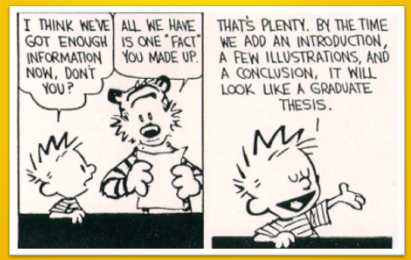
Scientific Writing in English
－英语科研论文写作－

MODULE 1
-The Bigger Picture-
- Getting started: Methods of Reducing the Pain -



Lecture 2: Friday 18.09.2015
(1.30-3.10pm/7-8.40pm)

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Overview of todays lecture

0. Summary from last Class
1. Course matters
2. Module 1 – The bigger Picture
3. Module 1 – Getting Started
4. Summary
5. Skills Test
6. First Online Tasks

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Communication Tools

* wenjuan (问卷): **All students to Teaching Team (TT)**
* wechat (订阅号): **Individual students – Teaching Team (TT)**
Teaching Team – individual/All (PC)
* email: **Students to assistant Lv Pingping**
TT to individual students
* UCAS course website: (Student to TT; TT to All students)

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* to be established: wechat group for students to communicate within their groups (especially for group tasks)

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Data Analysis - Summary

* We will analyze all (class-related) comments and provide feedback on the UCAS class website
* We will try to take into account all suggestions that are likely to have a positive impact on the entire class
* Apologies for ignoring requests that might be too specific!
* With class sizes like this, we need to be realistic about how much 'face-time' between teacher and students is possible

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Material used in this class:

1. **IC Bruce "Biomedical Writing for Young Investigators Whose First Language is Chinese"**
2. JM Swales and C. Feak "Academic Writing for Graduate Students"

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3. Critical Thinking (G Bassham et al.; McGraw Hill)
4. Writing analytically (D. Rosenwasser & J. Stephen; Thomson/ Wadsworth)
5. Online Information provided by Publishing Houses and Journal Websites
6. Dictionaries and other Writing-related Materials

-> NO Purchase required, all material is provided for during this class!

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	Timeline
Module 1: The Master Plan **How to plan, write, and edit your first manuscript**	September
Module 2: The Magic Toolbox The Art of Academic Writing	October/ November
Module 3: The Land of Chinglish The 20+ most common mistakes and how to avoid them	November
Module 4: The Writer as Thinker The Analytical Frame of Mind – An Introduction	December
Module 5: The Scientist with Integrity The Art of avoiding Scientific Fraud	December

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Module 1: The Master Plan
How to plan, write, and edit your first manuscript

Idea:

* to teach you tricks on how best to prepare for your manuscript writing

* to teach you the differences between writing and editing

* to motivate you to start READING and WRITING now, as in

TODAY

MODULE 1 – The Bigger Picture

Science Writing in English- Why Bother?!

MODULE 1 – The Bigger Picture

CD DeAngelis, Editor-in-Chief of the *Journal of the American Medical Association and Archives Journals*:

I never cease to be amazed by the general inability of physicians, other health professionals, and scientists to communicate in the written word. Their scholarly and creative ideas and insightful data interpretation often seem to get lost in the translation from brain to page.

Courtesy of IC Bruce (Biomedical writing for young investigators whose first language is Chinese)

Referring to NATIVE English speakers!

I never cease to be amazed by the general inability of physicians, other health professionals, and scientists to communicate in the written word. Their scholarly and creative ideas and insightful data interpretation often seem to get lost in the translation from brain to page.

-> writing is both art and craftsmanship!
-> requires good training, and lots of practice!

Common motivations for writing a Manuscript

1. you cannot graduate without a published paper (PhD)
2. your boss wants to become famous (Postdoc)
3. you need to publish to get your next grant (young researcher)
4. your life as an academician depends on it

.

n. **you really enjoy doing science, and you want to tell the world**

about your great discoveries!

What makes a 'good' paper?

* Importance of the research
* Originality
* SuRpRiSiNgNeSs

adapted from ACCDON

What defines research question originality?

