1164-62-44 **Po-Ling Loh*** (pll28@cam.ac.uk) and **Varun Jog**. *Teaching and learning in uncertainty.*

We investigate a simple model for social learning with two characters: a teacher and a student. The teacher's goal is to teach the student the state of the world Theta. However, the teacher herself is not certain about Theta and needs to simultaneously learn it and teach it. We examine several natural strategies the teacher may employ to make the student learn as fast as possible when the state of the world is 0,1 and transmissions occur through a binary channel. Our primary technical contribution is analyzing the exact learning rates for these strategies by studying the large deviation properties of the sign of a transient random walk on the integer grid. We also discuss a Gaussian variant of this problem and contrast the conclusions reached in the binary vs. Gaussian settings. This is joint work with Varun Jog. (Received January 08, 2021)