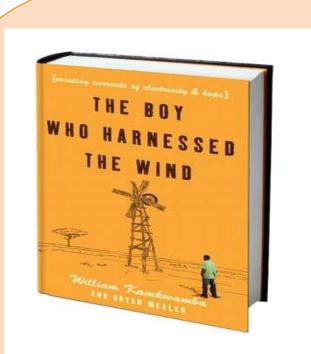


A Tale of Two Common Reads:

Models for Developing a Successful Common Reading Program for First Year Engineering Students

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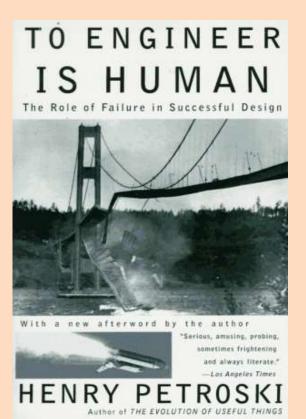


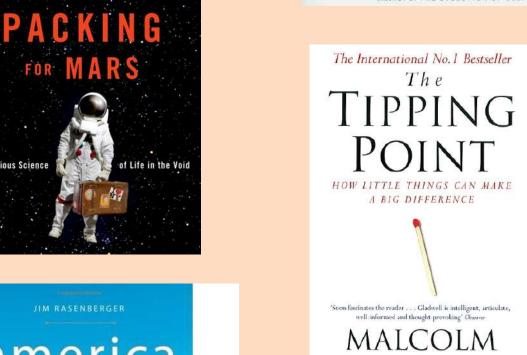
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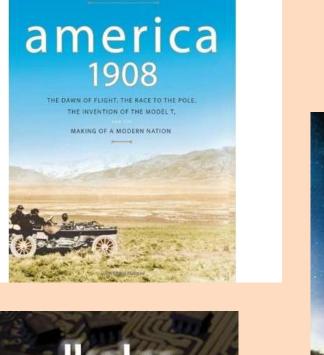
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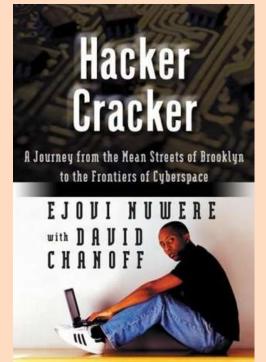
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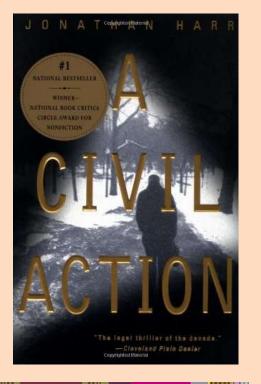