* advances a theory
* fills an empirical gap
* introduces new methodology

adapted from ACCDON

Avoid "me too" Research

Journal editors reject manuscripts for deficiencies in…

* Content
  - inappropriate for the journal
  - too limited in scope
* Style
  - not conforming to generic style manuals
  - not conforming to specific journal style
* Language
  - mistakes in grammar, spelling, etc.
  - lack of clarity in the writing

adapted from ACCDON

English is a fascinating language!

* spoken in 54 countries by 1 Billion+ people
* contains >10^6 words (and growing by +10k words/year)
* now a global 'lingua franca' ('linguistic imperialism')
* great works of literature (Shakespeare et al.),

Source: Wikipedia

* No '**silver bullet**' approach for learning how to write scientific English!

* Only long-term solution:

Read, Read, Read! **Write, Write, Write!**

Main Aim of this course is to encourage you to do just that!

The usual way (?)

1. step: years of hard labor (Experiments/ fieldwork etc.)

2. step: end of Masters/PhD nearing

3. step: **PANIC!!!**

4. step: paper writing as a procedure from **HELL!**

The usual way (?)

5. step: last-minute submission (hoping for the best!)

6. step: rejection without review (language-related?)

7. step: last-minute call of a (professional?) language editor?

8. step: multiple repeats of 6.+7.?

9. (maybe) 1 year later (and lots of grey hair)...SUCCESS?!

Future Standard procedure?

1. OUR COURSE

2. step: years of study + research (fieldwork etc.)
+ lots of reading and writing...**in English!**

3. step: **long** before the end of Masters/PhD
-> plan a draft of your manuscript
-> draft a literature review
-> collect Material and Methods in manuscript-ready form

4. step: discussion with supervisor re: results
+ notification of (in-house?) language editor?

Future Standard procedure?

4. step: preparation of all figures + first draft of results and discussion

5. step: Editing (with the assistance of the qualified editor)

6. step: preparation of all additional documentation (cover letter etc.)

7. step: submission

8. step: ...1-6 months later: **paper acceptance!**

SUMMARY

1. Start reading and writing now!
2. See this course as a starting point!
3. Make sure your research is original and novel
4. Ensure your findings are solid and well-founded

MODULE 1

Part 1:	The bigger picture
Part 2:	**Getting started**
Part 3:	Writing your first draft
Part 4:	Editing your first draft

Source of information in Module 1

Getting started – Methods of reducing the pain

TIP 1 Check the internet for relevant information

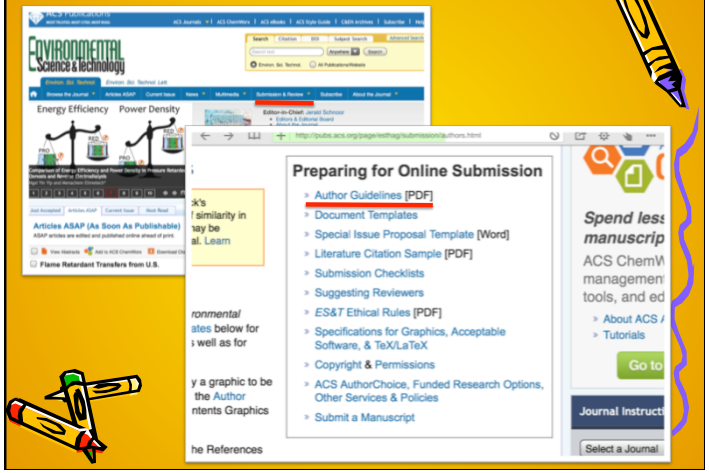
* Your International Society

* Journal Websites
  Nature/Science/PNAS

* Publishing Houses (Elsevier, PLOS et al.)

