
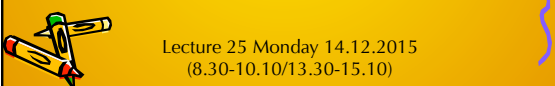



Scientific Writing in English
— 英语科研论文写作 —






Lecture 25 Monday 14.12.2015
(8.30-10.10/13.30-15.10)



Comment Yizhou

摘要写作核查表已经发布，16人找不到学号对应的作业，请在27日前确保平台上昵称为自己学号，否则该内容得0分。






Timeline until end of Semester

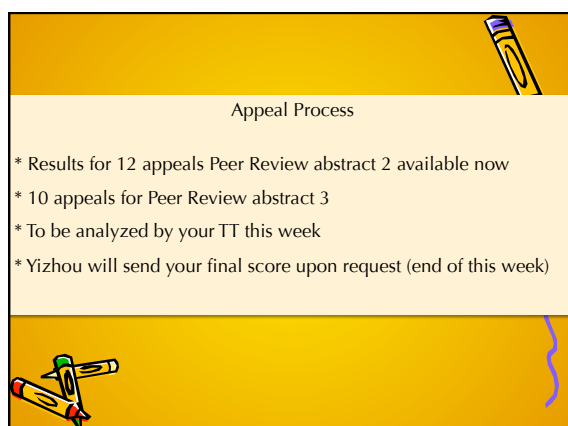
December 18+21: 考前复习/答疑

December 21-27: Task 'Review' + Survey

December 28th: Exam + Final Words

January 11th: Final Scores



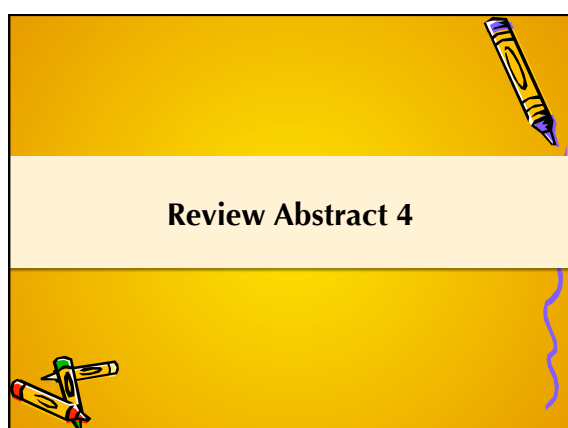


Appeal Process

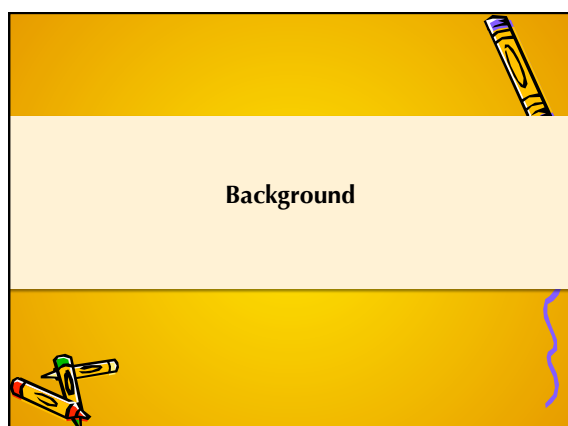
- * Results for 12 appeals Peer Review abstract 2 available now
- * 10 appeals for Peer Review abstract 3
- * To be analyzed by your TT this week
- * Yizhou will send your final score upon request (end of this week)



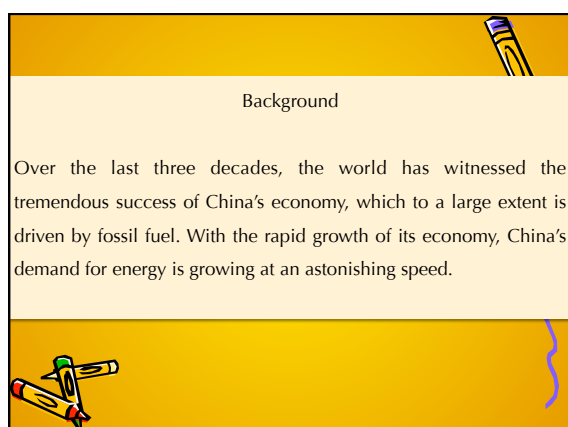
Feedback for 4th Abstract
Peer Reviewing



Review Abstract 4




Background

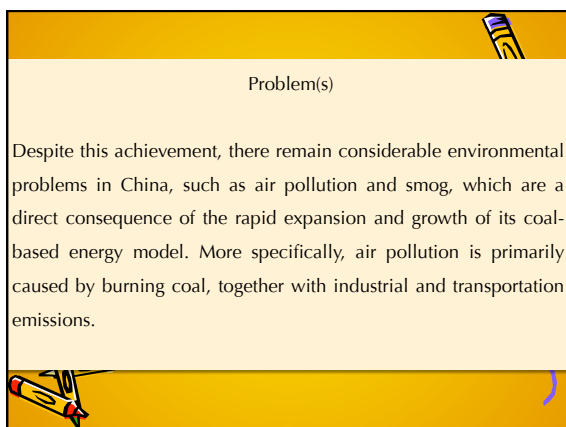


Background

Over the last three decades, the world has witnessed the tremendous success of China's economy, which to a large extent is driven by fossil fuel. With the rapid growth of its economy, China's demand for energy is growing at an astonishing speed.

