Converting to Online Teaching [1]

A series of short guidance articles for educators and institutions

Blended Learning Classroom Guidance [2]

By John Cable, Director

Project Management Center for Excellence
A. James Clark School of Engineering
University of Maryland, USA

The terms *flipped classroom*, *active learning*, and *blended learning* have been kicked around for a number of years, sometimes with great fanfare. One of the outcomes of our partnership with edX is that we have studied research results on effective teaching techniques. Relative to teaching on campus our conclusion is unequivocal, blended learning formats are far more effective. The content is much stickier!

For example, the 2019 Impact Report from edX states: "*edX and our partners have unlocked the power of blended learning – when on-campus learning happens both on-line and in person. Blended learning has been shown to improve learning outcomes. In one case, pass rates in a blended learning course delivered on the edX platform jumped to 91%, compared to a 59% pass rate in the traditional face-to-face class.*"

So, what is blended learning? Blended Learning combines classroom learning with online learning. Setting the context, for a campus class, we assign various activities for the learners to prepare before class so that class time can be an active learning environment.

Active learning is an instructional approach that engages students in the material they are learning through problem-solving activities, writing assignments, group discussion, reflection activities, and any other task which promotes critical thinking about the subject. Active learning requires that students do something which develops their skills. This is a substantial shift from traditional classroom teaching models, passive learning, where the teacher provides information which the students dutifully record. Active learning shifts the focus of learning activity to the learner: what the learner does, what the learner thinks, and how the learner behaves. It uses all three learning-style preferences; visual, auditory, and particularly kinesthetic.

---

[1] This series of articles by the Director of the University of Maryland's Project Management Center for Excellence provides information and advice for converting from traditional in-person classes to online teaching, based on their experience before and during the Covid-19 pandemic of 2020. See Professor Cable's background at the end of this article.

[2] How to cite this paper: Cable, J. H. (2020). Converting to Online Teaching: A series of short guidance articles for educators and institutions – Blended Learning Classroom Guidance, *PM World Journal*, Vol. IX, Issue IX, September.

A key component of blended learning is shifting the transmission and absorption of basic course information from classroom lecture delivery to homework by the students. Students may be given assignments before class which include videos to watch, voice-over PowerPoint slide decks, readings, problem sets, Google searches for information, pearl diving essays, etc. Short quizzes or knowledge checks, which must be completed before in-person class sessions, encourage the learner to be prepared for class. Use of your learning management system (LMS) (we use Canvas) supports simple administration of these pre-class activities.

When the class does meet in person, the instructor goes from sage-on-the-stage, traditional lecture model to being a facilitator of active learning for the students. Students are prepared and ready to ask questions for understanding rather than hearing course content for the first time in class. This shifts the focus of the instructors' interactions with students to discussion, application, clarification, workshops and peer collaborations, making the learning stickier, easier to remember and apply, for the students. Blended classrooms are naturally student-centered; the instructor is the guide to learning for students, and the students are actively tasked with their own learning. The blended learning model also builds on the opportunity for students to learn from each other and to coach their peers, provide feedback and execute group projects.

Many experienced and effective teachers, who are used to the "sage-on-the-stage" lecture method, have trouble even imagining how to make the switch to a blended classroom. One benefit for teachers, however, is that blended learning removes the relentless requirement of repeating (teaching the same basic content each semester) which frees up valuable faculty time for other activities. Rather, teachers can record short lessons on core content for students to review in advance, and use class time to answer questions. Students learn to apply the content from experienced teachers. These short videos are also valuable to the students because they are able to work at their own pace, reviewing videos on more difficult topics while moving on from ones they found easier to master. The inclusion of quick knowledge checks in the pre-work, provides feedback and motivation for students as they master new content.

There is one more reason to move to a blended course design. The same pre-work course materials can be used for an online course with the online videoconference becoming the "classroom" to facilitate active learning. So, if a blended course is launched as a campus offering and temporary or major disruptions occur (and they periodically do) the switch to teaching online is immediate and seamless without missing a beat.

