Kiat Publikasi Artikel Ilmiah Terindeks Scopus

Oleh

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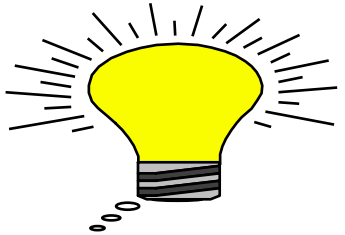
Selasa, 10 Maret 2020

A ➔ ACCURATE

B ➔ BRIEF

C ➔ CLEAR

Scientific writing (Penulisan Ilmiah)



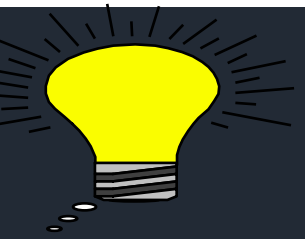
a technical form of **writing** that is designed to communicate **scientific information** to other:

- **Scientists**
- **Non-scientific aufience**

Characteristics of good scientific writing

Good scientific writing:

- **Jelas** – hindari detil yang tidak perlu;
- **Sederhana** – Gunakan kalimat langsung
- **Tidak memihak** – Jangan buat asumsi yang belum terbukti. Sajikan data dimana, bagaimana data tersebut didapatkan untuk membuktikan kesimpulan
- **Terstruktur secara logis =** proses, data dan interpretasinya ditulis secara logis. Naskah dibagi menjadi beberapa bagian
- **Akurat –** Hindari kalimat yang kabur dan ambigu atau multi tafsir;
- **Objectif** – kalimat yang ditulis didukung oleh bukti dan data yang dapat dipertanggungjawabkan untuk akhirnya didapatkan simpulan yang konkrit.



ABC Penulisan Artikel Ilmiah

A → ACCURATE

B → BRIEF

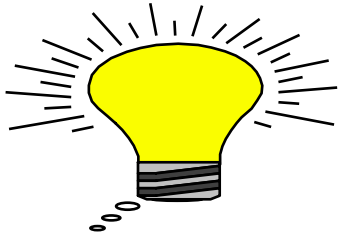
C → CLEAR

Manuscript, Article, Journal ?

- **A Research Manuscript** is written by and for researchers, with the purpose of making specific findings known to the scientific community at large.
- **A Research Article** is a publication that illustrates one or more outcomes of a well-planned scientific research.
- **A Scientific Journal** is an academic periodicals comprises several scientific articles

Naskah Ilmiah Bermutu ?

- Orisinal !!!
- Judul ➔ Informatif dan lugas
- Abstrak ➔ Iklan artikel harus padat dan independent
- Pendahuluan ➔ Menarik, singkat dan tidak Bertele-tele,
- Metoda Penelitian ➔ Tepat dan Teruji
- Hasil dan Pembahasan ➔ Sistimatis dan Rinci
- Kesimpulan ➔ Intisari temuan
- Bebas Plagiasi !!!



NASKAH ILMIAH ➔ ADA KEBARUAN HASIL PENELITIAN (NOVELTY) ?

What is Novelty?

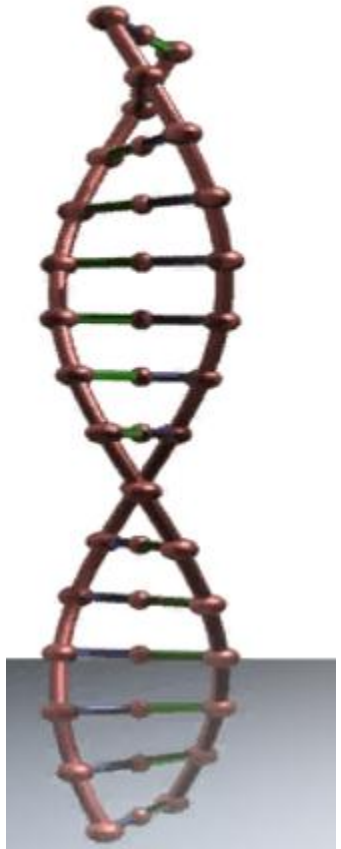
- ✓ It is some thing new or modified from previous findings.
- ✓ It may create, develop, add, complete or give new alternatives of theory, method, formula, model or other forms in scientific matter.
- ✓ Novelty must be original.

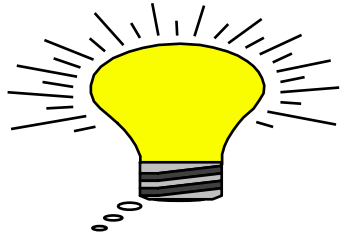
Jika ada Novelty =➔ MULAI TULIS NASKAH ILMIAHNYA

Novelty dimulai pada bagian PENDAHULUAN

Awali dengan permasalahan di bidang riset

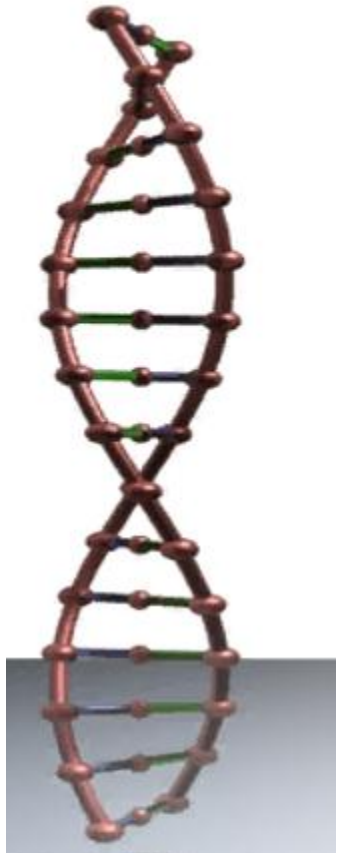
- Berikan review literature singkat dalam lingkup spesifik terkait permasalahan riset
- Berikan referensi cukup agar pembaca dapat mengerti tentang adanya **celah/ruang kosong** tersebut
- Deskripsikan cara mengisi **celah/ruang kosong** tersebut dengan penelitian yang akan dilakukan