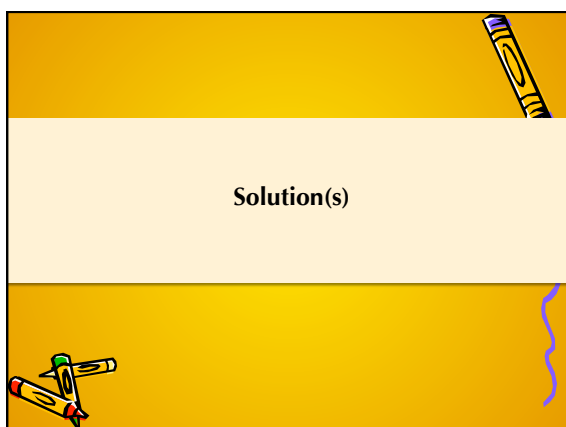


Problem(s)

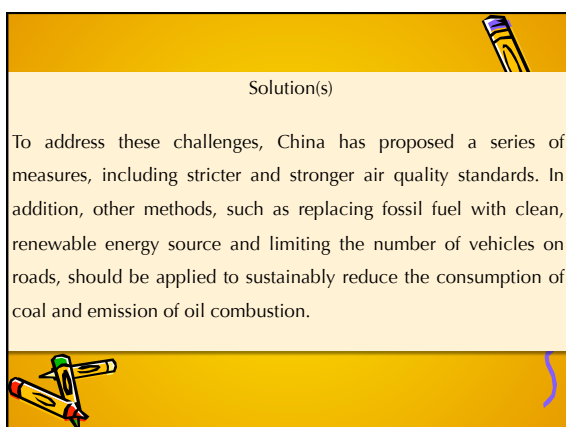


Problem(s)

Despite this achievement, there remain considerable environmental problems in China, such as air pollution and smog, which are a direct consequence of the rapid expansion and growth of its coal-based energy model. More specifically, air pollution is primarily caused by burning coal, together with industrial and transportation emissions.

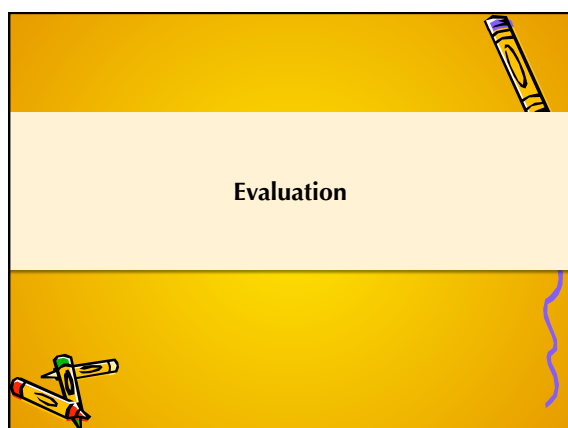


Solution(s)

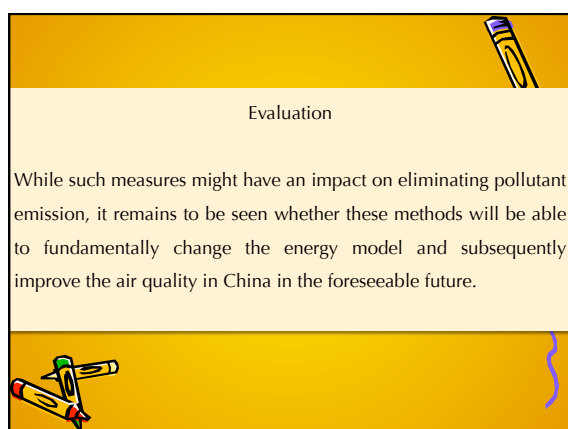


Solution(s)

To address these challenges, China has proposed a series of measures, including stricter and stronger air quality standards. In addition, other methods, such as replacing fossil fuel with clean, renewable energy source and limiting the number of vehicles on roads, should be applied to sustainably reduce the consumption of coal and emission of oil combustion.

