic is the baseline for learning, while “demonstrating” a topic shows a much greater depth of knowledge. This is an entry level economics course, so perhaps application through “demonstration” is

the highest objective for this course. However for a higher level course, an objective might reach the “Creating” stage of Bloom’s and an objective could resemble:

- At the end of the course, students will be able to construct their own theories about the factors that influence economics in the modern world.

By “constructing” their own theories, students are bringing all of their knowledge together to accomplish this objective and are therefore demonstrating a complete mastery of the subject matter.

After the course objectives have been developed it is now time to move on to the Design phase of course development. The course format has already been chosen for this course. This course will be using a “Flipped Classroom” model of delivery. Since this has been determined, using backwards course design, the next step is to design course assessments. Because this course is using a “flipped” model, assessments in this course may be different from the traditional delivery model. A “flipped” model thrives on varied and multiple types of assessment.



“One of the most common fears surrounding “flipping” the classroom is the educator’s fear that students will not complete the content outside of the classroom and come to class unprepared. This can be solved by frequent low-stakes quizzing before students come to class. These assessments do not have to be long or strenuous, but they will ensure students come to class prepared. Many schools of higher education have some type of learning management system (LMS) in place, such as Desire2Learn or Blackboard, and these are the perfect places to put these low-stakes assessments. Each week before coming to class have students complete a brief five question multiple choice quiz online and ask questions directly related to the required content. Due to the fact that the quizzes are online in the LMS and all multiple choice questions they will be graded automatically and provide instant feedback for the student. After the initial setup the work for the educator is done. Cheating can be minimized by putting a time limit on these assessments so that students do not have time to look up answers. Beyond the time limit, having a question bank of ten questions for the five question assessment ensures that even if students try to collaborate they will end up with different questions. If these frequent low-stakes assessments have meaning for the student’s final grade, students will come to class prepared.

Beyond these frequent low stakes assessments, assessment will also occur in the classroom. Students can no longer sit passively in class. “Flipping” the classroom allows for more interaction in the classroom, which should be factored in as a part of student grades. This formative assessment will ensure student interaction in

class. “Flipping” the classroom also opens the door for more innovative summative assessment. In the “flipped classroom” a formal midterm and final can still be given as the summative assessment, but also feasible are presentations and group case studies. Assessing students formatively during the course will guarantee student interaction throughout and ensure readiness for the summative assessments.

After the assessments have been designed, the next step of the Design phase is one of the most innovative parts of designing a “flipped” classroom: deciding where students will learn the material. The objectives for the course have been defined and the assessments have been created, but how will students reach these goals? In general, basic knowledge should be learned outside of the classroom and application should happen inside the classroom. Considering the four objectives for the economics course that were created as samples during the Analysis phase, the action words used for these objectives were “define, explain, demonstrate and construct.” The baseline content associated with “define” and “explain” can be given outside of the classroom and the higher level areas of application “demonstrate” and “construct” should happen in the classroom.

For content outside of the classroom it is possible to create recorded lecture models for students through programs like Camtasia Studio and to assign reading from the text for all of the content, but this would not be utilizing the numerous learning objects already created and available for student learning. Recorded lecture modules and readings from the text can certainly be a part of student learning, but there are many other resources that can be used to supplement this baseline. The Khan Academy offers thousands of free video lessons on numerous topics that can be linked to course content. Sophia Learning offers many custom lessons on a variety of topics with objectives, videos, and activities. Although sometimes forgotten as an educational resource, YouTube contains educational videos beyond count. One of the greatest assets of the “flipped” model is utilizing all of the educational resources already created and available and making them available to students. The three collections listed above are some of the most well-known, but learning objects are being created every day and textbook publishers have started to create content of their own that is linked to their publications. These resources can be invaluable in enhancing student learning.

In the classroom, students will come to class ready for application with the baseline knowledge acquired outside of the classroom through a variety of materials. Lecture based classes will not work in a “flipped” model. Having discussions with students, breaking students into small groups, examining case studies, hands-on activities, and presentations are all possible in class activities in the “flipped” model, but the options are limitless. Students have baseline knowledge when they come to class; it is the job of the educator in a “flipped” model to bring that knowledge to the next level of understanding for the student through experience and application.

Once all of the assessments have been created, it has been determined what objectives students will learn outside and inside the classroom, and the course has been mapped out into modules of learning, the Development phase begins. During the development phase all of the course materials will be created and gathered. If this is the first time an educator is teaching in a “flipped” format this will mean more time will have to be taken in the Development phase to create learning models for students through the creation of educator video lectures, the collection of learning objects linked for students, and the creation of in-class activities to enhance student learning. Even if a course has been taught in a “flipped” design before, all content should be assessed to ensure continued validity.

**Development:**

- How will all of the materials and assessments fit together into modules of learning?
- What activities will be used to promote the “flipped” format?