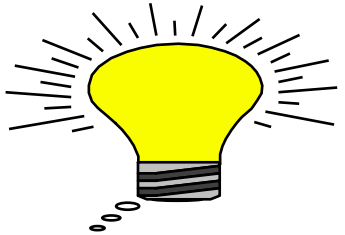




Important aspects of novelty

1. Literature review
2. State of the art
3. Discussion of the research findings
4. General scientific statement





Proporsi Naskah Ilmiah:

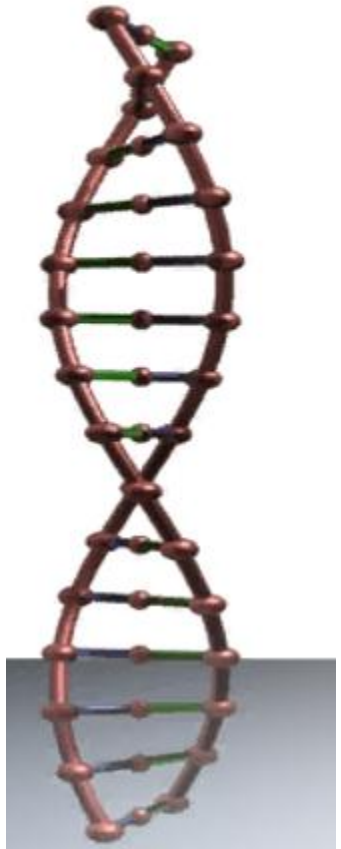
1. Pendahuluan (*Introduction*): 10 %

2. Metode (*Methods*): 15%

3. Hasil (*Results*): 35 %

4. Pembahasan (*Discussion*): 35 %

5. Kesimpulan (*Conclusion*) 5 %



RISTEKDIKTI

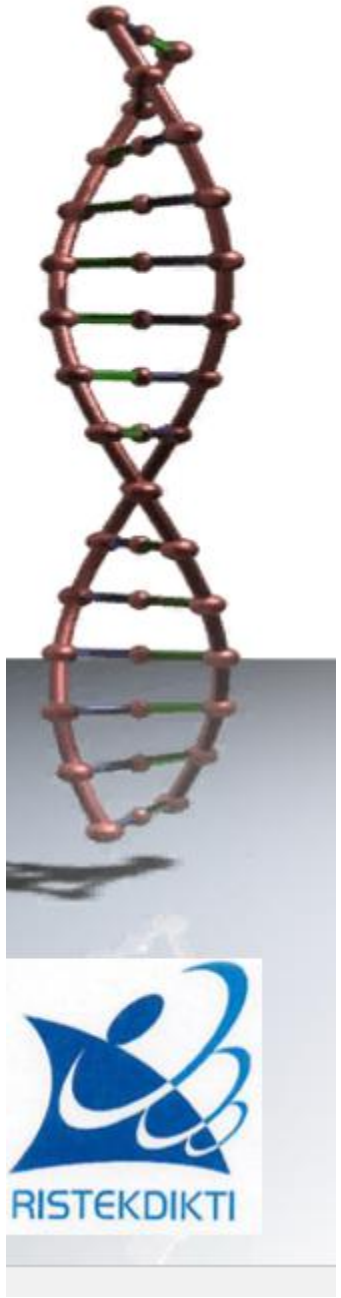
Anatomy of a Scientific Manuscript

Introduction
- What's known?
- What's unknown?

Methods
- How do we show it?

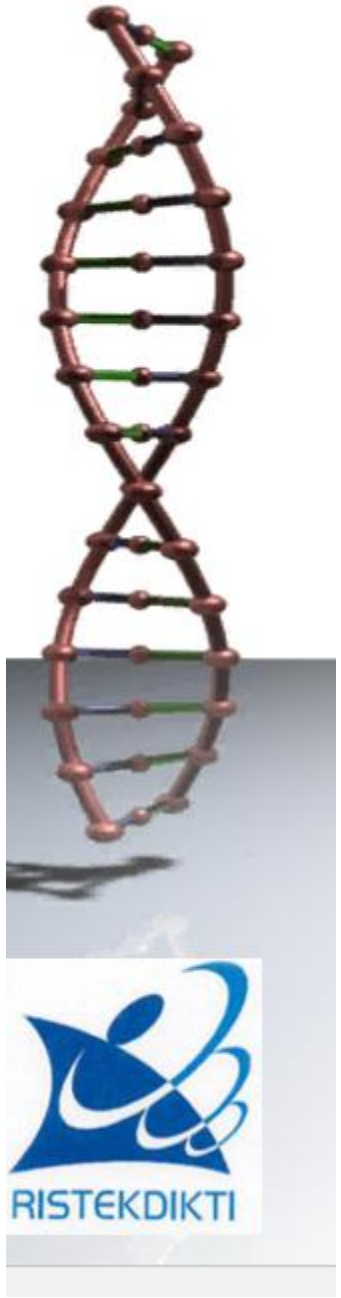
Results
- What are we showing now?

Discussion
- What did we show?
- What's known?