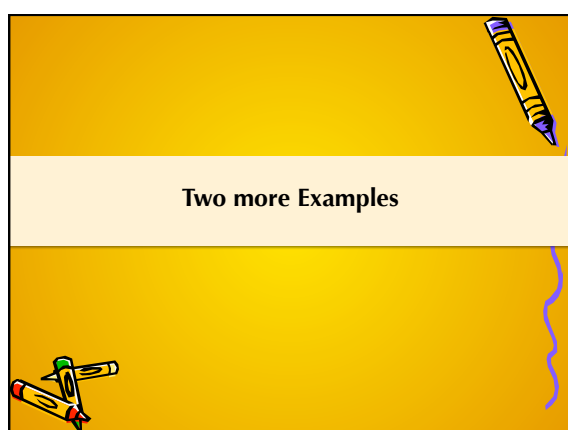


Evaluation



Evaluation

While such measures might have an impact on eliminating pollutant emission, it remains to be seen whether these methods will be able to fundamentally change the energy model and subsequently improve the air quality in China in the foreseeable future.



Two more Examples

Background*
In the cold winter, millions of Chinese exposed in deleterious haze, which appeared for coal-fired power plants, factories and oil combustion by vehicles. This kind of air pollution has seriously and slowly impacts on health.*

Problem*
The development of China especially in the period of a booming economy has increasingly demand for energy, which result in China built numerous coal-fired power plants. These factories are burning more coal that is the prime factor of air pollution. Above all, the question is whether China plants to continue development at current rate regardless of air pollution and to afford for this method.*

Solution*
There are some solutions to improve the air conditions from getting worse, which key is changing our energy production model fundamentally, such as reducing coal consumption, developing renewable sources, including hydroelectricity, wind, solar and nuclear. The most basic solution is to pull the plug on its root causes: Firstly, trying to quit burning coal and to move away from fossil fuels, replacing them with clean, renewable energy; Secondly, establishing clear, strict air quality standards, introducing effective policy instruments to restrict the growing number of driving vehicles.*

Evaluation*
Further gains in pollution reduction will become more challenging in future, China's potential for getting a grip on pollution will bring much effect in the long term.*

Example 1

Background*
In the cold winter, millions of Chinese are exposed in:to deleterious haze, which appeared for: verb choice coal-fired power plants, factories and oil combustion by vehicles. This kind: type of air pollution has seriously and slowly: adverb versus adjective impacts on health.: problem?*

Problem*
The development of China, especially in the period of a booming economy, has increasingly demand: grammar issue for energy, which: refers to...? result: refers to 'development'? in China built: grammar issue numerous: strong enough? coal-fired power plants. These factories: choice of summary word are burning more coal ...than...that is the prime factor: clarity issue of air pollution. Above all: choice of linker, the question is: whether China plants:plans to continue its development at its current rate, regardless of air pollution and to afford for this method: incomplete, especially after 'and'.*

Example 1

Solution*
There are some: A number of solutions are available to improve the air conditions: singular better for concept terms from getting worse: informal, also not matching 'improve air condition', which key: key of which? is to... changing our energy production model fundamentally, such as reducing coal consumption, developing renewable sources, including: sub-clause of 'such as'? hydroelectricity, wind, solar and nuclear. The most basic solution is to pull the plug on its root causes: beautifully informal!: Firstly, trying to quit: quitting burning coal and to move away from fossil fuels, replacing them with clean, renewable energy sources; Secondly, establishing clear, strict air quality standards, and introducing effective policy instruments to restrict the growing number of driving: idling ok? vehicles.*

Evaluation*
Further gains in pollution reduction will become more challenging in the future, China's potential for getting a grip on pollution: 口语 will bring much effect in the long term.: is this your opinion? Or 'experts' say?*

Example 1

Solution *

There are some: A number of solutions are available to improve the air conditions: singular better for concept terms from getting worse: informal, also not matching 'improve air condition', which key: key of which? is to... changing our energy production model fundamentally, such as reducing coal consumption, developing renewable sources, including: sub-clause of 'such as'? hydroelectricity, wind, solar and nuclear. The most basic solution is to pull the plug on its root causes: beautifully informal!; Firstly, trying to quit: quitting burning coal and to move away from fossil fuels, replacing them with clean, renewable energy sources; Secondly, establishing clear, strict air quality standards, and introducing effective policy instruments to restrict the growing number of driving: idling ok? vehicles. *

Evaluation *

Further gains in pollution reduction will become more challenging in the future, China's potential for getting a grip on pollution: 口语 will bring much effect in the long term.: is this your opinion? Or 'experts' say? *

Example 2

Background: According to China's energy statistics book, in recent years, coal consumption of China has been increasing with a booming economy and rising demand for energy. Several Chinese provinces burned through more coal than numbers of countries' total coal consumption. *

Problems: However, such substantial consumption of coal together with oil combustion of vehicles is probably a major cause of serious air pollution in China. Moreover, air pollution becomes more severe as the coal-powered heating system switched on. Therefore, in winter, haze weather continually appears in most northern regions of China, leading pollutants at higher levels than other seasons. These pollutants indeed impair health and quality of life for people, especially for children. *

Solutions: To address these problems, the effective measures are to fundamentally change energy production model and explore renewable sources. In addition, the Chinese government should establish strict and clear air quality standards and curb coal consumption of region. *

