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The Flipped Classroom and Professional Military Education: A Preliminary Assessment of the Possibilities

by Adam Chapnick

Introduction

Members of the military community responsible for the development and delivery of professional post-secondary education programs cannot help but be aware of recent discussions over the value of the so-called flipped classroom. Not to be confused with Massive Open Online Courses (MOOCs), which merely provide an opportunity for interested individuals to watch a series of lectures and perhaps engage in lightly supervised on-line discussions for which they might obtain a certificate of completion,¹ the flipped classroom is, by its very name, focused on improving the student learning experience in the ‘bricks and mortar’ school hall in the pursuit of real academic credit.

In theory, it transforms the professor from ‘sage on the stage’ to ‘guide on the side’ to better facilitate a deeper student learning experience. In practice, it means taking the idea of a traditional university lecture course – in which students (1) arrive in class, having perhaps completed an assigned reading; listen to an expert wax eloquently on a predetermined theme; (2) hopefully go home

and contemplate what they have learned; (3) later take tests or complete problem sets to confirm their recollection of the content of said readings and lectures; and, (4) often after the course is over, receive written feedback of varying quality on what they have done – and flips it on its head. Instead of listening to the lecture in class and then studying alone at home, students watch a pre-recorded talk on-line, and then use the class time with the professor to engage in a more spontaneous discussion that has been designed to clarify any remaining confusion, and to share thoughts and ideas. Flipping the classroom is supposed to enable the professor to monitor student progress more accurately and, as such, provide immediate, direct, and personalized oral feedback that addresses specific student needs more effectively.² It should also provide opportunities for more innovative teaching strategies (like small group discussion) in even the largest of classes, and more focused lectures. Students in flipped classrooms, it is said, arrive in class better prepared to genuinely learn, having wrestled with the lecture material beforehand at a date and time largely of their choosing.³

This approach to post-secondary education has gained many adherents. Indeed, there is even an organization in the United States



dedicated to helping interested instructors flip their classrooms.⁴ And as with any innovation, it also has its detractors, some of whom note that preliminary research does not seem to indicate significant improvements in student outcomes.⁵

Given the popularity of the flipped classroom idea in civilian circles, it only makes sense for military educators to question whether it should find a place in our classrooms as well. The answer, it appears, is perhaps, but even if we do experiment with flipped classes, we cannot lose sight of the fact that real learning requires sustained hard work⁶ – by both instructors and students – and no teaching innovation will ever change that basic idea.

Breaking Down the Flipped Classroom Experience

There are three basic elements to the flipped classroom experience: (1) the instructor redesigns the course; (2) students watch lectures that would have normally been delivered in class on their own devices; (3) formal class time is dedicated to facilitated discussions.

1. Redesigning the Course⁷

Instructors who have flipped their classrooms almost inevitably speak of how much the exercise has improved their teaching. What is less clear, however, is what exactly causes that improvement. Asking professors to translate live lectures into recorded presentations all but requires a number of actions that are consistent with best teaching practice. First, in preparing for their recording sessions, instructors typically review their lectures, and in doing so, pay serious, critical attention to organization and content. Most online lectures are divided into short, 8–10 minute episodes, all but forcing instructors

to add rigor to what for many had typically been more organic – and, for students, often difficult to follow⁸ – thought processes. Second, completing the flip requires, at minimum, a rudimentary knowledge of some of the more recent advances in academic technology. So professors who flip their classrooms develop new skills that support their teaching efficacy. Finally, if the flip is actively supported by the instructor’s institution – whether that be by course relief or research funding to compensate for the significant investment of time and energy that it takes to complete the transformation of the course – it has the potential to generate professional enthusiasm that will often be shared with the student body. From an instructor’s perspective, then, the act of flipping one’s classroom can improve a course’s organization, refine its content, expand one’s own teaching and learning tool kit, and generate renewed enthusiasm for interactive education more generally.

All these outcomes should be applauded and encouraged, but none of them are necessarily contingent on the flip itself. Better teacher training, for example, can improve professors’ lecturing skills. Indeed, well-organized instructors who design their classes with student learning in mind, as opposed to content delivery, should not have great difficulties transitioning from live lecture to recorded broadcast. Moreover, there are many instructors who have adopted and mastered new academic technologies without ever flipping their classrooms. And one can use the same incentives often offered to instructors to flip to support all sorts of other forms of course redesign.