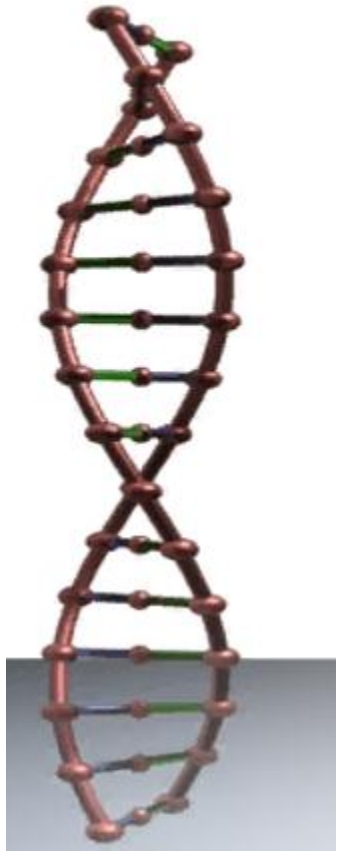
The sections appear in a journal style paper in the following prescribed order

Experimental process	Section of Paper
What did I do in a nutshell?	Abstract
What is the problem?	Introduction
How did I solve the problem?	Materials and Methods
What did I find out?	Results
What does it mean?	Discussion
Who helped me out?	Acknowledgments (optional)
Whose work did I refer to?	Literature Cited
Extra Information	Appendices (optional)

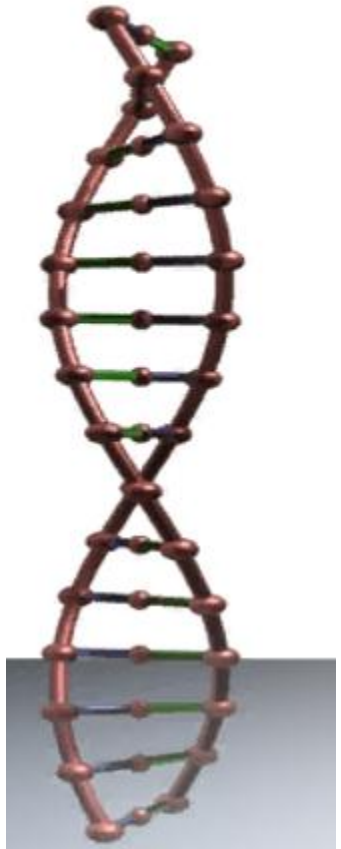


Steps to organizing your manuscript

1. Prepare the **figures and tables**.
2. Write the **Methods**.
3. Write up the **Results**.
4. Write the **Discussion**. Finalize the Results and Discussion before writing the introduction. This is because, if the discussion is insufficient, how can you objectively demonstrate the scientific significance of your work in the introduction?
5. Write a clear **Conclusion**.
6. Write a compelling **Introduction**.
7. Write the **Abstract**.
8. Compose a concise and descriptive **Title**.
9. Select **Keywords** for indexing.
10. Write the **Acknowledgements**.
11. Write up the **References**.



STRUKTUR ARTIKEL ILMIAH

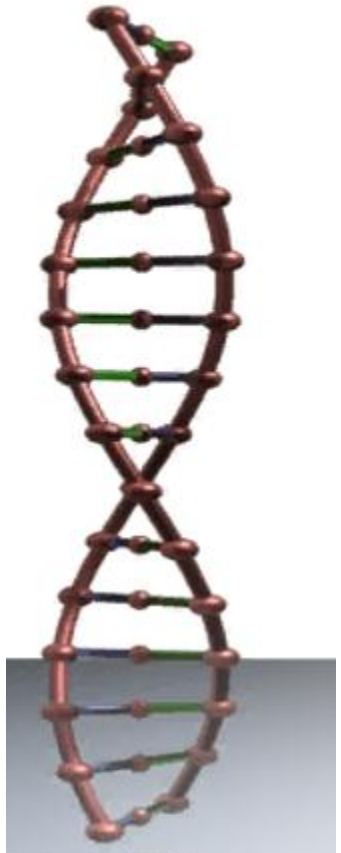


RISTEKDIKTI

Title

What is the paper broadly about?

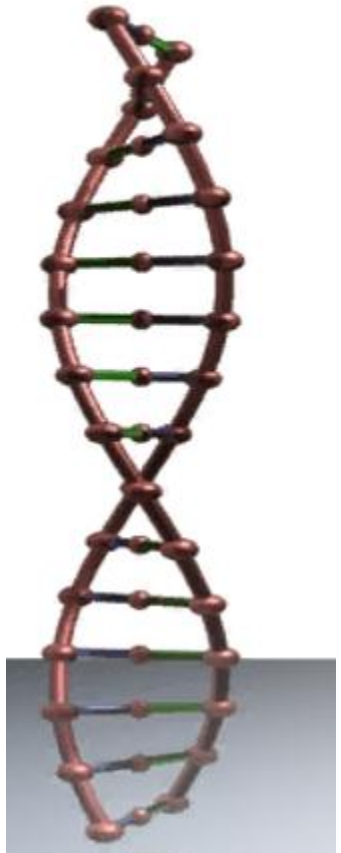
- Your opportunity to attract the reader's attention.
- Reviewers will check whether the title is specific and it reflects the content of the manuscript.
- Keep it informative, simpel, and concise.
- Avoid technical jargon and abbreviations if possible.



How can I assess the quality of my title?