Evaluation: Although the Chinese government has proposed several measures to control pollution, including monitoring PM 2.5 as air quality standard, it remains to be seen whether these measures can achieve further gains, because the reduction of emission owing to technological advancement has been affect by the pace of consumption growth. *

Example 2

Background: According to China's energy statistics book, in recent years, coal consumption of China has been increasing with a due to a booming economy and rising demand for energy. Several Chinese provinces burned through: verb choice more coal than numbers of countries' total coal consumption. *

Problems: However, such substantial consumption of coal, together with oil combustion of vehicles, is probably a major cause: matter of opinion, or facts? of serious air pollution in China. Moreover, air pollution becomes more severe as the coal-powered heating system: which? switched on: refers to one time point, or a general phenomenon?. Therefore, in winter, haze weather: 2 nouns continually: choice of adjective appears in most northern regions of China, leading: resulting in? pollutants at higher levels than in other seasons. These pollutants indeed: avoid impair health and quality of life for people: verb/noun combination, especially for children. *

Example 2

Solutions: To address these problems, **the** indicates no other effective measures are to fundamentally change **the** energy production model and **explore renewable sources**. **verb+noun combination**. In addition, the Chinese government should establish strict and clear air quality standards and curb coal **consumption of region**: not precise.*

Evaluation: Although the Chinese government has proposed several measures to **control pollution**, **including monitoring PM 2.5 as air quality standard**: **control versus monitor**, it remains to be seen whether these measures can achieve **further gains**: not mentioned before, because the reduction of emission owing to technological advancement **has been affect** is being **offset/counteracted/compensated** by the pace of consumption growth.*

-> Keep up the good work!

Overview

1. Analysis 4th Abstract Peer Reviewing
2. Article Use
3. Common mistakes

'THE' versus 'A'
-The eternal nightmare-

'THE' versus 'A'

(冠词...guan₄ci²)

- * the three most common words used in English
- * also the most difficult ones!
- * one of the most common problems in articles written by Chinese authors
- * wrong use resulting in imprecise statements that lack clarity

TASK 'Articles'


Select 3 nouns and form sentences with:

1. generic use *The*+Singular if available)
2. Singular 'A'
3. Singular 'THE'
4. Plural ' '
5. Plural 'THE'
6. Plural with 'of'

Example:

1. generic concept: **The African elephant** is the second largest mammal on the planet.
2. While looking for his pride of lions, he found **a dead elephant** nearby.
3. **The elephant** (the one he found) appeared to be a young male.
4. **Elephants** are known to live with their herd for many years.
5. They shot **the other elephants** further down the track.
6. **The elephants of** Asia have been on the run from human predation for centuries.

TASK
39-3



<http://www.wenjuan.com/s/zQb6rq/>

TASK 'Articles'

Example:

1. generic concept: **The African elephant** is the second largest mammal on the planet.
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6. **The elephants of Asia** have been on the run from human predation for centuries.

TIME
20 min

'THE' versus 'A'

* first, determine if a noun is

- a) countable or uncountable
- b) generic (representative or symbolic)
- c) specific (actual)

Countable or Uncountable?

NOUNS	can be used with THE	have a PLURAL Countable (C) table-s; book-s; spoon-s How many...? a few chairs; too many books; twenty spoons can be used with A/AN: She is sitting on a chair.
		furniture; literature; sleep How much...? too much furniture; most literature; little/some sleep usually not used directly with A/AN, only as: This is a rare piece of furniture. He is a furniture expert.
		television; exercise selling many televisions (C), but: watching a program on television these exercises are good for your health; but: you should do more exercise
		always in PLURAL trousers; belongings; pants No singular form
	never used with THE always used with THE	Interpol; Islam; (Names of particular people, groups, places) only as: the Interpol office; the Islam scholar the Kremlin; the UK without only in compound nouns: Kremlin officials; UK residents

1. Countability

Which of these nouns are countable (C) or uncountable (U)?

commodity	research	work
complication	research	proliferation
computer	project	recruitment
device	researcher	regulation
discrepancy	fracture	analysis
energy	information	transcription
equipment	knowledge	application
money	evidence	temperature
problem	human	acquisition
compaction	model	integrity
proposal	distribution	level
	theory	

1. Countability

commodity	C	research	U	work	U
complication	C	project	C	proliferation	U
computer	C	researcher	C	recruitment	U
device	C	fracture	U	regulation	C
discrepancy	C	information	U	analysis	C
energy	U	knowledge	U	transcription	U
equipment	U	evidence	C	application	C
money	U	human	C	temperature	C
problem	C	model	C	acquisition	C
progress	U	distribution	C	integrity	U
proposal	C	theory	C	level	C

-> often used in plural form by Chinese writers

'THE' versus 'A'

1. Countability

BUT:

- * five pieces of **equipment**
- * new **research** projects
- * a large body of **evidence**
- * continued **proliferation** of cells
- * previous signs of similar **work**

'THE' versus 'A'

2. The Indefinite Article and no article

- * a(n) and one are related, though not identical
- * a(n) indicates that the noun is any single item, not a specific one.

