



**A Workshop
on
The use of Technical
Vocabulary and Tenses
in
Scientific Writing**

**HOUTI YAMINA, SENIOR LECTURER
ORAN'S HIGH SCHOOL OF ELECTRICAL ENGINEERING AND ENERGETICS**

Technical Vocabulary

in

Scientific Writing

Technical vocabulary also known as ***specialized vocabulary*** is closely tied to the specific content of science vocabulary.


Examples:

"He could vent his **spleen** on the institutions which had duped him.

A **spleen** rabbit serum was injected.



***How to develop technical
vocabulary***



Before to develop your technical vocabulary, it is essential to improve your general vocabulary in English.

***Some strategies that can be
adopted
when learning new words***

Strategies

Use a technical dictionary to know the origin and the exact meaning.

Use the process of derivation (word formation with affixes)

Try your best to use them in sentences and while you communicate.



Practice

Let's practice with the word “**adsorption**”

- **meaning:** the formation of a layer of solid, liquid, or gas on the surface of a solid, or less frequently, of a liquid (Oxford Dictionary of Biology, 2015: 11)
- **derivatives** : to adsorb (v)–adsorption (n) – adsorbents (n)
- **sentence:** *Adsorption* of proteins is of great importance when a material is in contact with blood or body fluids.

***Some rules to make the right
choice and prevent errors***

1- Use *academic language* rather than *everyday*

English words for concepts and phenomena.

Some examples

<i>Everyday words</i>	<i>Academic words</i>
A lot of	Considerable
Big – big difference	Significant – major distinction
Bring together	Synthesise
Get rid of	Eradicate - eliminate
Not enough	Insufficient
Thing	Object
Trouble	Difficulty
Way of doing	Method
Not much research	Little research
Not many studies	Few studies
There isn't any evidence	There is no evidence
I think	According to

2- Do not confuse between these words, e.g.

- **Abbreviation / Acronym**
- **Affect (v) / Effect (n)**
- **Complement / Compliment**
- **Discrete (distinct) / Discreet (to keep silent about something)**
- **Formerly (earlier) / Formally (officially)**
- **Practice (n) / Practise (v)**
- **Precede (to come before) / Proceed (to go forward)**
- **Principle (n) / Principal (adj.)**
- **Prescribe (authorise) / Proscribe (to restrict)**

3- Do not confuse between *US* and *British*

English spelling.

British	US
Analyse	analyze
Summarise	summarize
Centre	Center
Metre	Meter
Analogue	Analog
Behaviour	Behavior
Endeavour	Endeavor
Connection	Connexion
Encyclopaedia	Encyclopedia
Paediatric	Pediatric
Foetus	Fetus
Programme	Program
Sceptical	Skeptical

4- Avoid the use of *phrasal verbs*. For example,

- **Go up** **————→** **Increase**
- **Take away** **————→** **Remove**

5- Avoid the use of *long noun phrase constructions* (noun clusters and modifiers).

Look at the examples below:

-A rabbit anti-mouse spleen cell serum was used.

-Anti-mouse serum of rabbits immunized with **mouse spleen cells** was used.

6- Avoid the use of synonyms in order not to confuse the reader.

Examples:

C_{\max} : maximum plasma *concentration* achieved.

T_{\max} : time at which maximum plasma *level* was achieved.

References

GUSTAVII, Bjorn. How to Write and Illustrate a Scientific Paper (2nd edition). Cambridge: Cambridge University Press, 2008

Websites

Springer.com. “Stress Position” <https://www.springer.com/gp/authors-editors/authorandreviewertutorials/writinginenglish/stress-position/10252690>

Gopen GD, Swan JA. The science of scientific writing. *Am Scientist*. 1990;78:550-558.

Rakover, S., & CAHLON, B. (2014). A Possible Correction of the Face Inversion Effect: A Methodological Commentary. *The American Journal of Psychology*, 127(3), 303-311. doi:10.5406/amerjpsyc.127.3.0303

Website: https://www.jstor.org/stable/10.5406/amerjpsyc.127.3.0303?seq=1#page_scan_tab_contents

Wordvice Blog: “Which Tenses to Use in Your Research Paper.” <https://wordvice.com/video-which-verb-tenses-should-i-use-in-a-research-paper/>

Wordvice Blog: “How to Choose the Best Title for Your Manuscript.” <https://wordvice.com/best-title-for-journal-manuscript/>

Wordvice YouTube Channel: “[How to Create a Title for Your Research Paper.](#)”

Wordvice Blog: “Choosing the Best Keywords for Your Paper.” <https://wordvice.com/choosing-research-paper-keywords/>

Wordvice YouTube Channel: “Parts of a Research Paper.” <https://www.youtube.com/watch?v=a06ipl-d2fw>

ScienceDocs Inc. Blog: “5 Common Mistakes to Avoid When Writing a Discussion.” <https://www.sciencedocs.com/writing-a-research-paper-discussion/>



***Tenses in Scientific
Writing***

Exercise: Spot the errors in this abstract sample.

In this work, with *ab initio* methodes of simulation, we are studied the structural, electronic, mecanic and multiferroic properties of superposed ferroelectric and ferromagnetic nanolayers. This superposition of nanolayers is caled superlattice, the multiferroic superlattices are applicated in the fabrication of storage data information. Our calculations are obtained within the Abinit code of calculation based in the densite fonctionnel theorie (DFT).

The errors

In this work, with *ab initio methodes* of simulation, *we are studied* the structural, electronic, *mecanic* and multiferroic properties of superposed ferroelectric and ferromagnetic nanolayers. This superposition of nanolayers is *caled* superlattice, the multiferroic superlattices *are applicated* in the fabrication of storage data information. Our calculations *are obtained within* the Abinit code of calculation based *in the densite fonctionnel theorie* (DFT).