- ✓ You need to check that your title is: in correct English - in terms of syntax, vocabulary, spelling and capitalization
- ✓ understandable (no strings of nouns) eye-catching and dynamic (through effective use of vocabulary and even punctuation)
- ✓ sufficiently and appropriately specific
- ✓ reflects the content of your paper
- ✓ expressed in a form that is acceptable for a journal

RISTEKDIKTI



Scientific Article Title

Volcanic Ash, Insecurity for the People but Securing Fertile Soil for the Future

Geochemical fingerprinting of volcanic soils used for wetland rice in West Sumatra, Indonesia

Feedback

RISTEKDIKTI

2. Nama Penulis dan Afiliasi Institusi

Sub Unsur	Indikator
Pencantuman Nama Penulis dan Lembaga Penulis	a. Lengkap dan konsisten

Kesalahan umum:

- Memuat nama penulis dengan singkatan, gelar dan status penulis (sebagai dosen);
- Tidak menyatakan corresponding author;
- Tidak mencerminkan hak kepengarangan (*authorship*) dan hak kepemilikan (*ownership*);
- Tidak memuat lembaga tempat dilaksanakan riset yang dipaparkan dalam artikel ilmiah;

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journal homepage: www.elsevier.com/locate/geodrs

Geochemical fingerprinting of volcanic soils used for wetland rice in West Sumatra, Indonesia

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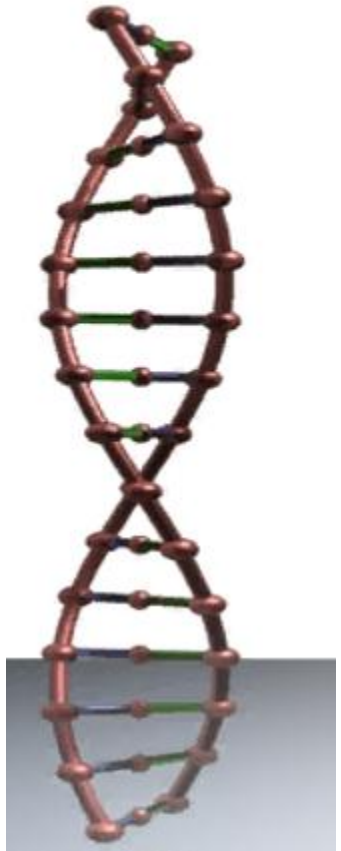


ABSTRACT ➔

The Abstract covers the 4 Ws:

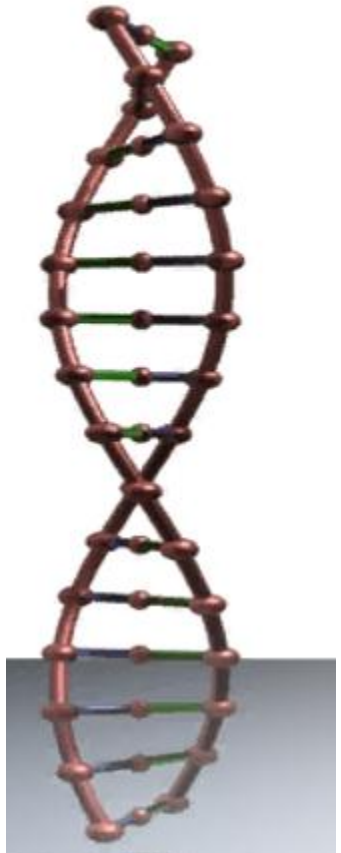
1. **Background** => What is known and

   Why this study needed ?

2. **Methods** => What did you do ?

3. **Results** => What did you find ?

4. **Discussion** => What does it mean ?



ABSTRACT ➔

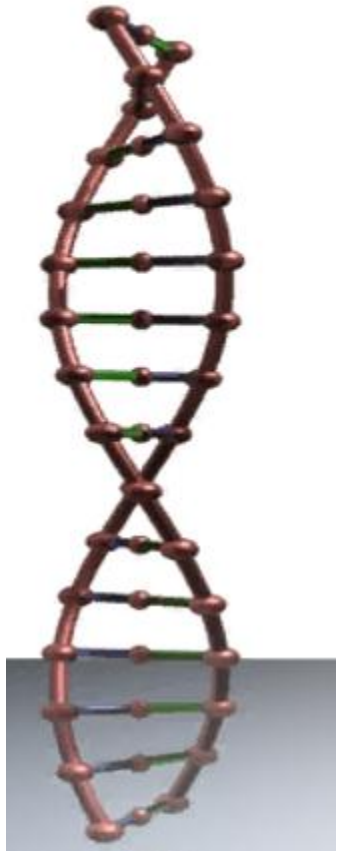
Checklist for title and abstract

- Construct title and abstract from keywords from all sections of the main text.
- Use important keywords at the beginning of the title.
- Avoid abbreviations and passive voice (title and abstract).
- Always state the objective and start the results section with the answer to the research question (abstract).
- Give sample size if you report percentages (abstract).
- Present effect sizes with confidence intervals (abstract).
- Check if the abstract covers the 4 Ws:
  - Background: What is known and why is this study needed?
  - Methods: What did you do?
  - Results: What did you find?
  - Discussion: What does it mean?
- Check that the abstract can be read independently from the main text.
- Revise every time the main text is revised (title and abstract).

KEYWORDS / KATA KUNCI

- **Kata kunci merupakan sepilihan kata-kata bermakna dari sebuah dokumen yang dapat dipakai untuk mengindeks kandungan isinya.**
- **Berfungsi sebagai SUPLEMEN dari JUDUL**
- **Kata-katanya sering dipilih dengan tidak mengulang judul**
- **Jumlah kata kunci yang disajikan umumnya terdiri atas 3–8 kata (yang dapat disusun dalam frase pendek)**
- **Beberapa berkala menyediakan daftar kata untuk dipilih oleh penyumbang naskah**