Compare:

Please pass me **a** slice of bread (out of the 5 in the basket)

Please pass me **the** butter (usually only one piece of butter on the table not two or three or more).

'THE' versus 'A'

3. The Definite Article

- * use of definite article PROBLEMATIC – especially for non-native speakers!
- * reason: used in a number of different ways
- * native speakers intuitively feel how to use it correctly (usually without knowing why)
- * most important use: when referring to a particular, singular or plural noun

'THE' versus 'A'

3. The Definite Article

- a) **second mention** (explicit or implicit) 明确的/含蓄的

The surface is covered by **a thin oxide film**. **The film** protects the surface from corrosion.

A very lightweight car was developed, but **the vehicle** performed poorly in crash tests.

A new computer was purchased to complete the process, but **the hard drive** was damaged.

'THE' versus 'A'


3. The Definite Article

b) superlatives or ordinals

The most-controlled therapy yielded *the best results*.

The first studies were conducted in early 1993.

The last security conference was termed a sounding success.



'THE' versus 'A'


3. The Definite Article

c) Specifiers (same, sole, only, chief, principal)

The same subjects were retested at two-week intervals.

The only research previously done in this area yielded mixed results.

The principal causes of *the recent disaster* have yet to be discovered.



'THE' versus 'A'


3. The Definite Article

d) Shared/Common knowledge or unique reference

The sun rises in the east and sets in the west.

The oxygen balance in the atmosphere is maintained by photosynthesis.

The stars are fuelled by fusion reactions.



'THE' versus 'A'

3. The Definite Article

e) **Of-phrases** that indicate postmodification

The behaviour of this species varies.

The price of gold fluctuated wildly.

The results of the investigation were inconclusive.

'THE' versus 'A'

3. The Definite Article

f) Partitive **of**-Phrases with plurals

None of the projects was satisfactory.

Some of the subjects has adverse reactions.

All of the questionnaires were returned.

Partitive...part of a whole

'THE' versus 'A'

4. Acronyms and Abbreviations

a/an/none

This device contains **an LED**.

A TFT was used.

This computer has **a CD-ROM**.

R&D is **a high priority**.

NASA is working on **a space station**.

How would these sentences have to be changed to justify the use of THE?

'THE' versus 'A'

4. Acronyms and Abbreviations

-> changed to THE (Examples)

This device contains **the blue LED** he invented last year.

The TFT (we talked about yesterday) was used in this apparatus.

This computer has **the latest model of CD-ROM** available on the market.

R&D is **the highest priority** in this project.

NASA is working on **the second space station** now (not on **the Mars mission**).

'THE' versus 'A'

* first, determine if a noun is

- a) countable or uncountable
- b) **generic** (representative or symbolic)
- c) specific (actual)

'THE' versus 'A'

5. Generics (relating to a class or group of things)

* apart from specific nouns, articles used for generic terms as well

* generics as important as specific nouns in academic writing because:

1. they occur frequently
2. often found in introductions and conclusions
3. often associated with topic sentences
4. tend to occur in subject positions

'THE' versus 'A'

5. Generics

Specific noun phrases	Generic noun phrases
* refer to something real	* refer an entire class or a representative of a class
* describe physical objects, not concepts	* class can be objects, people, quantities, ideas
	* like an archetype, manifests what is typical for the class
	* used in formal definitions
	archetype ... 原型, 典型

'THE' versus 'A'

5. Generics

Abstract Generics: The Entire Class	Concrete Generics: A Representative of the Class
The wasp detects unique volatile compounds over great distances.	A wasp can be trained to detect odors.
The laser has a great many uses in medicine.	A laser can be used by a surgeon to make very clean cuts.
The computer has been invaluable in scientific advancement.	Computers are playing a growing role in all aspects of university life.
-> entire class of objects -> require THE	-> representative of a class -> require A/AN (single countable noun) none (plural countables and uncountables)

'THE' versus 'A'

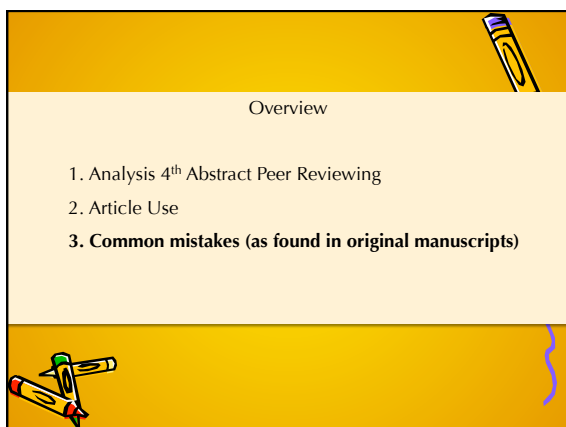
5. Generics

Verb Tenses with Generic Nouns

- * normally only simple **present tense** used for general statements
- * sometime, when talking about processes, **present perfect (1)** or **continuous tense (2)** used