The correction

Abstract

This work presents a study of the structural, electronic, **mechanic** and multiferroic properties of superposed ferroelectric and ferromagnetic nanolayers with *ab initio* **simulation methods**. This superposition of nanolayers is **called superlattice**. **Multiferroic superlattices were applied** in the fabrication of storage data information. Calculations **were obtained with the Abinit code of calculation based on the density functional theory (DFT)**.

Question

I was wondering if there are any fixed rules of using tenses in a paper, or does it depend on the journal and style?

Tense Considerations for Science Writing

When you write an article, the choice of tense(s) is a prerequisite.

There are three main verb tenses that should be used: simple present, simple past and present perfect. However, their use varies from one section of a paper to another.

**Simple
present**



**To talk about general facts
To discuss current
meanings and implications
To suggest future
applications**

**Simple
past**



**To discuss events such as
studies, experiments, or
observed phenomenon
completed at a specific time
in the past**

**Present
perfect**



**To refer to events or actions
that have taken place at
some unidentified time in
the past or have started but
are still ongoing or recently
completed.**



***Appropriate Verb Tenses by
Article Section***

Abstract

```
graph TD; A[Abstract] --> B[Present Perfect]; A --> C[Simple Past]; A --> D[Simple Present]; B --- B_desc[To refer to your unpublished results]; C --- C_desc[Statements of facts that were true at a specific time in the past]; D --- D_desc[To talk about general facts, the article itself, or analysis of findings];
```

**Present
Perfect**

**Introductory
sentence**

**To refer to your
unpublished results**

**Statements of facts
that were true at a
specific time in the
past**

**Simple
Past**

**Simple
Present**

**To talk about
general facts,
the article
itself, or
analysis of
findings**

Examples

Recent studies of glucagon *have led* to breakthroughs in medicine.

In 2016, diabetes *was* the most common endocrine disease.

The experiment *was* successful because the densities measured *were* the correct, known densities of the substances.

In the US, diabetes *is* the most common endocrine disease.

Introduction

```
graph TD; A[Introduction] --> B[Simple Present]; A --> C[Present Perfect];
```

**Simple
Present**

**To provide background
information**

**To explain why the
research is important**

**Present
Perfect**

**To report and
summarize
previous research**

Examples

Social media *includes* styles of writing that differ from standard usage.

Previous research *has focused* on the deep sea biodiversity of the continental margin.

Methods

Simple Past & Passive voice

✓ To describe what was done.

e.g. the experiment ***consisted of*** two steps **repeated** five times over a three week period.

e.g. three 2 litre samples ***were taken*** at a depth of between 0.1 and 0.5 m at the down-wind end of each wetland.

Simple Present

✓ To refer to diagrams and figures to explain what you did

e.g. Table 1 above ***demonstrates*** the success of cloning in various animal species.

Results

Simple Past

✓ To detail the results you obtained.

e.g. results ***indicated*** that prolonged exposure to UV radiation ***had*** a positive correlation with the development of melanomas.

Simple Present

✓ To describe diagrams / figures.

e.g. Table 1 ***shows*** ...

Discussion

Simple Present

✓ To explain the significance of your results.

e.g. the very low value of the diffusivity at 800°C *is* probably due to a desegregation phenomenon taking place at this temperature.

Simple Past with Simple present

✓ To summarize findings (past) and interpret results (present)

e.g. as the number of newly hatched sea turtles present on the beach *appeared* to correspond to high and low tides, it *is* possible that the patterns observed *may also be* the result of a defense.

Conclusion

A combination of tenses

- ✓ to summarise the main findings and major implications of your study (**simple past**)
- ✓ to point out any limitations (**simple past**)
- ✓ to offer suggestions for future research (**simple present**)

Example:

The model presented in this work **enables** the determination of the grain boundary diffusion coefficient from kinetic measurements **carried out** on bulk samples.

Special techniques such as thin foils **are not required**. It **is** however applicable only to those systems where the solute **segregates** to both the grain boundaries and the surface.

1 Abstract

Past

To talk about actual results.

Present

To talk about general facts, the paper itself or analysis of findings.

2 Introduction

Present

To talk about general background information.

Present Perfect

To talk about previous research.

3 Methods

Past

To talk about what you did.

TIP: passive voice is common.

Present

To explain diagrams/figures.

Ex: Table 1 shows...

PAST

To talk about events that have been completed.

Ex1: We **found** that...

Ex2: Protocol X **was followed**. [Passive voice]

PRESENT PERFECT

To talk about events that started in past but are still ongoing or recently completed.

Ex: Many experiments **have focused** on...

PRESENT

To talk about events that are general fact, discuss current meanings, and suggest future applications.

Ex1: Insulin and glucagon **regulate** blood glucose levels.

Ex2: Increased hormone production **indicates**...

4 Results

Past

To talk about actual results.

Present

To explain diagrams/figures.

Ex: Table 1 shows...

5 Discussion

Present

To interpret and talk about significance of findings.

Past

To briefly summarize findings.

6 Conclusion

Past

To refer to your completed research.

Present

To talk about implications and suggest future research.



wordvice.com

Wordvice: Professional • Affordable • Fast

Your one-stop shop for high-quality English proofreading and editing services. Join thousands of researchers, academics and writers. Let us help maximize your impact!

Websites

<https://learn.canvas.net/courses/1505/pages/lesson-verb-tenses-in-scientific-writing>

www.services.unimelb.edu.au/academicsskills

Thank you