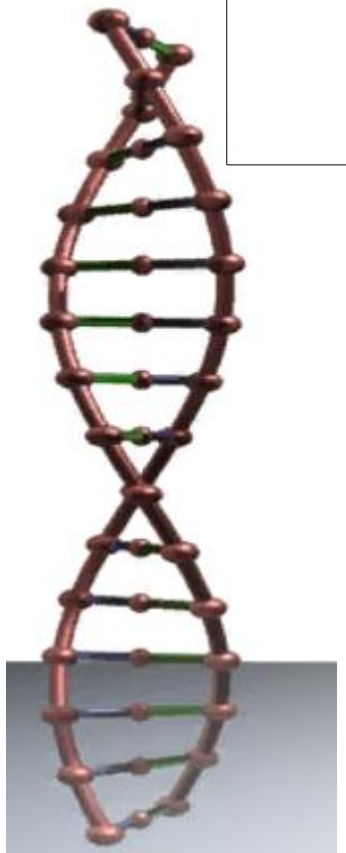
RISTEKDIKTI



Some suggestions to consider selecting keywords

- If the paper focuses on a particular region (geographic, climatic, etc.), use that as a keyword (semi-arid tropics, the polar region, coniferous forests).
- Consider the experimental material and techniques, which may suggest suitable keywords (HPLC, alkaloids, x-ray crystallography, animal dung).
- Check whether potential applications can serve as keywords (organic farming, treatment of cancer, long-term preservation, energy efficiency).
- Use specific phenomena or issues as keywords (climate change, air pollution, sustainable development, genetic engineering).
- Do not use words or phrases from the title as keywords.

RISTEKDIKTI



Evaluating Scientific significance

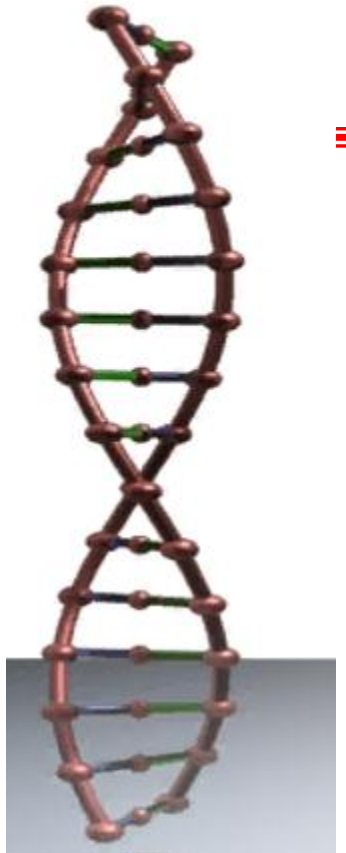
First, ask yourself:

- ❖ Is my work publishable?
- ❖ What do my research findings add to the literature?
- ❖ What is the novelty about my study?
- ❖ What expands can be made to the science?
- ❖ What can be improved in field of study?
- ❖ What is the purpose of my study?

➔ **With the answers to these questions in mind, plan a single article so that you can focus on the outcome of the study.**

➔ **Remember, you are trying to tell a story that will interest and educate others.**

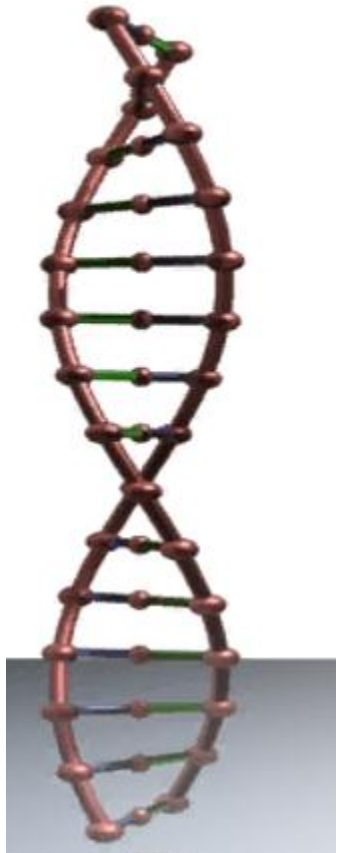
Introduction



- Should answer two questions:

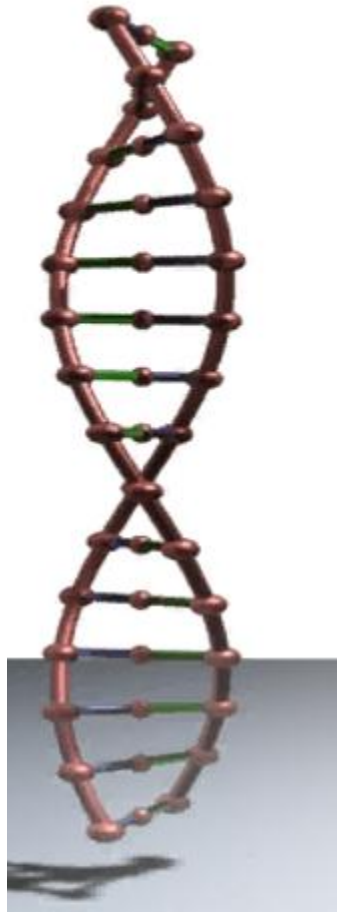
  “What?” and “So what?”

- What is the paper about,
- Why should the reader care?
- Scope
- Novelty
- Significance of the research work



The Introduction contents:

- presents the background knowledge that readers need and appreciate,
- what is already known about this subject
- identify the areas where there is still some uncertainty
- citing, where appropriate, any previous (and possibly conflicting) data
- how the findings of the paper are an advance on current knowledge in the field.



Some common pitfalls in writing an Introduction

- ✓ Providing unnecessary background information (telling the reader what they already know or what they do not need to know),
- ✓ Exaggerating the importance of the work,
- ✓ Failing to make clear what research questions this paper is trying to answer.