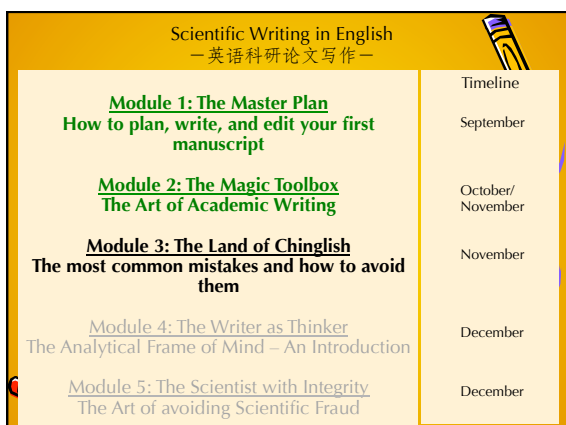
Example

The African elephant has come dangerously close to extinction.



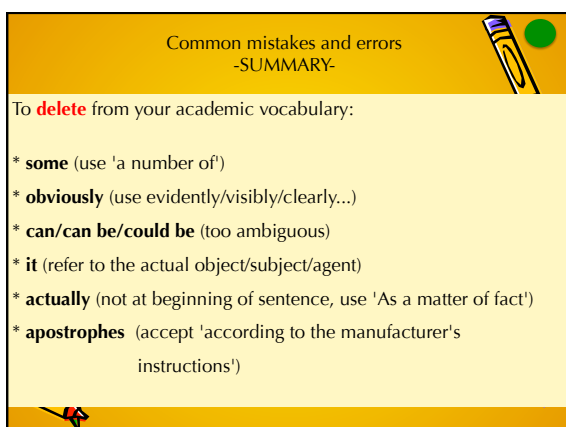
Overview

1. Analysis 4th Abstract Peer Reviewing
2. Article Use
3. Common mistakes (as found in original manuscripts)



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

Module 1: The Master Plan How to plan, write, and edit your first manuscript	Timeline September
Module 2: The Magic Toolbox The Art of Academic Writing	October/ November
Module 3: The Land of Chinglish The 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



Common mistakes and errors
-SUMMARY-

To **delete** from your academic vocabulary:

- * **some** (use 'a number of')
- * **obviously** (use evidently/visibly/clearly...)
- * **can/can be/could be** (too ambiguous)
- * **it** (refer to the actual object/subject/agent)
- * **actually** (not at beginning of sentence, use 'As a matter of fact')
- * **apostrophes** (accept 'according to the manufacturer's instructions')

Common mistakes and errors
-SUMMARY-

To look out for (appearing in **100%** of papers written by Chinese writers):

- * noun strings (名词的串)
for example: 'Online teacher professional development community'
- * multiple plurals in a string of nouns (only LAST noun can be in Plural)
for example: **courses fund, cases analysis, mountain rural areas**
development orientation
- * too many comma (if more than two, think of using full stops, and remove awkward clauses)

Common mistakes and errors
-SUMMARY-

To look out for (appear in **100%** of papers):

- * subject-verb disagreement
for example: **Our study were conducted...**
- * incorrect use of articles (a/an; the; no article – MOST DIFFICULT!)

What is the problem here?

The field data collection of an air pollution epidemiologic study were carried out from 1993 to 1996 in four Chinese cities.

Subject-Verb agreement

The field **data collection** of an air pollution epidemiologic study **was** carried out from 1993 to 1996 in four Chinese cities.

Subject-Verb agreement

Remember:

- * subject plural -> verb plural
- * subject singular -> verb singular (-s form)

Word/Noun Strings
(名词的线?绳?)

String:
...the **mountain rural areas development orientation**...was investigated...

Better:
...the developmental orientation **of** rural communities **in** mountainous areas ...was investigated...

-> only keep nouns together that are **part of a standard term**

Word/Noun Strings

String:
...to research on the **improved floodplain banana technology adoption development**...

Better:
...to research on the development/progress **of adoption of improved technology for cultivation of banana in floodplains**...


-> if in doubt, check Pubmed for strings using '...'

Word/Noun Strings
(名词的线?绳?)

longest word/noun string here?

Word order

Example:
By changing antibodies, we also **detected Ebola virus** with high sensitivity **in this manuscript**.

REALLY?!?! 

Word order

Better:

- (1) Here, we (also) detected Ebola virus with high sensitivity by changing antibodies.
- (2) In addition, we detected Ebola virus with high sensitivity by changing antibodies
- (3) Using different antibodies, we were able to detect Ebola virus with high sensitivity.

Difficult to teach!
-> Improve through reading with grammar focus

Use of Can/Could

Example (Introduction):

ABC **can** regulate B through XYZ.

-> what is the writers intention here?

-> **can** indicates potential? possibility?

Use of Can/Could

Example (Discussion/Summary):

Our survey results proved that ABC **could** facilitate process B.

-> use of 'could' ambiguous in English: past tense? potential?

