

Stories: the links between living, liberal education and engineering design

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Stories from fiction, history, philosophy, economics, opera ...

Examples

- “The Trojan horse”
- “Diminishing returns”
- “White washing the fence”

Principles

- Literature provides a *menu of metaphors*, -- macros that enhance and accelerate product and system design.
- Helps build a rich inner network of associations. Extends life experiences.

Stories from engineering education

Examples

- Intense design project experiences
- Vividly-recalled failures and successes in the shop and lab.
- Classic “Story problem” assignments

Principles

- We learn *from the specific to the general*.
- Tactile and visual memories can be an indelible collection of personal stories.
- Intensity produces greater engagement which solidifies learning.

Hmmm... This reminds me of _____, but it's also like _____ combined with _____.

Stories from one's own experience

Examples

- Memorable *observations* of everyday phenomena and tech, *reflected upon*.
- Personal stories that enhance and are enhanced by reading literature.

Principles

- Experiences with tech provide a *framework for learning* engineering theory
- Experiences from a broad range of situations provide insight essential to effective product design.

Stories from design teammates

Examples

- Cultural and regional lore, expectations, biases, attitudes.
- Individual personal histories.
- Accomplishments from talents.

Principles

- Teams coalesce by knowing each other's stories.
- Team *diversity adds extra degrees of freedom for design* and creative problem solving.

Stories from the marketplace

Product design decisions must be driven by *consumers' stories*.