To summarize, flipping the classroom may be just as much a proxy for greater professional and administrative support to develop best teaching practices as it is a panacea in and of itself. It follows that administrators of professional military education programs

who have contemplated asking instructors to flip their classrooms to reduce costs are in for an ugly surprise. One cannot cut corners if the goal is a profound, meaningful learning experience.

2. *Watching the Lecture On-Line*⁹

While students have initially been quite hesitant to enrol in a flipped course – there is a certain familiarity and predictability to the traditional lecture class that is hard for many to abandon willingly – most seem to report a more positive attitude towards the change in methodology after experiencing one **that has been well-taught**. They tend to suggest that they have learned significantly more through the new format, and that they have emerged from the experience with a better attitude towards the material than they typically would have in a more traditional class. Students also note that flipped classes are significantly more demanding. Because interactive discussions, and often brief quizzes meant to verify that they have indeed watched and understood the lectures, take place every week, they can no longer cram all their ‘learning’ into the days (or hours) immediately preceding a test or exam.¹⁰ The heavier workload is, however, generally deemed worthwhile.

One must applaud teaching and learning strategies that result in students holding more positive attitudes towards their educational experience, but once again, it is not clear that the flip is key to the impact. Recent research on student learning suggests that effective outcomes are contingent on intense, considered, and focused student engagement.¹¹

Certainly, one might argue that the novelty of watching lectures on the internet, either at home or on a personal device might pique a student’s interest, but if and when such a process becomes normalized, that novelty will expire. The question, then, is whether students will continue to invest the time necessary to prepare effectively for flipped classes once such classes are no longer exceptional.

Looked at another way, there is hardly any difference between a flipped classroom and one in which students are assigned high quality, accessible readings that they are obligated to, and do in fact complete in advance of class. If one adds to these readings a series of focus questions that form the basis of the in-class lecture or lecture-discussion, one can all but reproduce the flipped classroom experience. Similarly, there is no stopping instructors in traditional classes from beginning each lecture with the same sorts of quizzes often used in the flipped classroom. In both cases, by prompting students to invest the time necessary to learn in advance, instructors can improve the learning outcomes of the in-class experience significantly.

The keys, then, rest in finding ways to convince students to spend more time reading and thinking about assigned material

throughout the length of the course, as opposed to only at the last minute, and generating enthusiasm to learn among them, rather than prompting a focus upon achieving a certain grade.¹² If the opportunity to view lectures on-line helps, then it should certainly be considered by professional military educators, but before asking instructors to spend tens, if not hundreds of hours redesigning their courses, it would be worth confirming that the impact of the flip can be sustained, and considering whether better teacher training might similarly boost student enthusiasm.

3. *The Class Discussions*

In an effective flipped classroom, instructors assume that students have watched the lecture in advance. (This assumption is often confirmed by having them take quizzes before or during the first few minutes of class. Some instructors also use clickers to track



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student comprehension throughout the session.) As a result, the ‘face time’ available to the students can be used to clarify concepts that a quiz or any other form of pre-testing has identified as still problematic; to delve deeper into specific themes or issues that have provoked the greatest interest among the student body – as indicated either through pre-class reflections or in-class responses; or to assign group-based practical activities that can be monitored by instructors who move about the room as students compare thoughts and ideas. **If the class is well-taught**, these practices create a dynamic, vibrant, creative environment in which students take control and responsibility for their own learning, and engage critically and meaningfully with the assigned material, all the while being supported by well-prepared, enthusiastic instructors.¹³

Once more, however, the direct relationship between the flip and the outcome is not entirely clear. Nothing prevents instructors in traditional classrooms from testing or monitoring student comprehension of assigned readings in advance of a lecture, for example. Nor is there anything stopping such instructors from modifying their speaking notes to reflect what their students *have*, and *have not*, understood. Indeed, one could argue that the canned lectures



planned lesson, successful instructors in the flipped classroom have no choice but to think deeply about their subject matter in advance of every class. As for the student body, the creativity evident in most successful flipped classrooms might be attributed just as much as to time on task as it might be to the act of flipping: in other words, the sustained, reflective thinking that takes place outside the classroom results in greater potential for deep learning in the classroom. Looked at another way, if one can motivate members of the student body to do close readings of assigned written material in advance of every class, there is little reason to believe that their response to faculty lectures might not be just as stimulating, leading instructors to lecture less, and engage in discussion more.

needed to produce a flipped classroom in fact prevent some of the flexibility on the instructor's part that the live experience generates.