Better:

A **regulates** B through process XYZ.
(widely accepted fact -> present tense)

Our survey results **proved** that ABC facilitates process B.
(writer indicates that maybe not yet established fact?)

What is wrong with this sentence?

These findings suggest that air pollution might perhaps play an important role in the development of asthma in children.

Suggest + may/might, perhaps

Example:

These findings **suggest** that air pollution **might perhaps** play an important role in the development of asthma in children.

-> One single weak word is sufficient to indicate uncertainty/assumption/speculation



Better:

These findings **suggest** that air pollution **plays** an important role in the development of asthma in children.

Using 'and' to connect unrelated facts

Example:



I am reading the newspaper right now, and the newspaper costs 2RMB.



Using 'and' to connect unrelated facts

Example (Protein crystal structure):

Insert A is involved in the formation of a long ordered loop
and the sequence of this insert is poorly conserved.





Using 'and' to connect unrelated facts

Example (Protein crystal structure):

Insert A is involved in the formation of a long ordered loop.
Interestingly, the sequence of this insert is poorly conserved, suggesting that...

Right conjunction depending on context



Apostrophes (省略号) isn't



However, due to the heterogeneous expression and activity status of AR in PCa cells, **it's** a challenge to investigate the molecular link between AR status and metabolic transition. 口语 !

We also found that the assembled EA1₃₀-MPH **didn't** show the same prominent advantage of enzyme stability at 37°C and 4°C. 口语 !

...they help immobilizing the side **chains'** spatial conformation of the side chains of Asn158, and allows Asn158 to adopt the major conformation.



Avoid Apostrophes!



However, due to the heterogeneous expression and activity status of AR in PCa cells, **it remains** a challenge to investigate the molecular link between AR status and metabolic transition.

We also found that the assembled EA1₃₀-MPH **did not** show the same prominent advantage of enzyme stability at 37°C and 4°C.

...they help immobilizing the spatial conformation of the side **chain** of Asn158, and allows Asn158 to adopt the major conformation.



Avoid Apostrophes



not allowed:

* couldn't; can't, isn't; shouldn't; wasn't; ... (informal language)

to avoid:

* indicating possession (string danger)
for example: **students' learning experience**

allowed:

* 'according to the manufacturer's instructions'



Use of Respectively

...with sugarcane 12%, rubber 8%, coffee 7% and tea 4% **respectively**.

Use of Respectively

* Rule: A, B, C... do 1, 2, 3..., respectively.

Wrong:
...with sugarcane 12%, rubber 8%, coffee 7% and tea 4% **respectively**.

Correct:
...with income from sugarcane, rubber, coffee and tea making up 12%, 8%, 7%, and 4%, **respectively**.

-> use with caution, not in every second sentence
-> consider using table if number of data too large

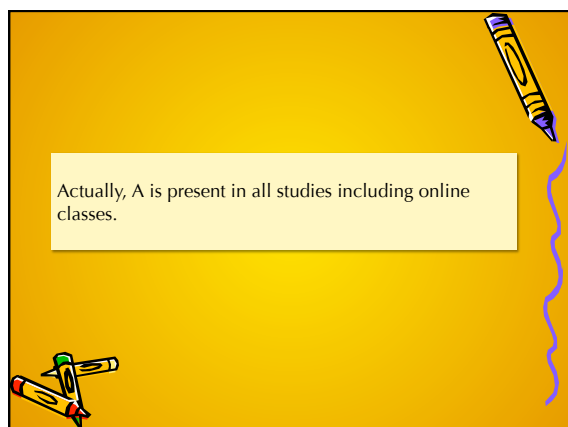
Use of Respectively

Reciprocal regulation of CD4/CD8 expression by SWI/SNF-like BAF complexes

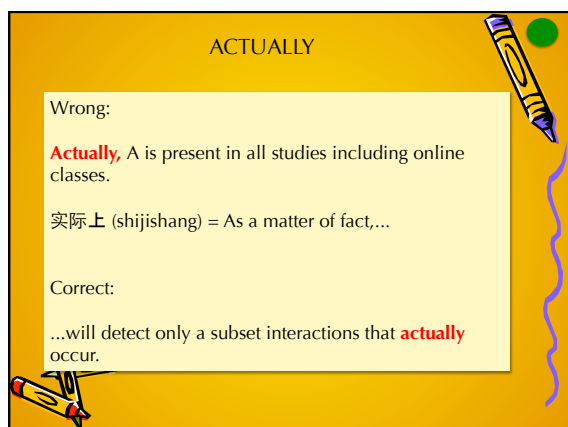
Tian H. Chi*, Mimi Wan*, Keji Zhao†, Ichiro Taniuchi‡, Lei Chen*, Dan R. Littman‡ & Gerald R. Crabtree*

* Department of Pathology and Developmental Biology, Howard Hughes Medical Institute, Stanford University Medical School, Palo Alto, California 94305, USA
† Laboratory of Molecular Immunology, NHLBI, NIH, Bethesda, Maryland 20892, USA
‡ Molecular Pathogenesis Program, Skirball Institute of Biomolecular Medicine and Howard Hughes Medical Institute, New York University School of Medicine, New York, New York 10016, USA

Thymic development produces two sub-lineages of T cells expressing either CD4 or CD8 co-receptors that assist antibody production and mediate cell killing, **respectively**. Letters to Nature



Actually, A is present in all studies including online classes.



