

I HAVE TOTALLY FLIPPED—FINALLY!

R. Nazim Khan

Presenting Author: R. Nazim Khan (nazim.khan@uwa.edu.au)
School of Mathematics and Statistics, The University of Western Australia, Crawley WA 6009, Australia

KEYWORDS: flipped classroom, peer learning, mathematics, statistics

ABSTRACT

No I am not crazy! But I have flipped. In stages. And now I have totally flipped! So how is the world of teaching and learning looking upside down? Did I cover the syllabus? Did it take more work? Was it more rewarding? Were the classes disorganized? Did the students love it or hate it? Did attendance improve? Did student learning improve?

METHOD

Data on student performance and from student feedback surveys was analysed. Student examination performance will be compared for flipped mode versus traditional delivery. Student evaluation surveys of flipped mode versus traditional delivery will also be presented.

TIPS

I will provide tips on flipping a mathematics and statistics class from my experience. I will also discuss development of material, conducting a flipped mode class, and how peer learning was used. In addition, I will discuss the use of other experts in lectures.

If you have never flipped, or have thought about it but were not sure how it would work, or wanted to flip but were scared of the unknown, come and hear the story of my journey to the dark side!

REFERENCES

- Anderson, L.W., & Krathwohl, D. (2001). *A taxonomy for learning, teaching, and assessing: a revision of Bloom's taxonomy of educational objectives*. New York: Longman.
- Berrett, D. (Feb. 19, 2012). How 'flipping' the classroom can improve the traditional lecture. *The Chronicle of Higher Education*. Retrieved May 29, 2015, from http://moodle.technion.ac.il/file.php/1298/Announce/How_Flipping_the_Classroom_Can_Improve_the_Traditional_Lecture.pdf
- Brame, C. (2013). Flipping the classroom. Vanderbilt University Center for Teaching. Retrieved May 20, 2015, from <http://cft.vanderbilt.edu/guides-sub-pages/flipping-the-classroom/>.
- Bransford, J.D., Brown, A.L., & Cocking, R.R. (2000). *How people learn: Brain, mind, experience, and school*. Washington, D.C.: National Academy Press.
- Crouch, C.H., & Mazur, E. (2001). Peer instruction: Ten years of experience and results. *American Journal of Physics*, 69, 970-977.
- DesLauriers, L., Schelew, E., & Wieman, C. (2011). Improved learning in a large-enrollment physics class. *Science*, 332, 862-864.
- Hake, R. (1998). Interactive-engagement versus traditional methods: A six-thousand-student survey of mechanics test data for introductory physics courses. *American Journal of Physics*, 66, 64-74.
- Lage, M.J., Platt, G.J., & Treglia, M. (2000). Inverting the classroom: A gateway to creating an inclusive learning environment. *The Journal of Economic Education*, 31, 30-43.
- Mazur, E. (2009). Farewell, Lecture? *Science*, 323, 50-51.
- Pashler, H., McDaniel, M., Rohrer, D., & Bjork, R. (2008). Learning styles: Concepts and evidence. *Psychological Science in the Public Interest*, 9, 103-119.

Proceedings of the Australian Conference on Science and Mathematics Education, Curtin University, Sept 30th to Oct 1st, 2015, page 39, ISBN Number 978-0-9871834-4-6.