中国科学院大学
University of Chinese Academy of Sciences

Academic Writing
-Basic Course-

Autumn 2017
Class 2

Student Comments

I decided to pursue a PhD degree in biology, and may very likely to continue scientific career afterwards. I would like to be able to read research papers more quickly and skillfully, grasp the core ideas and the logic flows, judge the quality of the original research and papers, and write informative academic papers. I hope this class will prepare me to be an established young scientist.

Feedback

Screen too dark:	technical problem
ppt before class:	if we shift the deadline for tasks -1 Day?
Talking too fast:	to be adjusted
Homework:	most tasks In-Class
	one short article to read + summary
Reading Brick:	RMB16 (Group leaders to collect)

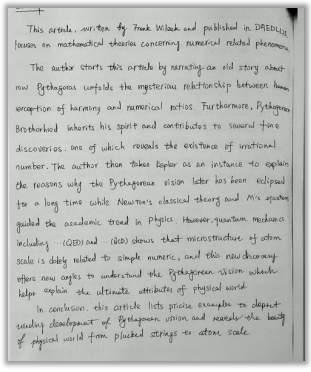
Reading Material

- p.1: Article 1 - Tesla Battery
- p.6: Article 2 - Cuba
- p.17: Article 3- Kathmandu
- p.23: Article 4 - Owning a car
- p.29: Article 5 - Ocean Acidification
- p.35: Article 6 - Superantibiotics
- p.41: Article 7 - Insect Ecosystem
- p.49: Article 8 - Global pollution
- p.57: Article 9 - Canada Gas Emissions
- p.63: Article 10 - Three years left
- p.69: Article 11 - Penguins
- p.75: Article 12 - Tech Giants
- p.81: Article 13 - Obesity
- p.87: Article 14 - Women are nicer
- p.93: Article 15 - Antibiotic Apocalypse
- p.101: Article 16 - Sea Turtles
- p.111: Article 17 - Michel Odent
- p.119: Article 18 - Start school at 11am
- p.125: Article 19 - Sleep-deprived society
- p.133: Article 20 - Soil Erosion
- p.138: Article 21 - Leftover Men
- p.145: Article 22 - Dark Snow
- p.151: Article 23 - Airpocalypse
- p.157: Article 24 - Arctic Ecosystem
- p.163: Article 25 - Dr Con Man
- p.173: Article 26 - Killer Robots
- p. 181: Article 27 - Apples on the Silk Road
- p.187: Article 28 - Battery Waste
- p.193: Article 29 - Sixth Mass extinction
- p. 201: Article 30 - Meat Consumption
- p.207: Article 31 - Forest Cities
- p.213: Article 32 - Great Pacific Garbage Patch
- p.219: Article 33 - Edward Snowden MIT Mobile
- p.225: Article 34 - CO2 Storage
- p. 231: Article 35 - Robot Revolution

How to write a Summary

Review	1. Skim reading (Who? What? When? Where?) 2. Deep Reading (Main idea?) -> **take notes, underline, and highlight** 3. Outline the article (main points each section) -> write in your own words
Write	1. Identify (*In the article, the author...*) 2. Summarize as a whole (*The author suggests...*) 3. Conclude (*In summary, the author/article...*)
Revise	1. Check for accuracy (author's opinion?) 2. Ask another student to read your summary 3. Revise accordingly and check for spelling

Summary Writing



This article, written by Frank Wilczek and published in DAEDALUS focuses on mathematical theories concerning numerical related phenomena.

The author starts this article by narrating an old story about how Pythagoras unfolds the mysterious relationship between human perception of harmony and numerical ratios. Furthermore, Pythagorean Brotherhood inherits his spirit and contributes to several fine discoveries, one of which reveals the existence of irrational number. The author then takes Kepler as an instance to explain the reasons why the Pythagorean vision later has been eclipsed for a long time while Newton's classical theory and Mx's equation guided the academic trend in Physics. However, quantum mechanics including ... (QED) and ... (QCD) shows that microstructure of atom scale is deeply related to simple numeric, and this new discovery offers new angles to understand the Pythagorean vision which helps explain the ultimate attributes of physical world.