Moreover, instructors who excel in the flipped classroom appear to do so in part because they set aside time to mentally prepare to deal with the unexpected. Knowing that open discussions can often lead to questions that depart widely from the

In sum, student preparation is critical to student learning; engagement spurs creativity; and well-prepared professors teaching well-planned courses support both. It is certainly possible that, for some, the flipped classroom will inspire such activity, but it should also be possible to achieve all these ends without it. Professional military educators who seek to improve the student learning



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experience must absolutely pay more attention to how they teach, but whether they choose to flip their classrooms should probably be determined by their particular circumstances.

What Really Matters

Since effective learning outcomes are contingent upon, among other things, the inter-related issues of student engagement and student effort,¹⁴ in thinking about the value of the flipped classroom, one must consider, first, whether students will be inspired to learn (independently) more by the experience of hearing a brilliant lecture, or through the buzz generated by a provocative, well-informed interactive discussion. Moreover, it is not so much the content of these experiences that one must keep in mind as it is their effect upon the learner. Will students, upon leaving the classroom, be more or less likely to investigate the ideas discussed on their own on account of their experience?¹⁵ Much of the recent thinking about this question suggests that it depends. Introverts are more likely to be inspired in the lecture environment while extroverts tend to be energized by the group conversations.¹⁶

Second, one must ask whether changing the medium through which homework is assigned and delivered (i.e., asking students to watch videos on-line instead of reading articles and book chapters in print) will result in a greater – in terms of both quality and quantity – expenditure of effort and focus. Again, it is not so much how

the content is packaged as it is how much time students will spend thinking about the material deeply.¹⁷ And, once more, regardless of whether the student body is made up of civilians or military personnel, it is most likely that some will respond more positively to the digital medium, and others to more traditional texts.

Conclusion

In the end, the debate over the flipped classroom says much more about teaching and learning fundamentals than it does about the value of moving lectures on-line. A combination of well-organized, well-trained, subject matter expert professors, and engaged, inspired, and dedicated students are most likely to produce meaningful learning experiences. Any means by which professional military education administrators can enhance the possibility for such an environment to flourish should be encouraged. If that means, in some cases, flipping the classroom, then let's do it. But there is no reason to assume that flipping will suit every instructor or every class. And there is absolutely no evidence to suggest that flipping will produce better outcomes at a lower cost.

