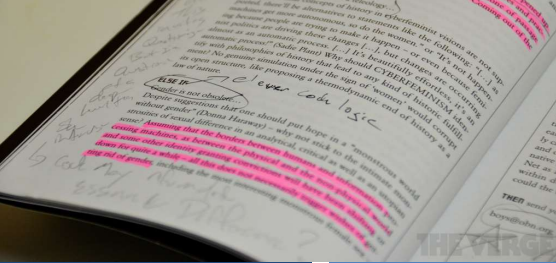



UW TACOMA CTC MEETING

Active Reading

Wes J. Lloyd
Institute of Technology
University of Washington – Tacoma

Winter 2017



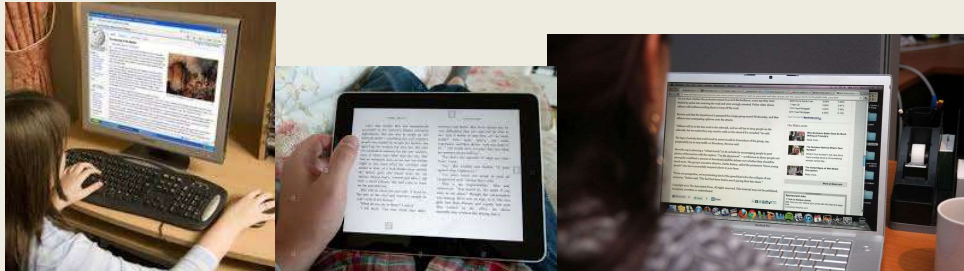
OBJECTIVES

- E-reading
- Paper as a technology
- Activating reading

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E-READING

- The proliferation of the internet has moved inquiry, reading, research online
- How does this change student interaction with the text?
- Is online reading engaging student's minds?



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E-READERS

- Rapid advancements enable e-readers to be viable replacements for paper
- Previous changes in reading technology took centuries to evolve and spread
 - Scrolls
 - Hard-cover books
 - Paper-back books: lighter, compact, less expensive
 - E-Readers

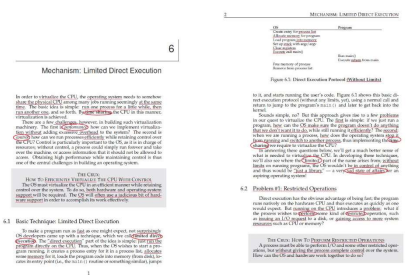
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E-READER FEATURES

- Electronic highlighting / Social highlighting
 - Data regarding commonly highlighted text collected and shared
- Typed notes: can be entered for various sections
- Online dictionary: tap a word to see its definition
- Tweet/post quotes from books
- Search: similar to word processor
- Variable font sizes
- Concerns
 - Reading history shared



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PAPER AS A TECHNOLOGY

- Paper as a medium has benefits
- Display features
 - Very high contrast display, readable with any form of light
 - Supports large number of colors and also B&W images
 - Offers spatial layout for immediate access to information
 - Immersive and non-distracting user interface
 - Easy to learn UI consistent across most manufacturers
 - Supports direct interaction via pen or highlighter
 - Compatible with a wide variety of note taking systems

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PAPER AS A TECHNOLOGY

- **Reliability, durability, maintenance**
 - No battery power required
 - Depending on model, lasts from 5 to 5,000 years or more
 - Crash-proof, immune to viruses (though vulnerable to worms)
- **Reusability, extensibility**
 - No digital rights to manage: easy to lend or sell
 - Open standard- no lock-in to a specific vendor or technology

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THE PASSIVE READING PROBLEM

- Are eReaders, eBooks, and internet browsers as effective as physical print in engaging students actively with the text to aid learning?
- Is e-reading more passive cognitively?
- How can we be sure students are engaging with the material for reading assignments?
- **ACTIVE READING**

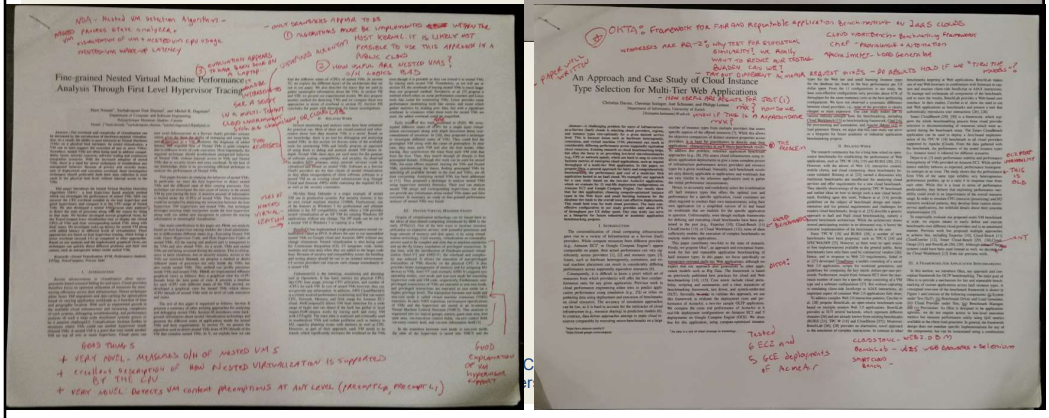
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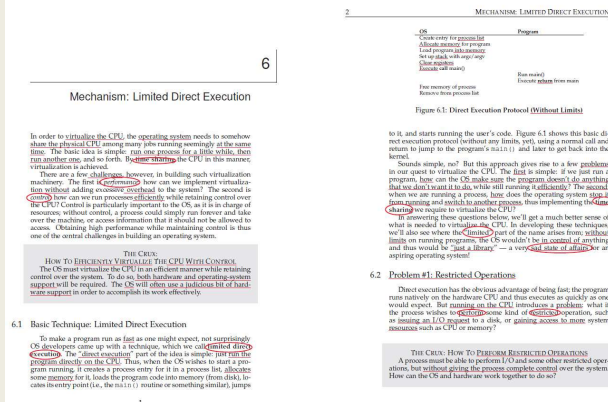
Active Reading