Contoh Introduction pada artikel

1. Introduction

Volcanic soils are quite unique in terms of their physical, chemical and morphological properties (Ugolini and Dahlgren, 2002). Soils derived from volcanic ash are known to be fertile and are one of the most productive soils in the world. They are also known to have a high human carrying capacity, as evidenced by dense population in areas near volcanoes (Small and Naumann, 2001). Mohr (1938) compared population densities for different districts near Mount Merapi, Central Java, and found higher population densities in areas with soils derived from volcanic ash. Paddy cultivation in Indonesia is often found in areas near volcanoes (Winkler et al., 2016). This is in contrast with most paddy-growing areas in Asia, which are in lowlands with soils originated from alluvial and colluvial deposits in Thailand (Prakongkep et al., 2008), marine sediments in Zhejiang Province China (Kölbl et al., 2014), sedimentary deposits in both Mekong delta of Vietnam (Kontgis et al., 2015) and Northwest Cambodia (Nguyen et al., 2013), on recent alluvial and deltaic sediments in the Ganges and Meghna floodplains in Bangladesh (Martin et al., 2015), and sulfidic materials in coastal areas of Peninsular Malaysia (Aimrun et al., 2004).

The importance of the topics and the problems to be solved

The state of the art of the previous studies

Paddy cultivation on soils derived from volcanic parent material is commonly found along the Barisan Mountain Ranges of Sumatra Indonesia. These mountain ranges are a volcanic arc over a length of about 1700 km, and the site of 11 active volcanoes (Hochstein and Sudarman, 1993). These active volcanoes often eject solid volcanic materials to the atmosphere which eventually descend on the Earth's surface. The history of volcanic eruptions in Sumatra can be traced back to the super-eruption of Toba some 74,000 years ago (Smyth et al., 2011) and to very recent eruptions of Mt. Sinabung (Anda and Sukarman, 2016). Both of these volcanoes are situated in North Sumatra. The deposition of these tephra materials alters the geochemical properties of the volcanic soils.

The gap or inconsistencies exist with current study try to address

Contoh

West Sumatra is strongly influenced by volcanic activity, covering an area of about 6202 km^2. In this region, there are 4 active volcanoes (considered as type A) namely Mt. Marapi, Mt. Tandikek, Mt. Talang and Mt. Kerinci, 3 dormant (type B) volcanoes being Mt. Sago, Mt. Singgalang and Mt. Talamau, and then the extinct Mt. Maninjau (referred to as Maninjau Caldera). The differences in their volcanic activity ultimately result in differing degrees of soil weathering, soil formation, and soil geochemical characteristics. These volcanic regions are well-known to be fertile and are the central agricultural production both for horticulture and grains crops. The present work focuses on volcanic paddy soils in West Sumatra and investigated the influence of geochronology on soil geochemical elements, weathering pattern and organic matter composition. We hypothesized that differences exist between nutrient potential reserve and their availability in the topsoils of the various volcanic paddy soils.

The importance of the topic

Aims and Hypothesis

Materials and Methods

Methods

- Describes how the results were generated
- It should be sufficiently detailed
- Not require explicit step-by-step instructions but rather references to prior publications

A good methods should describe

- What was done
- How it was done,
- Justify the experimental design
- Statistical considerations, such as sampling plans and analysis methods used, should be explained

Some common pitfalls in writing

Materials and Methods

- Method sections are often overly brief and lacking in detail
- Treating the method as a chronological history of what happened

The Results and Discussion

- This section is the core or heart of the manuscript
- The purpose is to summarize and illustrate the findings in logical sequence
- The presentation should guide the reader unerstand the findings and it contribution to the konwledge
- The interpretation of the results should prove the novelty of the findings
- Cite the appropriate literatures to justify and discuss the findings.
- Results section is generally written in the past tense, but the discussion maybe written in present tense

Results and Discussion

Results ➔

- A presentation of the data obtained from corresponding methods described in the previous section.
- Organized to make them accessible to the reader.
- These results are presented in tables and/or graphs
- The results are new (never before published)

Checklist for the results section

- Write the results section in the past tense.
- Structure roughly into: recruitment/response, sample characteristics, primary analyses, secondary analyses, and ancillary analyses.
- Match the results section with the methods section.
- Present findings without interpretation.
- Highlight findings from tables and figures in the text.
- Present estimates with 95% confidence intervals.
- Consider providing additional results in tables and figures as web-only supplementary material.

Discussion ➔

- To explain the results and show how they help to answer the research questions posed in the introduction.
- Discussing whether results are expected or unexpected,
- Comparing these results to previous work,
- Interpreting and explaining the results (often by comparison to a theory or model),
- Hypothesizing about their generality

Checklist for the discussion

- Check if the discussion has a clear inverted funnel shape with distinct sections providing:
  -A summary of main findings (What did we find?);
  -Comparisons with other studies (What is known?, What is new?, and How does this fit in?),
  -Strengths and limitations (Are the findings true?
  -Implications (Are the findings important? What can we do with them?).
- Answer the research question in the first paragraph and check if this is in line with the research question posed in the introduction (hourglass model).
- Check to see if the discussion section does not present new results.
- Be frank about acknowledging limitations.
- Ensure it offers a clear ending to the storyline of the paper (citable statement).
- Formulate a clear and concise one-liner as the bottom line of the paper.

Some common pitfalls in writing

Results and Discussion

- Lack of organization,
- Presenting results that are never discussed,
- Presenting discussion that does not relate to any of the results,
- Presenting results and discussion in chronological order rather than logical order,
- Ignoring results that do not support the conclusions,
- Drawing conclusions from results without sound logical arguments to back them up.