In conclusion, this article lists precise examples to elaborate exciting development of Pythagorean vision and reveals the beauty of physical world from plucked strings to atomic scale.

1. Introduction author and article
2. Summary main points
3. Conclusion

Do NOT list every single detail mentioned in the article!

How long should my summary be?!

General maximum: ¼ of original text

Scientific articles: 150-250 words

Here: 5-8 sentences (100-150 words)

Example of Good Summary

Inventing Reading is one of the chapters of the book *Reading in the Brain: The New Science of How We Read*, first published by the Penguin Group in 2009. The author, Stanislas Dehaene, is a French author and cognitive neuroscientist.

The chapter firstly focuses on the universal features of writing systems of many nations, and achieves some conclusions of the common as well as special characteristics of them. Then it discusses the association between artificial signs and natural shapes, and prehistoric precursors of writing. Finally, it explains the origins of some elements of modern writing system such as pictography, alphabet and vowel.

In conclusion, the inventing of reading is a mystery and miraculous process. It is not the cortex evolved for writing but writing evolved to fit the cortex.

Presentation (from next week)

*Read your article
*Meet with your group peers
*Discuss the article and prepare ~3-5 ppts

Include into your presentation:

1. Information about the author
2. Short summary of the article
3. What have you learned from the article?
4. Did you find the article engaging and/or informative? Why or why not?
5. Is the article presenting a problem, a solution, or both? Do you agree with the solution proposed?

Presentation Day:

*10 min
*In-class QnA

Module 1: The Magic Toolbox
The Art of Academic Writing
(~20 h)

Module 2: The Blue Print
How to construct a research paper and how to avoid common mistakes
(~8 h)

Module 3: The Master Plan
How to prepare yourself for your first paper
(2 h)

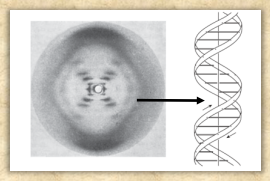
Module 4: The Scientist with Integrity
The Art of avoiding Scientific Fraud
(2 h)

Last Class

Module 2: The Magic Toolbox

Unit 1 - Audience & **Story**
Unit 2 – Style
Unit 3 – Flow
Unit 4 – Organization

-Example-



Rosalind Franklin's critical X-ray diffraction image of crystallized DNA

Model of DNA structure developed by James Watson and Francis Crick.

原始数据—>数据表达的信息 —> 新的知识 -> 新的知识让我们了解世界

Data → Information → Knowledge → Understanding

Raw → Atomic Structure → Double helix → Heredity（遗传性）

Long-term Task

Pay attention to whether research articles in your field tell a complete story, by explaining the new understanding that emerges from the new knowledge created upon analysis of their data.

This Class

Module 2: The Magic Toolbox

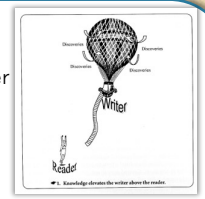
Unit 1 - **Audience** & Story
Unit 2 – Style
Unit 3 – Flow
Unit 4 – Organization

Audience
The Curse of Knowledge

The cause of most bad writing, Pinker thinks, is not laziness or sloppiness or overexposure to the Internet and video games, but what he calls the curse of knowledge: the writer's inability to put himself in the reader's shoes or to imagine that the reader might not know all that the writer knows — the jargon, the shorthand, the slang, the received wisdom. He may underestimate a little how much deliberately bad writing there is, writing meant to confuse and obfuscate. Just look at the fine print at the bottom of your next credit card bill or listen to a politician in Washington reading a speech about the tax code.

Audience
Bridging the Knowledge Gap

* How much less does your reader know?



1. Depends on you:
-> if you made major discoveries: BIG Gap

2. Depends on your reader:
-> if their knowledge of your field is limited: BIG Gap
little understanding of your methods, vocabulary

Bridging the Knowledge Gap

How to bridge this gap?

-> by throwing down the ladder to ground zero
Difficulty: ground zero moving!

-> make sure every rung in the ladder present (LOGICAL FLOW)
Difficulty: thinking of your reader while writing