MOVING TO A BLENDED CLASSROOM.

There are two big things that you must master to effectively use the concepts of Blended Learning: 1) How to make engaging short (not more than 6 minute) videos that students watch before the in-person class meeting, and 2) how to become a facilitator in the classroom instead of a lecturer. For the video component, we have developed guidelines to provide guidance and our edX team is available to help you through the process. Trust me, it is quick and easy once you get comfortable with recording your own videos and they can be recorded using your smart phone or tablet.

For learning how to facilitate the on-campus class, you might think of it as facilitating a workshop. If you didn't give a quiz before class starts, you might start the class by giving a quiz that is designed to hit the key concepts of the material for the week. The quiz can be administered on your LMS.

After the quiz, lead a discussion on any of the questions people had trouble with. Then you might give the class an assignment and have them subdivide into teams of 3 to 5 students each. While they are discussing the problem, you can circulate around the room to be available to answer questions or even pose deeper questions. Advanced video conferencing platforms have breakout rooms so you can do the same whether on-line or on campus. Have each group report out. They also benefit from the practice of presenting to the class. One of our colleagues runs the quiz before class and actually starts the class with a story – people remember stories.

There are many types of classroom assignments, projects, and games that you might use. One of our main goals as teachers is to provide opportunities which empower the students to take more control and drive their own learning. One technique that worked well for me is to assign different case studies to each team and use the report from the team to stimulate class discussion.

By giving the students a chance to do more than absorb information, we create the environment in which they can be creative, design solutions, and think critically and, hopefully, they learn to self-assess and reflect. There are many different ways to manage a blended classroom and you need to find what you are most comfortable with. Certainly, experimenting with an open mind will give you the opportunity to find what works best for you and your learners.

A good exercise to finish the class with is to "go around the room" and have each learner state what is most meaningful to them in this week's materials. They have to use *laser comments* so as to not take more than the prescribed time, say 20 - 30 seconds. This simple little drill encourages them to think about everything they have learned for the week and provides a good review of major content.

As always, Google is your best friend. There are a lot of papers on every aspect of active learning and there are sources for case studies, exercises, and games. To support flipped classroom teaching, consider obtaining these certifications from the Flipped Learning Global Initiative:

1. Flipped Learning Level - I
2. Flipped Learning Level - II
3. Flipped Learning Basic Trainer Certification Level - I
4. Flipped Learning 3.0 Higher Ed Certification Level - I
5. Flipped Learning 3.0 Differentiation Strategies

As with most things in teaching, you must find a solution that works for you. There are many ways to run an effective blended learning environment so I am providing three different, effective solutions that our faculty have recently implemented.

ENCE 665 Managing Project Teams: Improving Individual & Team Performance

This course moved to full blended learning in fall 2019. The course has been offered online each spring and on campus each fall. The online offering provided content that could easily convert to a blended learning environment. Prior to that, elements of the flipped classroom had also been implemented.

Early changes to the course to incorporate flipped classroom techniques included having chapter quizzes from the main textbook due the day before either the class met in person or online; this required that the students were prepared for class discussions. Chapter quizzes are knowledge checks of the lower order thinking skills: vocabulary, basic concepts, business outcomes, etc. from course content.

Each class session then started with questions for understanding from the assigned readings, videos and voice-over slides, if applicable. Students have struggled with this part of the blended learning model as they often don't have questions for understanding; this skill and shift to being more active learners seems to develop over the semester, however.

Key concepts which are important are then reviewed at a high level with a focus on why might this matter to PM's, what might you do differently as a PM as a result of this knowledge, and reinforcing the business case for the particular soft skill being taught that week. Students are actively encouraged to disagree/challenge as that type of discussion seems to garner more student engagement.

Content beyond the main textbook is reviewed as well; these readings are more complex and challenging for students (academic papers and business press articles) and students sometimes need more help with this content.