- General idea gleaned from research paper review techniques...
- Mark up key ideas
- Identify questions
- Mark unclear concepts
- Look up unknown terminology to aid in the review process



TWO-UP FORMAT

- When content is not from a book, or is from online books, try using 2-up PDFs / printouts
- Post online for student access
- Provides additional margin space for markup/comments



ACTIVE READING: TRADEOFF SPACE

Read the chapter

Passive

Low retention of concepts

Low effort/time

Critique the chapter

Active

High retention of concepts

High effort/time

- Encourage students to engage and even **own** the text

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“ACTIVATING” READING

- From: Dunlosky, John, et al. "*Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology.*" *Psychological Science in the Public Interest* 14.1 (2013): 4-58.
- Repurposing traditional reading assignments to become active reading changes the cognitive tasks involved with the goal of improving the learning outcome...

Technique	Utility
→ Elaborative interrogation	Moderate
→ Self-explanation	Moderate
→ Summarization	Low
→ Highlighting	Low
→ The keyword mnemonic	Low
→ Imagery use for text learning	Low
→ Rereading	Low
→ Practice testing	High
→ Distributed practice	High
→ Interleaved practice	Moderate

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ACTIVE READING

- Primary goal is to approach reading from the role of a reviewer
 - In contrast to a passive reader
- *“Imagine you are an editor, or if you just hired someone to write a technical manual. You are now reviewing their work for clarity and understandability.”*
- Active reading can help you read and better understand technical documentation which you may encounter at a job in the future.
- Similar to critical reading:
 - https://en.wikipedia.org/wiki/Critical_reading

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ACTIVE READING: REVIEW PHASE

- Consider how the author has presented the information
- When something is unclear, mark this...
- If something is hard to understand, rephrase it in layperson terms. (in the margins) State what the text means to you.
- Circle key terms, underline key ideas, **do not highlight**.
- Mark typographical/grammar errors
- Look up definitions of vague terms and write short definitions in the margins
- Star and circle the key ideas and takeaways... This helps to see them very quickly when reviewing the chapter again.
- Write and summarize key concepts in the margins
- Use the markup to write a summary...

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ACTIVE READING: WRITING PHASE

- **Task 1:** Write 1-3 sentences summarizing what the chapter is about. Summary should describe what the chapter is about. Someone who is looking for information on the topics and ideas you identify should be encouraged to read the chapter after reading your summary.
- **Task 2:** List 3 or more key concepts from the chapter, and describe them.
- **Task 3:** List 3 or more words / terms and their definitions you've looked up while reading the chapter.

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ACTIVE READING: WRITE PHASE - 2

- **Task 4:** Look up a technology or topic from the chapter online and write (2-3) sentences describing it in more detail.
Answer:
 - What it does?
 - Why is it important?
 - Cite sources
- **Task 5:** After reading the chapter, write two questions about ideas or related concepts you're unsure of. You may have an idea what the answers are, but you're not entirely sure.
 - Conduct research online to attempt to answer your questions. Write a summary of your answer, and why you think so.
Cite sources
 - Bring up your questions in class

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FEEDBACK FROM STUDENTS

- From TCSS 422 - Operating Systems Fall 2016

Dr. Lloyd,

This was the first time I've ever had a quiz structured in such a manner, even for a take home quiz. For time I spent working on this quiz compared to other courses where I needed to instead "study" for a quiz, I spent noticeably more time. However, it felt significantly more productive.

With traditional quizzes, I usually skim the material; trying to memorize everything, but not really understanding it all. I've never liked traditional quizzes because my study strategy was quantity over quality, because you never knew what to expect to be covered on the quiz. And some take home quizzes just test my ability to utilize ctrl-f.

Even though I spent more time working on this quiz, I feel like I have a deeper understanding of the chapter, and making me find questions helps me explore more about concepts I read about. I hope to see more of these in the future.

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RESOURCES

- Improving Students' Learning With Effective Learning Techniques: Promising Directions From Cognitive and Educational Psychology
- http://www.psychologicalscience.org/publications/journals/pspi/learning-techniques.html#.WK_iRBIrJWM

- Samples

- http://faculty.washington.edu/wlloyd/courses/tcss422/quiz/TCSS422_w2017_Quiz_1.pdf
- http://faculty.washington.edu/wlloyd/courses/tcss422/quiz/TCSS422_w2017_Quiz_4.pdf
- <http://faculty.washington.edu/wlloyd>

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QUESTIONS

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