In general, all content should be recreated every three to five years, especially recorded lecture models. Although some educators will argue that their content has not changed, students will notice. The examples used in the content may not be relevant to today’s students, the recording devices used were most likely not up to the recording standards of today, and the educator has aged and will appear differently in the videos versus in the classroom. Overall, when collecting and creating content for a “flipped” model remember that educational learning objects are being created every day and that these can be linked to the course.

After all of the content has been collected and the course has been completely mapped out, Implementation begins. This is when an educator and the students can come together and immerse in the learning experience. The most important aspect of this phase is communication. An educator can never communicate with their students enough in a “flipped” model. The educator must always ensure that students know what they are expected to accomplish, inside and outside of the classroom. These expectations should be communicated in the classroom and outside of the classroom. Outside of the classroom these communications can take place asynchronously through email or an LMS, but an educator should never assume that students know what they are expected to accomplish because they have the course syllabus.

**Implementation:**

- What is the communication policy for the course?
- How will students find support during the course?
- How will students know what learning objectives, materials, and activities they should complete for each learning model?

When beginning each new phase of the course or learning module, make it clear to students what course objectives will be covered in this section, what content is required outside and inside of the classroom, and what assessments will take place and when. This information can be given orally in the classroom but should also be provided to students outside of the classroom through email, in the LMS, or ideally both. Students want to be sure they know exactly what they need to do to accomplish the objectives. It is the educator’s job to make sure there are no hindrances. This includes providing information about what needs to be done and where students can find help

if needed. The Implementation phase is where educators and students can come together to create a memorable learning experience; increased communication can help make this a reality.

The Evaluation phase of ADDIE is happening throughout the course. Ideally in a “flipped” model students are being evaluated during the course through low-stakes frequent quizzing and through their participation in class. Another formative assessment technique that can be used throughout the course is student polling. Polling is a perfect way for students to voice their feedback about how they feel the course is going. Students will tell the educator if they need more communication or if the amount of content they are expected to cover is overwhelming. An educator should ask students how they are doing at least once during the course.

**Evaluation:**

- How will students and the course itself be evaluated throughout the course delivery?
- How will students and the course itself be evaluated at the end of the course?
- How will the course be altered for the next implementation?

At the end of the course, the summative evaluation begins. This means assessing the student learning as well as the student experience. After the final exam is given, whether it is paper- or presentation-based, educators will have hard data available about student learning. Educators will be able to see what course objectives students mastered and where students did not meet the desired outcomes. The ultimate success of a course should be measured by whether students were able to reach the desired course objectives, but also the process in which the students reached the objectives. Therefore, beyond the exam, a final survey should be given. Students should be asked about their experience. Students may have fallen short on one course objective on the final exam, but through the surveys the educator can discern that the lesson and activity for that course objective was confusing for students. The combination of the summative exam and survey will provide the educator with the needed data to rethink and redesign parts of the course where students found issues.

A course structure and content should never be stagnant. Especially in a “flipped” classroom, learning is an active and engaging practice. For a course and the content to sit stagnant would counteract the design and philosophy of the “Flipped Classroom” as a whole. After the summative assessments are completed for the course and the course ends, ADDIE begins again. The educator should start back in the Analysis phase and ensure that the objectives are the same for the next course delivery. Even if they are, assessments, activities, content, and course structure can all change from course to course depending on new content or the new group of learners who will be taking the course. Constant revision and evolution can help create a course ready to adapt to the changing education environment.



# Conclusion

The “Flipped Classroom” is an exciting and engaging model of instruction. This method of instruction puts the learning in the hands of the learner and asks the educator to facilitate the learning process. The guiding philosophy behind the “flipped” model asks educators and students to change their attitudes towards a classroom experience. K-12 education has seen a movement to this model and the methods are beginning to manifest themselves in higher education. At some point in the near future students will no longer see a “flipped” model as the new model but the traditional model of instruction. Students have access to a world of information wherever they are due to increased access to online educational resources. It is up to educators to keep up with the changing educational climate.

Instructional Design and design methods like ADDIE can help educators prepare for a changing educational landscape. Instructional Design asks educators to look at their courses from a baseline level and create from this baseline. The core of education will always be the learning objective. No matter what technology or learning method is used, students will still be expected to reach an objective. The difference will be in how students will still be expected to reach an objective. The difference will be in how students reach this goal. Due to the fact that the learning objective will always be the core, Instructional Design can help educators evolve for an evolving educational environment. Through systematic design, education can flourish.





# Works Cited

Brunsell, E., & Horejsi, M. (2013). Science 2.0. *Science Teacher*, 80(2), 8.

Bull, G., Ferster, B., & Kjellstrom, W. (2012). Inventing the Flipped Classroom. *Learning & Leading With Technology*, 40(1), 10-11.

