ADVANTAGEOUS DISADVANTAGES

HOW UNDESIRABLE THINGS CAN TURN INTO GOOD THINGS
EDUCATION: **DESIRABLE DIFFICULTY**
Making things hard on yourself

BUSINESS: **ADVANTAGEOUS DISADVANTAGES**
Turning disadvantages into strengths

WORLD: **HAPPY ACCIDENTS**
Undesired incidents can produce surprising results

PSYCHOLOGY: **PSYCHOLOGICAL REACTANCE**
Want what you can’t have
DESIRABLE DIFFICULTY

- Elizabeth Ligon Bjork and Robert A. Bjork from University of California, Los Angeles
- Professors of Psychology
- Learning vs Performance
- Psychology and the real world: **Making things hard on yourself, but in a good way:** Creating desirable difficulties to enhance learning (2011)
4 DESIRABLE DIFFICULTIES

- **Varying** conditions of practice
- **Spacing** study or practice sessions
- **Interleaving** instead of Blocking
- **Generation** Effects and Using Tests
1. VARYING THE CONDITIONS OF PRACTICE

- Find a quiet, convenient place and do all your studying there
- **No!** Vary the conditions (e.g. study same material in two different rooms)
- **Study**: Specific and varied practice of a motor skill. (Kerr & Booth, 1978)
2. SPACING STUDY OR PRACTICE SESSIONS

- **Massing** practice (e.g. cramming for exams) for **short-term** performance

- **Spacing** practice (e.g. distributing presentations, study attempts, or training trials) for **long-term retention**

- One of the most general and robust effects from research on learning and memory
3. INTERLEAVING VS BLOCKING

- Interleaving separate topics/tasks introduces spacing

- **Study**: Learning concepts and categories: Is spacing the “enemy of induction” (Kornell & Bjork, 2008)
4. GENERATION EFFECTS AND USING TESTS (RATHER THAN PRESENTATIONS) AS LEARNING EVENTS

- Generate an answer or solution instead of being presented one
- Rereading is ineffective
- Problem: Testing seen as assessment at the end, instead of part of learning
DESIRABLE DIFFICULTY

OUTSIDE THE CLASSROOM

Appreciate your challenges: No pain, no gain.
Nothing worth having comes easy.

- Bob Kelso
ADVANTAGEOUS DISADVANTAGES
TURNING DISADVANTAGES INTO STRENGTHS

Steven J. Cannell: Dyslexia
Ted Turner: Bipolar disorder
Beethoven: Deaf
I’ve never met a strong person with an easy past.

- Unknown
HAPPY ACCIDENTS
UNEXPECTED CONSTRAINT LEADS TO BETTER RESULT

happy accidents in art
happy accidents in history
happy accidents in science
happy accidents in life
PSYCHOLOGICAL REACTANCE

Reaction in response to regulations

http://www.youtube.com/watch?v=pDSU6q6eD34
PSYCHOLOGICAL REACTANCE OR: WANT WHAT YOU CAN’T HAVE

Upside
Drives determination to achieve things

Downside
Overstepping moral code
Study: “Who’s chasing whom?”

Explanation
• “Information-Gap Theory” by George Loewenstein
• Dopamine

No-win game
Discussion?!  

Desired Difficulty vs Technology