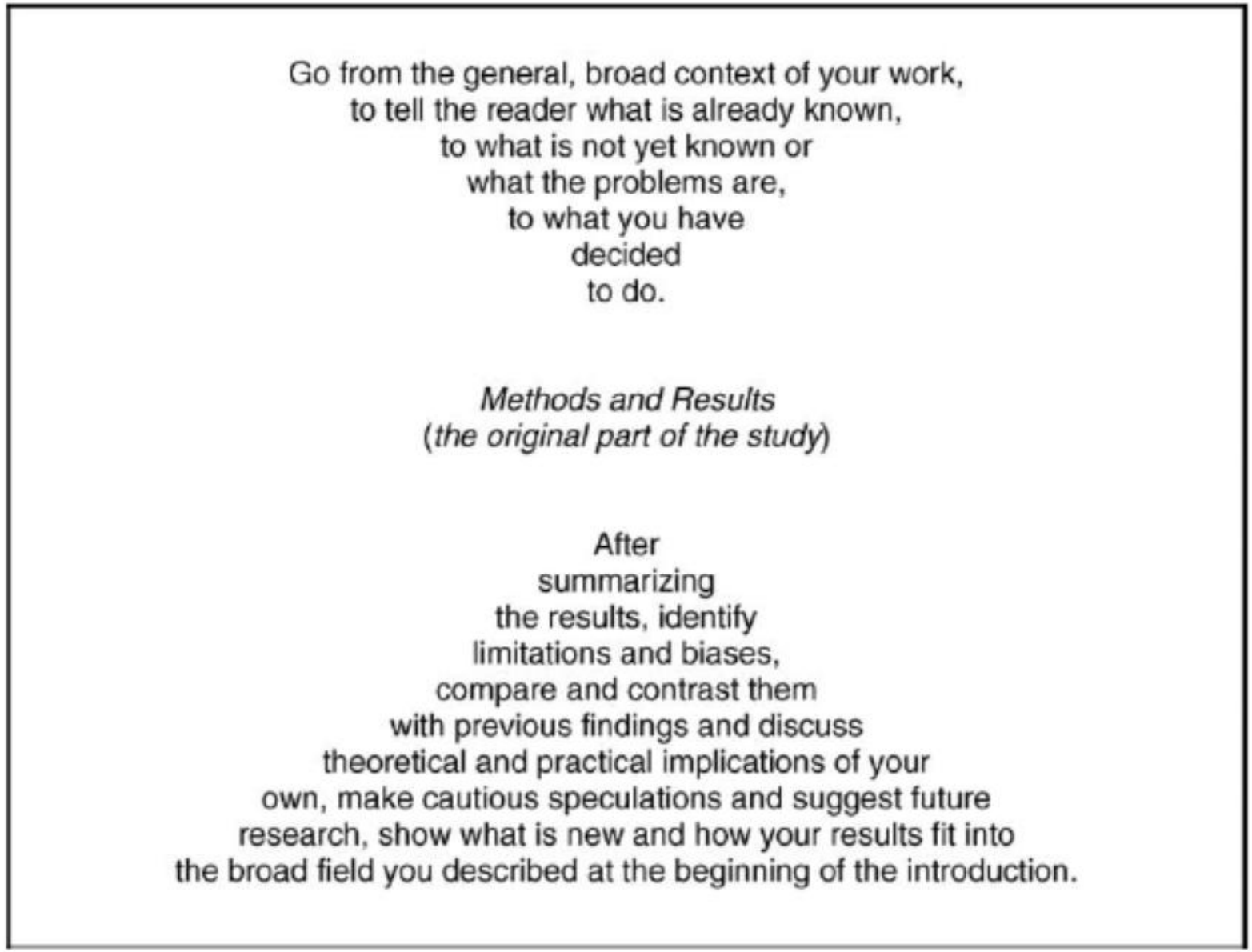
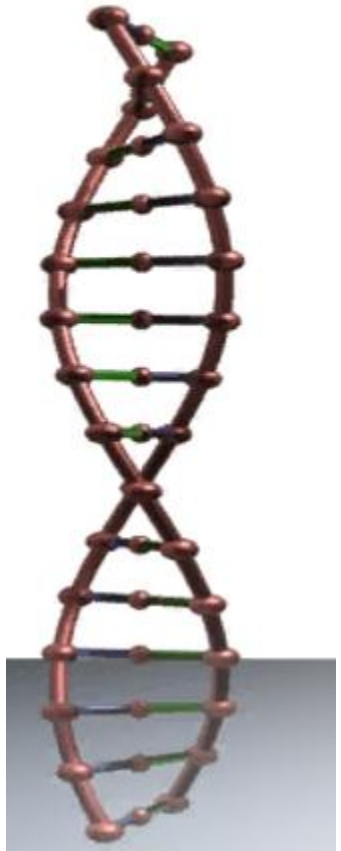


Fig. 1. The stylistic mirror triangles of the Introduction and Discussion sections in relation to the sections presenting original research findings in a scientific manuscript.

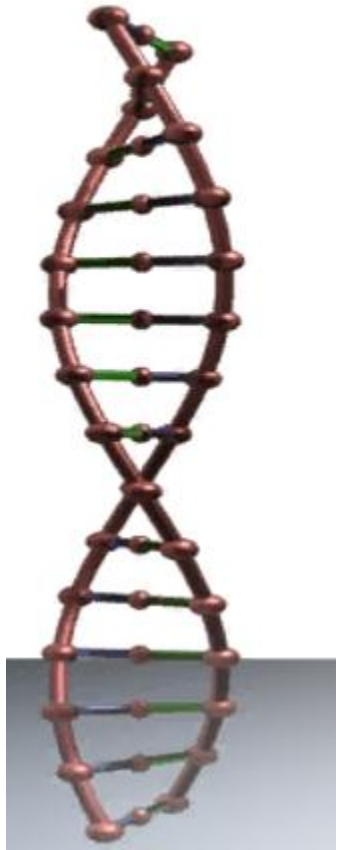


Tables and Figures ➔

Checklist for tables and figures

- Make a deliberate choice early in the writing process on which key findings to present in tables/figures.
- The title should reflect what is shown.
- Ensure that tables/figures are self-explanatory.
- Do not repeat information from tables/figures in the text but emphasize the important findings.
- Design tables/figures to make them clear and easy to read.
- Start each table/figure on a new page, after the reference list.