Center for Teaching and Learning at the University of Texas at Austin. (2013, August 06). Snapshot of a Flipped Class. Retrieved from [http://ctl.utexas.edu/ctl/sites/default/files/flippedgraphic\(web1100px\)\\_0.png](http://ctl.utexas.edu/ctl/sites/default/files/flippedgraphic(web1100px)_0.png)

EDUCAUSE (February 07, 2012). 7 Things You Should Know About Flipped Classrooms. EDUCAUSE. Retrieved from <http://net.educause.edu/ir/library/pdf/ELI7081.pdf>

Evmenova, A. S., & Behrmann, M. M. (2011). Research-Based Strategies for Teaching Content to Students with Intellectual Disabilities: Adapted Videos. *Education & Training In Autism & Developmental Disabilities*, 46(3), 315-325.

jclarkgardner. (2011, September 25). The ADDIE Analysis Phase [Video file]. Retrieved from <http://www.youtube.com/watch?v=JZdv5lrJs4U>

jclarkgardner. (2011, September 25). The ADDIE Design Phase [Video file]. Retrieved from <http://www.youtube.com/watch?v=BhLLiF9QyTo>

“jclarkgardner. (2011, September 25). The ADDIE Development Phase [Video file]. Retrieved from <http://www.youtube.com/watch?v=VzYDNWhQWYA>

jclarkgardner. (2011, September 25). The ADDIE Implementation Phase [Video file]. Retrieved from <http://www.youtube.com/watch?v=q8yky6-P1Uw>

jclarkgardner. (2011, September 25). The ADDIE Evaluation Phase [Video file]. Retrieved from <http://www.youtube.com/watch?v=CBol0wBo4vw>

Lage, M. J., Platt, G. J., & Treglia, M. (March 08, 2001). Inverting the Classroom: A Gateway to Creating an Inclusive Learning Environment. *Journal of Economic Education*, 31, 1, 30-43.

Larkin, H. E. (2010). “But they won’t come to lectures...” The impact of audio recorded lectures on student experience and attendance. *Australasian Journal Of Educational Technology*, 26(2), 238-249.

McFarlin, B. K., Weintraub, R. J., Breslin, W., Carpenter, K. C., & Strohacker, K. (January 01, 2011). Designing Online Learning Modules in Kinesiology. *Educational Technology & Society*, 14, 2, 278-284.

Overbaugh, R., & Schultz, L. (December 04, 2013). Bloom's Taxonomy. Old Dominion University. Retrieved from [http://ww2.odu.edu/educ/roverbau/Bloom/blooms\\_taxonomy.htm](http://ww2.odu.edu/educ/roverbau/Bloom/blooms_taxonomy.htm)

Reigeluth, C. (2012). Instructional Theory and Technology for the New Paradigm of Education. *RED, Revista de Educación a Distancia*. Número 32. 30 de septiembre de 2012.

"Reiser, R. A. (2001). "A History of Instructional Design and Technology: Part II: A History of Instructional Design". *ETR&D*, Vol. 49, No. 2, 2001, pp. 57-67.

Sadaghiani, H. R. (May 01, 2012). Online Prelectures: An Alternative to Textbook Reading Assignments. *Physics Teacher*, 50, 5, 301-303.

Strayer, J. (July 23, 2013). The Flipped Classroom Infographic. KNEWTON. Retrieved from <http://www.knewton.com/flipped-classroom/>

Tech Smith. (2010, December 16). Flipped Classrooms and Video as Homework [Video file]. Retrieved from [http://www.youtube.com/watch?v=7\\_ejZ5OMIDE&feature=youtu.be](http://www.youtube.com/watch?v=7_ejZ5OMIDE&feature=youtu.be)

University Information Technology (July 24, 2013). ADDIE Instructional Design Process. *UIT Encyclopedia for Teaching with Technology*. Retrieved from <https://wikis.uit.tufts.edu/confluence/display/UITKnowledgebase/ADDIE+Instructional+Design+Process>

von Kinsky, B. R., Ivins, J., & Gribble, S. J. (2009). Lecture attendance and web based lecture technologies: A comparison of student perceptions and usage patterns. *Australasian Journal Of Educational Technology*, 25(4), 581-595

## Reader Feedback

# Flipped Through Design Feedback

Thank you for taking the time to read Flipped Through Design. This book has been read and edited numerous times, by numerous individuals, however I am sure that improvements can be made. My goal is to make this book the best educational resource possible. During the course of your study if you found spelling or grammatical errors or if you have ideas for improvement, please let me know.

Jacob Bane

\* Required

**Name (Optional)**

**Email (Optional)**

**Why were you interested in this book? (Optional)**

**Feedback \***

Submit

*Never submit passwords through Google Forms.*

## Reader Feedback Form