Weekly essays, pearl diving's, are assigned which ask the students to apply or to analyze their new knowledge. Students are offered multiple prompts and may choose the one they are most interested in. These are personal essays and they are required to use course, as well as, external references, apply course content to past or current work/team experiences, and where applicable, make the business case for the use of these soft skills.

This last semester, a new type of assignment was developed which shifted the content development from the instructor directly to the students specifically. Since creating a positive culture is critical to high levels of team performance, students were asked to make the case, either pro or con, for a positive workplace culture. This assignment was very engaging for the students and more interesting for the instructor to review. A similar assignment was used to teach ethical decision-making concepts and how to build good followership skills. Students in that assignment were asked to explore in the popular

business press situations where ethical decision-making in engineering applications might have been better and to explore why it wasn't, being prepared to discuss in class. The resulting discussion was quite engaging.

"I'm very excited about continuing to design new assignments which put the student in the driver's seat by asking questions rather than telling them what the research says and how to apply it. The blended format allows more time for student interaction at a deeper level once the course is redeveloped." *Jocelyn S. Davis, adjunct instructor*

ENCE 607 Mastering Agile Project Management

John Johnson teaches *ENCE 607 Mastering Agile Project Management* that started as an offering on edX before it was converted into an on-campus course. Now in its second year, it's employing a completely project-based learning approach.

Students arrive and discuss the lectures they watched prior to class. Then teams discuss and prepare to take a quiz. The quiz has both an individual and a team score, which encourages group learning and support.

Then, the remaining two hours or so are spent reviewing and planning project work. Teams present the project work they have completed since the last class, which provides some deadline pressure, group and instructor feedback, and practice briefing project status, a useful skill for project managers. So, students learn from each other, and know how they are doing in their projects every week. The opportunity to model real-world project updates is invaluable to our students. And, being able to execute and brief a project to the entire class requires a higher level of skill than simply taking quizzes and tests.

Individual teams then make plans for their next week's work. This includes a retrospective on how things went and what to improve, as well as future tasking. The result is that everyone knows what to do and how to coordinate on projects. And lots of good work gets done between classes on project work and learning the lessons for that week.

Having small, 6-minute lecture videos is very flexible for the students. They love the micro-learning they can fit in-between work and home responsibilities. Many are professionals with families, so the flipped classroom with small video lectures works. Students use desktops, laptops, tablets and smart phones to watch these videos, making education very accessible.

Students also appreciate using class time to ask questions and coordinate their work, so they aren't just listening to the instructor talk about doing the work.

"I'm never going to lecture for another class again, if I can help it!" – *John Johnson, PMP CSM SPC, Strategic Program Manager, Project Manager Center for Excellence.*

ENCE 605 Evolving as a Project Leader

Dr. Bill Brantley teaches *ENCE 605 Evolving as a Project Leader* using this paradigm: His approach to the flipped classroom is based on the Academy of Active Learning Arts and Sciences' [aalasinternational.org] *Global Elements of Effective Flipped Learning* (GEEFL). "I use the twelve sectors of GEEFL to help me plan the course design, build the Canvas portion for the individual space portion of the course, and execute group space activities in synchronous sessions," Dr. Brantly said.

He creates weekly modules on Canvas, where he places recorded lectures, related videos, readings, and reflection activities ("Pearl Diving"). He keeps the recorded lectures to six minutes or less and assigns short readings that can be completed in ten minutes or less. Students are expected to view the materials before the synchronous sessions. The Pearl Diving reflective short essays are completed after the synchronous sessions.

The group space activities are classroom debates, individual and group presentations, role-plays, simulations, and peer-teaching. The purpose of the group space activities is for students to demonstrate using the knowledge from the individual space learnings. Bill is experimenting with differentiation strategies in instruction and assignments to meet individual students' needs.

