

## Lecture 17: Course Retrospective and the Path to Lifelong Learning (Part II)

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19 Aug 2005

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## Outline

- Keys to lifelong learning
- The future of software engineering and you

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## Resources

- *Mastery: The Keys to Success and Long-Term Fulfillment*, by George Leonard
- *The 7 Habits of Highly Successful People*, by Steven Covey
- "A Brief Comment about What It Means to Be an Engineer", by Bjorn Freeman-Benson (guest lecture, winter 2004)

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## "Mastery – The Keys to Success..."

- **The importance of lifelong learning**
  - If you exchange \$1 with someone, each of you still has \$1; if you exchange 1 idea, both of you now have 2 ideas.
  - It is okay to be a "fool" (admitting you're not an expert).
  - "You can win, you can lose, or you can learn." (V. Satir)
- **The thrill is in the experience and continuous practice, not in (reaching) the final goal**
  - Mastery is a journey, not a state.
  - "– Excuse me, how do I get to Carnegie Hall?  
– Practice!"
  - "There is no way to happiness; happiness is the way."

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## "Mastery – The Keys to Success..."

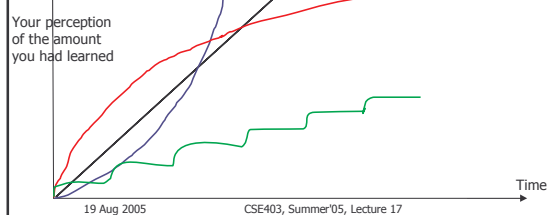
- **Understanding the homeostasis phenomenon**
  - Resistance to change
    - It is safer to stay where you are than to change (to something new and unknown); change is risky.
  - True for biological and social systems
- **How do these ideas tie into software engineering and you?**

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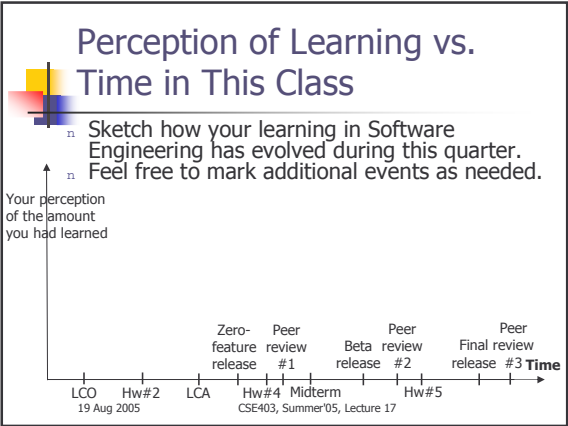
## Perception of Amount Learned vs. Time

Assume you are learning a new skill. Which of the graphs below roughly represents how your perception of the amount learned evolves with time?



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## "Mastery – The Keys to Success..."

- The plateau metaphor in "Mastery..."**
  - Spikes are rare, so learn to love the plateau
  - Faux promises: "immediate success", "fast relief", "endless climax", "instant gratification", etc.

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## Factors that Will Affect the Future of Software Engineering and You

- Global economic and societal trends
  - Outsourcing and offshoring
  - Legal framework
- Your soft skills
  - Creativity
    - On tasks that can't be robotized easily
  - Communication
    - On tasks that require frequent face-to-face contact with customers
- Your technical skills
  - And how fast you can learn new ones

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## Engineer or Programmer?

(from "A Brief Comment about What It Means to Be an Engineer", by Bjorn Freeman-Benson)

Engineer:	Programmer:
<ul style="list-style-type: none"> <li>Adds value</li> <li>Considers the entire product and market</li> <li>"Given enough time and money, anyone can build anything; only an engineer can make it in the least possible time for the least amount of money."</li> </ul>	<ul style="list-style-type: none"> <li>Writes code</li> <li>Thinks about code</li> <li>Measures success by lines of code</li> </ul>

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## Advice for Your Beginning Careers

- Choose your path according to the people you'll work with, not the product you'll work on
  - Effective teams and good mentors will catapult your career higher
- Pick something that you enjoy to the point that you would do it even if you weren't paid for it
  - Okay, everyone needs money after several years of college, but you get the idea...

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## One-minute Feedback

- What one or two ideas discussed today captured your attention and thinking the most?
- List any ideas / concepts that you would like to hear more about. Be specific.

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## Peer Appreciation Activity

- ⌘ **When:** After a big milestone/product delivery
- ⌘ **Why:** To clear out any residual hard feelings and stress, and to (re)unite the team
- ⌘ **How:**
  - ⌘ All teammates sit in a circle. Only one person speaks.
  - ⌘ Someone starts, turning to the person to their right, and addressing them with exactly the phrase below.
    - ⌘ Name and blank must be substituted appropriately.
  - ⌘ The recipient repeats this with the person to their right, while everyone listens.
  - ⌘ Turn around the circle several times for best results.
  - ⌘ After each turn, switch places or directions.
- ⌘ **Example:** "Joe, I appreciate you for \_\_\_\_\_."

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