ACTUALLY

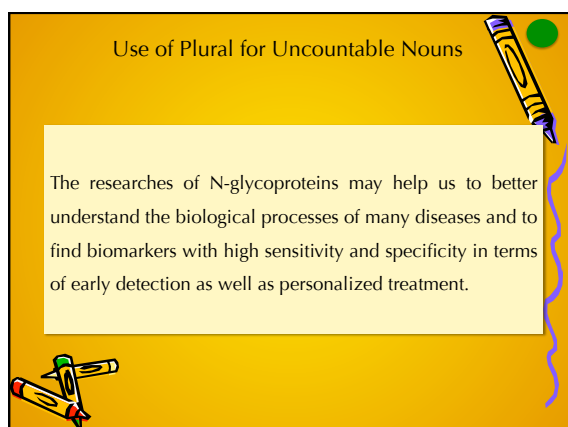
Wrong:

Actually, A is present in all studies including online classes.

实际上 (shijishang) = As a matter of fact,...

Correct:

...will detect only a subset interactions that **actually** occur.

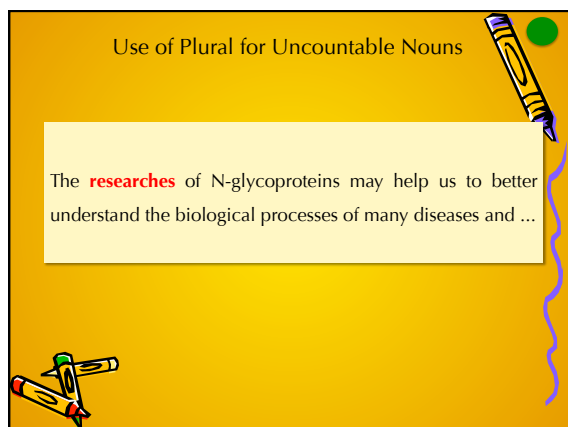


Use of Plural for Uncountable Nouns

The researches of N-glycoproteins may help us to better understand the biological processes of many diseases and to find biomarkers with high sensitivity and specificity in terms of early detection as well as personalized treatment.

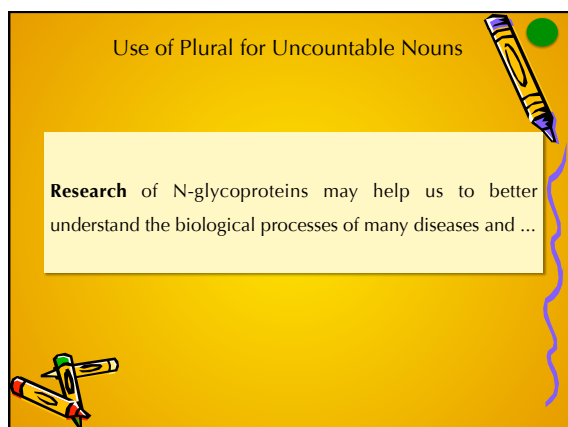
Use of Plural for Uncountable Nouns

The **researches** of N-glycoproteins may help us to better understand the biological processes of many diseases and ...



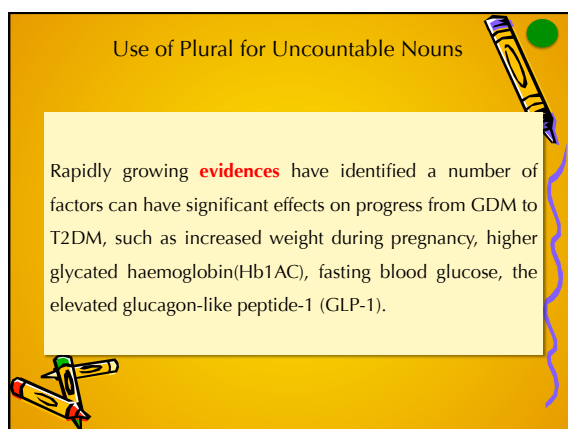
Use of Plural for Uncountable Nouns

Research of N-glycoproteins may help us to better understand the biological processes of many diseases and ...



Use of Plural for Uncountable Nouns

Rapidly growing **evidences** have identified a number of factors can have significant effects on progress from GDM to T2DM, such as increased weight during pregnancy, higher glycated haemoglobin(Hb1AC), fasting blood glucose, the elevated glucagon-like peptide-1 (GLP-1).



Use of Plural for Uncountable Nouns

There is mounting evidence that a number of factors **have** significant effects on the progress from GDM to T2DM, ...

