Effective study skills: Reading & Notemaking

Student Learning Development,
Trinity College Dublin

http://student-learning.tcd.ie
Learning Objectives

• Learn active, deep processing strategies
• Explore the different purposes for study tasks
• Learn about active reading and note making strategies
• Practise using learning strategies
I’m just going to the library for 4 hours....
(I’ll work out what I’ll study when I get there)
Active studying means

1. Working with the material to try to build understanding

2. Find a way process the information in a deep and meaningful way

3. Make your study more alive
How?

Have a framework
- Think about the purpose of the study task
- Consider the best way to approach it
- Reflect and review

PSR
- **Purpose** – why?
- **Strategy** – how?
- **Review** – check!
Discussion

1. How do you study (reading/notes)?
2. How do you read?
3. How do you take notes?
Good Reading is like Interrogation – what is the purpose, why are you reading? What are you looking for?
Get Thinking - Reading

1. Ask questions
2. What is the point of view of author?
3. Evaluate evidence
4. Form opinions
Get reading – actively!

Purpose

• Strategies to suit:
  – Surveying/Skimming
  – Scanning
  – In-depth/close
  – SQ3R (Survey, question, read, recite, review)
  – Note making
  – Understanding or memorising?
Reading List

• You can’t cover 100% of the course, and the content is more difficult, requires time to understand.

• Have to be smart about what to cover
Reading List:

Judd, C., Smith, E. and Kidder, L. 1991
300.Jud (1 copy)

Moser, C. A. and Kalton, G. 1971
300.723 Mos (10 copies)

Oppenheim, A. N. 1966, 1973
Questionnaire Design and Attitude Measurement. London.
011.422 Opp (3 copies)

Hoinville, G. Jowell, R. and associates. 1978
Survey Research Practice. London.
300.723 Hoi (1 copy)

Rose, G. 1982
301.072 Ros (4 copies)

Kurtz, N. R. 1983
Introduction to social statistics. London etc.
300.72 Kur (4 copies)

Blalock, H. M. 1960
Social Statistics. London.
301.072 Bla (2 copies)

ESRI Reports: Read at least one of these research reports based on a social survey.
Being Selective

• Ask lectures/tutors what is most relevant
• Be alert for hints and clues
• Ask fellow students
• Ask students in years ahead
• Share reading
• Preview or skim before in-depth reading
Copying – doesn’t activate your brain
Notes

Source → Your Summary Notes → Review Notes → Exams
Or
Exams
Or
Essays
What to take notes on in Lectures

– Big Picture
– Main Points
– Premises or Hypothesis
– Sources, arguments
– Theories or concepts
– What is the lecturer emphasising
– Don’t need to take down every word

Date/number pages/lecturer’s name/module
Notes from text

- Read text to understand
- Put text away
- Write summary/main points of text
- Ensure formulae/dates etc are exact
- Check notes against text
- Write reference of the text you’re using
Types of Notes

1. Prose or summary
2. Outline or skeleton
3. Mind or concept maps
4. Cornell or 2 Column

How do you take notes?
Be careful with $\tan^{-1}$

Because $\tan^{-1}$ returns values between $-\frac{\pi}{2}$ and $\frac{\pi}{2}$, the formula $\arg(x+iy) = \tan^{-1}(y/x)$ only works if $x > 0$. This can cause problems in e.g. Qs 2vi and 10 of Complex Methods sheet 1.

2vi Where is $u = \tan^{-1}\left(\frac{2xy}{x^2-y^2}\right)$ harmonic and find an analytic function whose real part is $u$.

First we determine where it is definitely not harmonic. Consider the lines $y = \pm x$.

As $(x,y)$ approaches the line $y = x$ from below ($x,y > 0$) (see picture), we have

$$\frac{2xy}{x^2-y^2} \to \infty,$$

so $u \to +\frac{\pi}{2}$.

If we approach from above, $u \to -\frac{\pi}{2}$, so $u$ is discontinuous. Similarly in the other quadrants.

So we assume $x^2 \neq y^2$. If $x = r\cos\theta$, $y = r\sin\theta$ then $u = \tan^{-1}\tan 2\theta$, which equals $2\theta$ provided $-\frac{\pi}{4} < \theta < \frac{\pi}{4}$. In this case, we can take $f(z) = -2i\log z$, where

$\log z = \log |z| + i\arg(z)$, $-\pi < \arg(z) < \pi$ is the principal branch. Then $f(z) = -2i\log r + 2\pi i$. 

Summary
Classical Social Theory - Dr. John Coulter

Marx's - Marx's
- The alienation of man & the necessity for commodity.

Reification - Commodity fetishism. Social structures seem to create themselves despite the people involved.

