

Title” _____

Date 11.10.06

■ Aim:

- What is technical reading?

■ Instructions:

- In today’s class I will go over some theory and then you will hand in a summary of a source using some of the skills you learned today like: inspectional or analytical reading, Harvard or Yale style outlining.

■ Home work:

- Bring a journal article related to your topic by next Tuesday!
- Work on your next checkpoint.

■ Announcements:

- 4 weeks left in MP.
- Letters of recommendation.
- Brooklyn Bridge Program

Do Now

- Speak to someone next to you about the articles you've been reading.
- Guiding questions:
 - What did you find interesting and why?
 - Do you see yourself working on this topic for the next 2 years?
 - Did you not like the way the article was written?
 - Were you able to find a PRJA?

2 Summer College Credits

- If you have:
 - chosen a topic,
 - read and summarized 1 PRJA, and
 - started to write a research plan, then
- You may qualify for 2 college credits

Warning!

Today's class may cause you to suffer
multiple brain synapses making you
smarter and tougher!

What is Technical Reading?

Mr. Gonzalez

Do you *really* know how to read?

In 2006

- More than **8 million** U.S. students in grades 4-12 struggle to read, write, and comprehend adequately.

Do you *really* know how to read?

In 2004

- 3 out of 10 eighth graders read at or above grade level, National Assessment of Educational Progress.

That's only 30%

Do you *really* know how to read?

- “60% of high school *seniors* in the USA cannot read at the *9th grade reading level* (Rosenbaum, 2004).”

READ THE 1ST SENTENCE

- “For years astronomers could get no further than the basic picture of dark matter as a giant, undifferentiated ball of unidentifiable material.”
- Taken from:
 - Blitz, L. (October 2011) The Dark Side of the Milky Way: Dark Matter is Not Just a Puzzle. It is a Solution. *Scientific American*. 305(4): 36-45.

You See!

- Often, you will be able to say the words and sometimes with difficulty but this is very different from reading!
- Long difficult words can be a stumbling block.

If you don't *comprehend* you're not
reading!

Some of you may feel like going
back to the stone age and reading
petroglyphs...



http://images.google.com/imgres?imgurl=http://geology.com/articles/petroglyphs/petroglyph-chile.jpg&imgrefurl=http://geology.com/articles/petroglyphs/more-petroglyphs.shtml&usg=__klxcWDUhcXBmRFUKnk0vcABgUko=&h=569&w=380&sz=103&chl=en&start=11&um=1&tbnid=AGKrULsdD30eUM:&tbnh=134&tbnw=89&prev=/images%3Fq%3Dpetroglyph%2Bpictures%26hl%3Den%26safe%3Dactive%26rls%3Dcom.microsoft:en-us:IE-SearchBox%26rlz%3D117GFRC_en%26um%3D1

What is technical reading?

Why is reading difficult?

1. New vocabulary makes you lose focus.
2. Complex ideas make you lose focus.

A few more ideas coming up....

Is there a difference between reading a novel
and a technical paper



What is technical reading?

Reading technical literature

Requires: **GRIT**

- Remember, 40 to 60% of your ability to do something depends on your effort

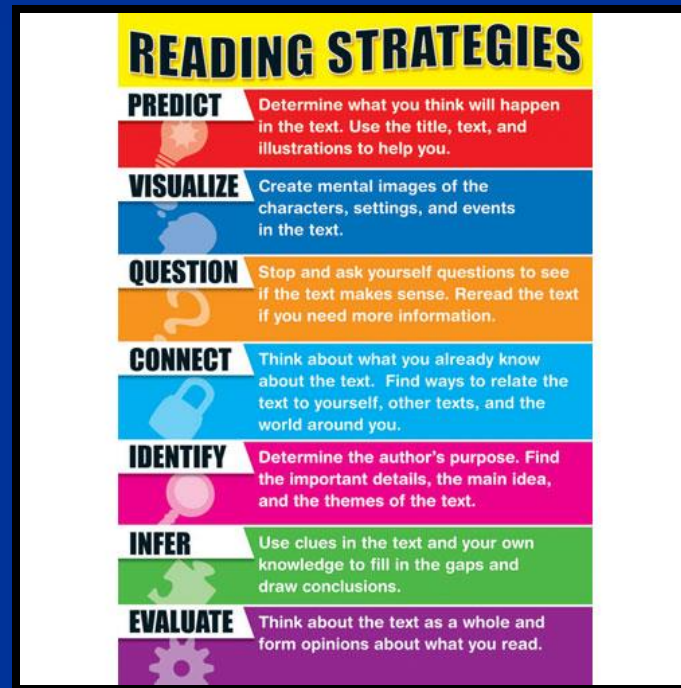
Why is reading
technical works
difficult and
sometimes boring?