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NOTES

1. On the failure of MOOCs to meet the learning goals of post-secondary educators, see Tamar Lewin, "After Setbacks, Online Courses are Rethought," in *New York Times* [on-line], 10 December 2013, at http://www.nytimes.com/2013/12/11/us/after-setbacks-online-courses-are-rethought.html?_r=0, accessed 10 January 2014; University of Pennsylvania, Graduate School of Education, "Penn GSE Study Shows MOOCs have Relatively Few Active Users, with Only a Few Persisting to Course End," 5 December 2013, at <http://www.gse.upenn.edu/pressroom/press-releases/2013/12/penn-gse-study-shows-moocs-have-relatively-few-active-users-only-few-persist>, accessed 10 January 2014; and Laura Perna *et al.*, "The Life Cycle of a Million MOOC Users," paper presented at MOOC Research Initiative Conference, 5 December 2013, at http://www.gse.upenn.edu/pdf/ahead/perna_ruby_boruch_moocs_dec2013.pdf, accessed 10 January 2014.
2. On the critical contribution of clear, immediate feedback to student learning, see Susan A. Ambrose *et al.*, *How Learning Works: 7 Research-Based Principles for Smart Teaching*, (San Francisco: Jossey-Bass, 2010), p. 6.
3. For a somewhat contrary view, see David Plotnikoff, "Classes Should Do Hands-On Exercises before Reading and Video, Stanford Researchers Say," in *Stanford Report*, 16 July 2013, at <http://news.stanford.edu/news/2013/july/flipped-learning-model-071613.html>, accessed 9 January 2014.
4. Flippedlearning.org. See <http://flippedlearning.org/site/default.aspx?PageID=1>, (accessed 9 January 2014).
5. The debate can be traced in the popular media through Abigail Walthausen, "Don't Give Up on the Lecture," in *The Atlantic.com*, 21 November 2013, at <http://www.theatlantic.com/education/archive/2013/11/dont-give-up-on-the-lecture/281624/>, accessed 9 January 2014; "San Jose State U. Says Replacing Live Lectures with Videos Increased Test Scores," in *The Chronicle of Higher Education* [on-line], 17 October 2012, at <http://chronicle.com/blogs/wiredcampus/san-jose-state-u-says-replacing-live-lectures-with-videos-increased-test-scores/40470>, accessed 9 January 2014; Carl Straumsheim, "Still in Favor of the Flip," *Inside Higher Ed*, 30 October 2013, at <http://www.insidehighered.com/news/2013/10/30/despite-new-studies-flipping-classroom-still-enjoys-widespread-support>, accessed 9 January 2014; and Robinson Meyer, "The Post-Lecture Classroom: How Will Students Fare?" in *The Atlantic.com*, 13 September 2013, at <http://www.theatlantic.com/technology/archive/2013/09/the-post-lecture-classroom-how-will-students-fare/279663/>, accessed 9 January 2014.
6. Daniel T. Willingham, *Why Don't Students Like School?* (San Francisco: Jossey-Bass, 2009), p. 139.
7. For one description of this process, see Rochelle Mazar, "How to Flip Your Classroom," *University Affairs.ca*, 11 September 2013, at <http://www.universityaffairs.ca/how-to-flip-your-classroom.aspx>, accessed 9 January 2014.
8. Ambrose *et al.*, *How Learning Works*, p. 5.
9. For student reactions to the experience of this part of the flipped classroom, see Katherine Mangan, "Inside the Flipped Classroom," in *The Chronicle of Higher Education* [on-line], 30 September 2013, at <http://chronicle.com/article/Inside-the-Flipped-Classroom/141891/>, accessed 9 January 2014; and Jennifer Ebbeler, "Introduction to Ancient Rome,' the Flipped Version," in *The Chronicle of Higher Education* [on-line], 22 July 2013, at <http://chronicle.com/article/Introduction-to-Ancient/140475/>, accessed 9 January 2014.
10. On the value of spreading out the learning experience, see Willingham, *Why Don't Students Like School?*, p. 119; and Michelle D. Miller, "What College Teachers Should Know About Memory: A Perspective From Cognitive Psychology," in *College Teaching* 59, No. 3 (2011), p. 120.
11. Ambrose *et al.*, *How Learning Works*, pp. 79 and 127; Miller, "What College Teachers Should Know About Memory," p. 121; Willingham, *Why Don't Students Like School?*, p. 55; and Eric Jensen, *Teaching with the Brain in Mind*, 2nd edition, (Alexandria, VA: ASCD, 2005), p. 34.
12. Christopher J. Voparil, "Assessing for Understanding: Toward a Theory of Assessment as Learning," in Michelle D. Deardorff *et al.*, (eds.), *Assessment in Political Science* (Washington, DC: American Political Science Association, 2009), pp. 17-37. See also Ken Bain, *What the Best College Students Do* (Cambridge, MA: Harvard University Press, 2012), p. 36.
13. Robert Talbert, "What's Different about the Inverted Classroom?" in *The Chronicle of Higher Education* [on-line], 6 August 2013, at <http://chronicle.com/blognetwork/castingoutnines/2013/08/06/whats-different-about-the-inverted-classroom/>, accessed 9 January 2014.
14. Ambrose *et al.*, *How Learning Works*, pp. 68-69.
15. Jensen, *Teaching With the Brain in Mind*, p. 36.
16. On introverts and extroverts, see Susan Cain, *Quiet: The Power of Introverts in a World That Can't Stop Talking*, reprint (New York: Broadway Books, 2013).
17. On deep learning, see Bain, *What the Best College Students Do*.