* Papers of well-established (native English-speaking) authors with good track = writing record

Getting started – Methods of reducing the pain



Getting started – Methods of reducing the pain

TIP 2 Discuss with your supervisor the journal of choice

TIP 3 Use SIMPLE English

* short sentences
* direct sentences
* active voice
* No 口语!!!
* use sentence patterns found in published articles

Getting started – Methods of reducing the pain

TIP 4 Develop a writing habit (in English!)

* start with 5 min before/after/during breakfast

* write down ideas in English

* when reading an article (scientific or not), write a short summary

* when doing experiments, write down the methods in journal format

Getting started – Methods of reducing the pain!

TIP 5 Develop a reading habit

* short-term: scientific articles in your field
* long-term: fiction, novels, popular science magazines

Getting started – Methods of reducing the pain!

TIP 6 Read like an editor

* read articles with **grammar focus**

* pay attention to the use of

-> the/a/an (definite and indefinite article)
-> sentence beginnings
-> connecting words (conjunctions/connectors/subordinators)
-> standard phrases used in every paper
-> comma, periods, semicolon
-> verbs

To be introduced in detail in MODULE 2

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Example:

Highlight all articles (the /a/an) used in this abstract, and try to understand why a particular article form was used (definite versus indefinite).

Mice carrying mutations in multiple genes are traditionally generated by sequential recombination in embryonic stem cells and/or time-consuming intercrossing of mice with a single mutation. The CRISPR/Cas system has been adapted as an efficient gene-targeting technology with the potential for multiplexed genome editing. We demonstrate that CRISPR/Cas-mediated gene editing allows the simultaneous disruption of five genes (Tet1, 2, 3, Sry, Uty--8 alleles) in mouse embryonic stem (ES) cells with high efficiency. Coinjection of Cas9 mRNA and single-guide RNAs (sgRNAs) targeting Tet1 and Tet2 into zygotes generated mice with biallelic mutations in both genes with an efficiency of 80%. Finally, we show that coinjection of Cas9 mRNA/sgRNAs with mutant oligos generated precise point mutations simultaneously in two target genes. Thus, the CRISPR/Cas system allows the one-step generation of animals carrying mutations in multiple genes, an approach that will greatly accelerate the in vivo study of functionally redundant genes and of epistatic gene interactions. ¶

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Example:

Highlight all verbs used in this abstract, and add them to your verb dictionary.

Mice carrying mutations in multiple genes are traditionally generated by sequential recombination in embryonic stem cells and/or time-consuming intercrossing of mice with a single mutation. The CRISPR/Cas system has been adapted as an efficient gene-targeting technology with the potential for multiplexed genome editing. We demonstrate that CRISPR/Cas-mediated gene editing allows the simultaneous disruption of five genes (Tet1, 2, 3, Sry, Uty--8 alleles) in mouse embryonic stem (ES) cells with high efficiency. Coinjection of Cas9 mRNA and single-guide RNAs (sgRNAs) targeting Tet1 and Tet2 into zygotes generated mice with biallelic mutations in both genes with an efficiency of 80%. Finally, we show that coinjection of Cas9 mRNA/sgRNAs with mutant oligos generated precise point mutations simultaneously in two target genes. Thus, the CRISPR/Cas system allows the one-step generation of animals carrying mutations in multiple genes, an approach that will greatly accelerate the in vivo study of functionally redundant genes and of epistatic gene interactions. ¶

CHAPTER 1: Getting started – Methods of reducing the pain

TIP 7 Keep an everyday book

* collect new words, sentence structures and phrases
* do so in a section-specific way
* use of dictionaries
* make sure you add reference for longer phrases (plagiarism issue)
* online notebook where you collect information provided in the lecture

Getting started – Methods of reducing the pain

TIP 8 Writing is different to editing

* your very first draft does **NOT** have to be perfect!
* train of thought important
* focus on - the logic of your argument
  - connection between your individual results
  - connection between results and literature

Getting started – Methods of reducing the pain

-> writing and editing are two completely different brain activities!!!

CHAPTER 1: Getting started – Summary

* Start with an internet fact finding mission
* Practise, practise, practise!
* Avoid multitasking while Writing!
* Keep a record of new vocabulary and phrases