Marx uses religion as a metaphor when complaining about capitalism. Comparison between worker under capitalism and person under influence of religion.

A counterfeit life? - Guy Debord
- The Society of the Spectacle
- Situationist movement - unwinding artistic group.

The modern society is the society of the Spectacle. People in modern world are alienated. They do not really live or experience - rather they observe and are handed down experience - represented for us. We are spectators in our own lives.

All these spectacles have replaced religion. Religion encouraged us to look to afterlife. Modern world encourages us to look to what the modern world has to offer - commodities & pleasures.

Essential to this "non-life" is the commodity. These commodities are offered to us as our salvation. Yet to happiness. Society of Spectacle is a sham - these commodities never make us truly happy.
The Art of Reading Actively

A. **Active** = purposeful, critical, questioning.

B. **Look for Main Ideas**
   1. Survey (SQ3R) for general ones (Ch 5)
   2. Read paragraphs for more specific ones
      a) Each para usually has one main idea.
      b) Usually in topic sentence (1st or last?)

C. **Look for Important Details**
   1. e.g. proof, example, support for main idea
   2. Usually at least one per main idea
   3. Which do I consider important?

D. **In hunt for main idea and important details:**
   1. Watch for signposts
      a) Visual (layout, etc.)
      b) Verbal (clue words)
   2. Study diagrams, etc.
   3. Don't ignore difficulties

E. **Evaluate the text**
   1. Be sceptical (Expect the author to prove)
   2. Compare with my own experience
   3. What do I get from it?
   4. Discuss with other students

F. **Make Notes:**
   1. If I need them (for my purposes)
   2. At Recall stage (of SQ3R)
   3. Compare with other students

G. **Concentrate:**
   1. By seeking understanding (not memorisation)
   2. and see Chapter 4 hints

H. **Vary reading speed:**
   1. according to purpose
   2. but not at expense of understanding.
Concept Maps

Photosynthesis

- CO₂ (taken in via stomata)
- H₂O (split to give H atoms + oxygen)
- From soil by osmosis
- From CO₂ + H atoms

Chlorophyll

- Absorbs red & blue light
- Traps energy in chloroplasts

Sugars

- Converted to starch
Hierarchy Maps

http://www.texample.net/tikz/examples/feature/trees/
Motion repeats
force is proportional to displacement and in the opposite direction (as $F=ma$)
this is also true for acceleration
$\alpha = -\omega^2 y$
and as $F=ma$
also $F= -\omega^2 y m$

NOT SHM if the force is not changing
e.g., only force acting is gravity

These can be proved by using the reference circle.

Vectors
$F$ and an opposite direction to $y$

Equations
Starting at the equilibrium position, $y$ increasing
$y = A \sin\omega t$
$v = A \omega \cos\omega t$
$\alpha = -A \omega^2 \sin\omega t$

Starting at maximum displacement
$y = A \cos\omega t$
$v = A \omega \sin\omega t$
$\alpha = -A \omega^2 \cos\omega t$

Period = time for one oscillation
(left to right and back again or up, down, and back up)

Know what affects the period of each e.g., pendulum $T$
not affected by mass

Resonance
Energy is added by applying a force. Gives large amplitude if it is in time with natural frequency

Damping
due to energy being converted to heat because of friction & air resistance

$F = \frac{1}{2} m v^2$
$E_k = \frac{1}{2} m v^2$
$E_p = \frac{1}{2} k x^2$
$E = E_k + E_p$
$E = E_k + E_p$

Total energy is constant
$E_t = E_k + E_p$
$E = E_k + E_p$
$E = E_k + E_p$

- kinetic
- potential
- gravitational potential for a pendulum
- elastic potential for a spring

Force in opposite direction to displacement
The Cornell Note-taking System

Cue Column
Write Keywords or Questions here

Notetaking Column
Write brief notes here as you are reading a book OR during a lecture

Summary
Write a short summary of the page here
### Types of Matter

1. **Solids**
   - Have a definite shape
   - Have a definite volume

2. **Liquids**
   - Do not have a shape
   - Have a volume
Resources

Good website with exercises
• https://aso-resources.une.edu.au/academic-reading/about-academic-reading/

Effective study strategies from the science of learning
• https://www.learningscientists.org/

Useful Reading & Notemaking tutorials
• https://resources.library.leeds.ac.uk/note-taking/
• https://www2.le.ac.uk/offices/ld/resources/study/reading-and-note-making

Student Learning Development

Visit our website at:
http://student-learning.tcd.ie

Email Qs to
student.learning@tcd.ie

Phone us on
01-8961407
SLD Blackboard module
ASSL - Academic Skills for Successful Learning

See http://student-learning.tcd.ie for instructions on enrolling