Instant gratification?

- “In an age of instant gratification, we sometimes forget that learning doesn’t always happen instantaneously. As a result, students may labor under the misconception that this ability will erupt spontaneously during their education.” – Lindquist (2005)

Effective Reading Strategies

- How do you begin your journey into effort?



What is technical reading?

Effective Reading Strategies

More strategies...

- Outlining
- Summarization
- Question Formulation/Response
- Critical Review

How do you outline?

How do you outline?

- Harvard, Cornell style, etc
- No style?

How do you summarize?

How do you summarize?

- Writing main ideas, reacting, connecting with project?
- Disorganized?

Do you formulate questions? How?

Do you formulate questions? How?

- What, how, why questions as they come to your mind.
- Never thought of it?

Are you *intelligently* critical? How?

Are you *intelligently* critical? How?

- Do you look up and read counter arguments or studies to your topic of interest before giving opinions?
- Don't have time?

Detail vs. Generality

- Reading between detail and generality will eventually produce a reasonable, balanced understanding at your ability level.

What's inspectional reading?

- Quickly only read the:
 - title,
 - table of contents,
 - preface,
 - index
 - chapter introductions or paragraph headings and first sentences.
 - opening chapter, and
 - closing chapter.

What's analytical reading?

- Read it all,
- Look up sources,
- Cross reference,
- Take your time,

Inspectional vs. Analytical?

- Inspectional reading: maximization of understanding under a time constraint.
- Analytical reading: maximization of understanding under no time constraint

Advanced reading: Syntopical?

- “...refers to the extraction of information from many books or articles on the same topic over time and its synthesis into knowledge that is not obviously gleaned from individual sources (Linguist, 2005).”

How do you read?

- Do you read linearly?
- Do you read passively?
- Do you read too fast?

If you do, it will lull you into a false sense of mastery on the topic...

Don't miss the big picture!



What is technical reading?

Big Picture vs. Details

- Expect to spend some time in order to really understand any technical article that you read.
- Skim the article through the first time and focus on trying to grasp the "big picture."
 - What is it that the authors were trying to do?
 - How did they do it?
 - What did they learn?

Be smart about how you read

- Once you see the big picture, it will be easier to focus on adding depth to your understanding by trying to understand the details of the study.

Don't be a passive reader!

How do I become an *active reader*?

- “Linear reading can be conquered with conscious rereading as well as constant cross referencing to vocabulary, notation, and easier points. Passive reading is eliminated when the reader creates an *original example* or *application*. However simple it might be (Simonson & Gouveau in Lindquist, 2005).”

30 minutes

- “Thirty minutes may be quite reasonable to digest up to three lines of a mathematical or technical article. Pausing for regular breaks between paragraphs allows the brain to digest details and make connections (Simonson & Gouveau in Lindquist, 2005).”

Discuss what you read with others

- You will get much more out of your reading if you discuss what you read with other interested individuals.

Reading helps writing?

- “Lastly, efficient reading not only empowers the reader, it also mobilizes the inner writer to better clarity of expression (Linguist, 2005).”

Bibliography

- LINDQUIST, D.W. (2005) How to improve technical reading skills. *IEEE potentials*. pp. 14-15.

H.W.

- Bring a journal article related to your topic by next Tuesday! This is mandatory.
- Work on your next checkpoint and tasks you have written down in your S/T Conference Reports.

Class Work Due TODAY!

- You will outline another source but this time you will choose most of the strategies I have mentioned such as:
 - Vocabulary word definitions,
 - Outline format,
 - Summary details,
 - Inquiry questions, and
 - Answers to your questions as you read.