

1035-I1-580

William P Fox* (wpfox@nps.edu), Department of Defense Analysis, Naval Postgraduate School, Monterey, CA 93943. *Demos and Strategies that work in a Mathematical Modeling Course.*

I am currently teaching in a three course sequence in mathematical modeling directed to develop "better" decision making for our graduates. Our courses include Deterministic Models (such as difference equation models, proportionality models, empirical models, and linear programming models), Stochastic Models (statistics, classical probability, discrete and continuous distributions, and simulations), and Game Theory. Each course has accompanying technology labs and our technology is MS-Excel. Students learn the modeling process as a process throughout the course. We do a "hands-on" exercise with a catapult where the students brainstorm the variables, collect the data, using technology build a least squares models (or a Taguchi Design Fit), and then test and validate their model with a new target at a preset distance. Students actually do the modeling process. Over the past three classes, 8 of the 12 students teams have a success rate of hitting the target with at least 1 of 2 shots. The other four teams were extremely close to hitting the target. I will bring the catapult and demo the project. (Received September 11, 2007)