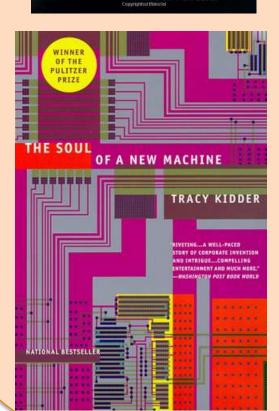


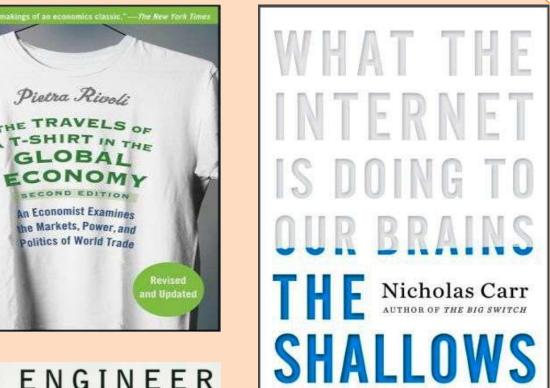


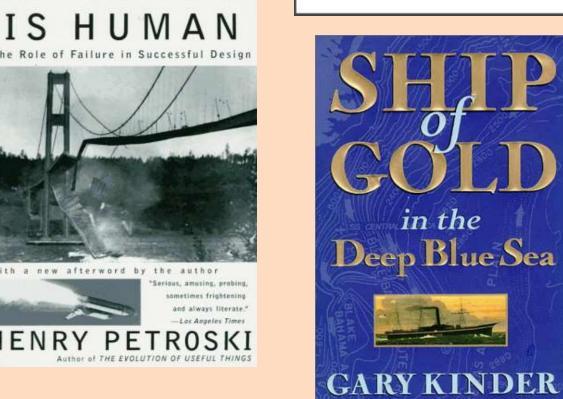


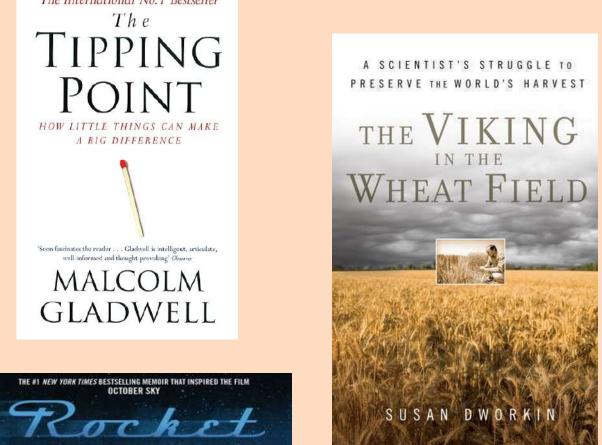




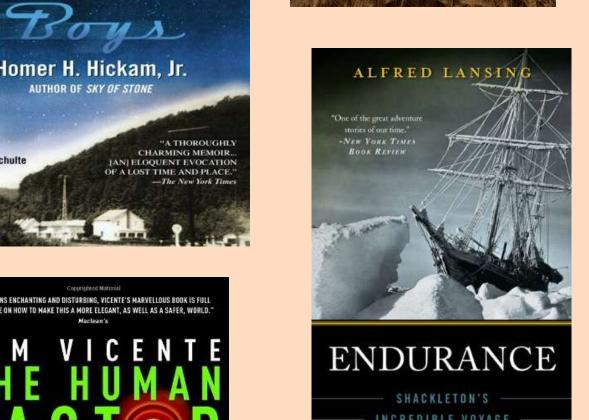


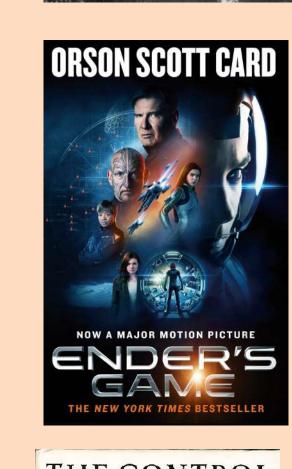


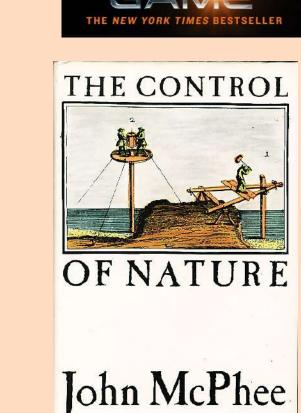




Deep Blue Sea







Introduction: Common Read

- Purpose is "to provide a common academic experience for all first-year students and to strengthen the academic atmosphere of the institution from the first day the student arrives on campus." [1]
- Traditionally involves the entire first year class reading the same book and participating in guided discussions
- Few institutions have a common read for engineering students

University of Virginia

- 15,000 undergraduates; 2,200 engineering undergrads
- Started in 1993; 80% participation

Program Goals

- For students to get to know each other outside of class
- To help prepare students for the level of intellectual exchange
- To help students think about engineering outside its technical aspects

University of Michigan

- 28,000 undergraduates; 6,000 engineering undergraduates
- Started in 2013; 97% participation

Program Goals

- Create the feeling of a community of scholars
- Facilitate meaningful discussions regarding
 - the role and responsibility of an engineer in society
- engineers developing competencies beyond the technical

University of Virginia, School of Engineering & Applied Science

Book Selection Process

Committee: Faculty, staff & students

- 1. Determines 5-8 semi-finalists and then narrows the list to 3-4 finalists
- 2. Ballot sent to faculty, staff, and students
- 3. Final book selection
- 4. Announcement of the selection

Book Criteria

- Connects to engineering practice/ profession
- Contains multiple themes for the discussion (e.g. ethics, practice of the profession, personal development)
- Recently published, but available in paperback to reduce cost to students

Book Discussions

- Small group discussions
- Create community among the faculty leaders
 - Meeting prior to discussion
 - Sharing of ideas
 - Guidance and input for the discussion group leaders

Enrichment Events

- Connect experience to courses
- Invite the authors to discuss the book

University of Michigan, College of Engineering

Book Selection Process

- 2012: Selected by faculty & staff
- 2013: Selected by students, faculty, & staff
- 71% of students in 2013 reported reading the entire book compared to only 39% in 2012

Book Criteria

- Appeals to students transitioning from high school to college
- Connects engineering practice and profession
- Fosters discussion about social identity
- Importance of engineers developing competencies beyond the technical

Book Discussions

- Small group (20 students) and large group (50-75 students) discussions
- Divide discussion groups to maximize diversity across gender, ethnicity and citizenship
- Facilitated by a pair of engineering students volunteers

Enrichment Events

- Invite author and/or keynote speaker to campus
- Partner with other offices to encourage participation
- A long-standing essay contest
- Establish Common Reading Student Advisory Board

Conclusion

Initial evaluation indicates that engineering common reading programs show positive effects related to

- modeling intellectual engagement;
- broadening perspectives about the role of engineers in society;
- creating connections between first-year students and the larger engineering community

Future work

A longitudinal study or student engagement could provide additional insight into effectiveness and identify additional gains

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References

[1]Patterson, L. New ideas in first-year reading programs from around the country. First-Year Experience Newsletter (FYE), vol. 143, p. 8-9. 2002.

[2] Ferguson, Michael. "Creating Common Ground: Common Reading and the First Year of College." Peer Review, p. 8-10. Summer 2006.

[3] National Research Council. The Engineer of 2020: Visions of Engineering in the New Century. Washington, DC: The National Academies Press, 2004.

[4] National Research Council. Educating the Engineer of 2020: Adapting Engineering Education to the New Century. Washington, DC: The National Academies Press, 2005.