"Flipped learning helps me to design activities where students can demonstrate a mastery of the learnings beyond just the short-term memorization of content for a midterm or final. My goal is for the students to demonstrate all elements of Bloom's taxonomy from knowing the concepts to critically thinking of how to apply the concepts in their careers." - *Dr. Bill Brantley, PMP, PMI-ACP, and five Flipped Learning Certifications.*

This paper was written by John H Cable with contributions from Jocelyn S Davis, John C E Johnson, and Dr. Bill Brantley

Selected References

Cable, J. H. (2020). Converting to Online Teaching: A series of short guidance articles for educators and institutions – The Future of Academia in a Virtual Environment, *PM World Journal,* Vol. IX, Issue VIII, August. Available online at https://pmworldlibrary.net/wp-content/uploads/2020/07/pmwj96-Aug2020-Cable-converting-to-teaching-online-4-future-of-academia.pdf

Cable, J. H. (2020). Converting to Online Teaching: A series of short guidance articles for educators and institutions – Tips for Working at Home, *PM World Journal,* Vol. IX, Issue VII, July. Available online at https://pmworldlibrary.net/wp-content/uploads/2020/07/pmwj95-Jul2020-Cable-converting-to-teaching-online-3-working-at-home2.pdf

Cable, J. H. (2020). Converting to Online Teaching: A series of short guidance articles for educators and institutions – Video Conference Etiquette, *PM World Journal,* Vol. IX, Issue VI, June. Available online at https://pmworldlibrary.net/wp-content/uploads/2020/05/pmwj94-Jun2020-Cable-teaching-online-series-2-video-conference-etiquette.pdf

Cable, J. H. (2020). Converting to Online Teaching: A series of short guidance articles for educators and institutions - Introduction, *PM World Journal,* Vol. IX, Issue V, May. Available online at https://pmworldlibrary.net/wp-content/uploads/2020/04/pmwj93-May2020-Cable-converting-to-teaching-online-1-introduction.pdf

How Video Production Affects Student Engagement: An Empirical Study of MOOC Videos by Phillip Guo, Juho Kim, and Rob Rubin

Ways to Implement Blended Learning I The Classroom by Rachelle Dene Poth

Student-Centered Learning in a Blended Classroom by McGraw-Hill

The Basics of Blended Instruction by Catlin r. Tucker, Educational Leadership

What is Active Learning by Muhammad Taha Junaidy, UMD PM Graduate Student

Essential Facilitation Skills for an Effective Facilitator by Robert from Session Lab

About the Author

John Cable

Project Management Center for Excellence
University of Maryland, College Park, MD, USA

John Cable is Director of the Project Management Center for Excellence in the A.James Clark School of Engineering at the University of Maryland, where he is also a professor and teacher of several graduate courses in project management. His program at the University of Maryland offers masters and PhD level programs focused on project management. With more than 1,300 seats filled annually with students from many countries, including more than 40 PhD students, the program is the largest graduate program in project management at a major university in the United States.

John Cable served in the newly formed U.S. Department of Energy in 1980, where he was involved with developing energy standards for buildings, methods for measuring energy consumption, and managing primary research in energy conservation. As an architect and builder, Mr. Cable founded and led John Cable Associates in 1984, a design build firm. In 1999 he was recruited by the University of Maryland's Department of Civil & Environmental Engineering to create and manage a graduate program in project management. In his role as founder and director of the Project Management Center for Excellence at Maryland, the program has grown to offer an undergraduate minor, master's degrees, and a doctoral program. Information about the Project Management Center for Project Management at the University of Maryland can be found at www.pm.umd.edu.

In 2002, PMI formed the Global Accreditation Center for Project Management Educational Programs (GAC). Mr. Cable was appointed to that inaugural board where he served as vice chair. In 2006, he was elected as chairman, a role he held through 2012. As Chair of the PMI GAC, John led the accreditation of 86 project management educational programs at 40 institutions in 15 countries in North America, Europe, the Middle East, Latin America and the Asia Pacific Region. John was awarded PMI's 2012 Distinguished Contribution Award for his leadership at the GAC. He can be contacted at jcable@umd.edu.