RISTEKDIKTI



Tables and Figures ➔

- Tables and figures are an efficient way of presenting findings from a study.
- If they are designed well, they provide more information than an author could possibly put into words.
- A paper's key findings should be presented in tables and figures,

Conclusions ➔

- Provides a brief summary of the results and discussion,
- Each research question has been addressed,
- The implications of the findings should be emphasized,
- Explaining how the work is significant
- Provide the key message(s) the author wishes to convey.
- Provide a future perspective on the work.

Some common pitfalls when writing the conclusion

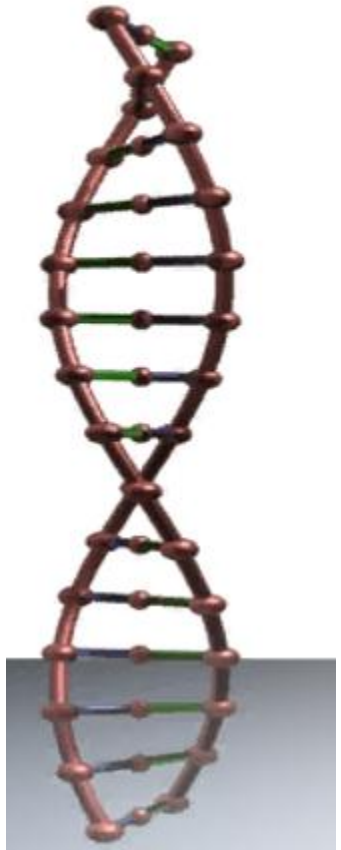
- Repeating the abstract,
- Repeating background information from the introduction,
- Introducing new evidence or new arguments not found in the results and discussion,
- Repeating the arguments made in the results and discussion,
- Failing to address all of the research questions set out in the introduction.

7. Kesimpulan

Sub Unsur	Indikator
9. Penyimpulan dan Perampatan	Intisari temuan dan pembahasan

Kesalahan umum:

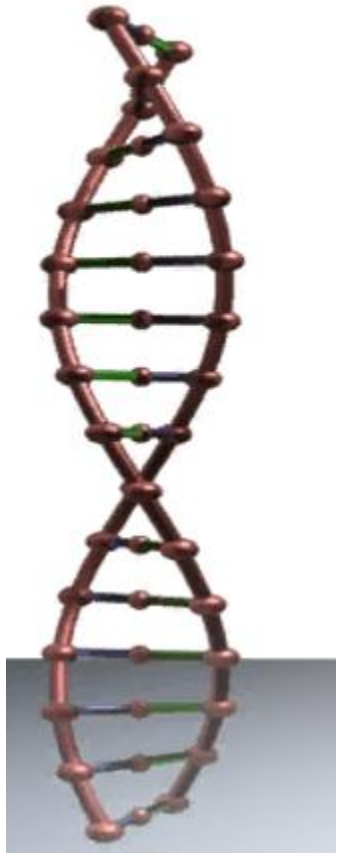
- Tidak memuat generalisasi hasil temuan penelitian dalam kalimat saintifik yang menunjukkan ciri khas /spesifikasi hasil penelitian;
- Tidak memuat implikasi penelitian secara praktis maupun sumbangan keilmuan pada referensi sebelumnya;
- Kurang memuat rekomendasi penelitian berikutnya



References ➔

Science moves forward by building on the research work of others, so it is important to appropriately cite previous work

- to acknowledge your sources,
- underpin your hypothesis,
- show that you are familiar with the relevant field,
- give credit to the work of others,
- avoid being charged with plagiarism.



References ➔

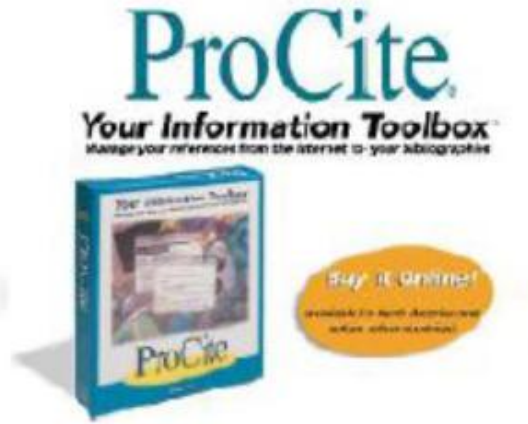
Checklist for citing and references

- Use reference management software at all times.
- Find the requested output style in the author instructions of the target journal and adhere to it 100%.
- Always cite the original source behind a statement.
- Use your own words to describe facts derived from references, never copy paste sentences.
- If you need to choose among several references, select one by considering the level of evidence, open-access, year of publication, and published in the target journal.
- Meticulously check the final reference list for errors.

Referencing System

- Ada dua cara utama dalam mengacu pustaka yang disebutkan dalam teks: (1) Gaya Harvard (*Author-date*), dan (2) Gaya Vancouver (*Author-number*)
- Ada berbagai modifikasi model/sistem pengacuan sebagai pengembangan dari kedua gaya tersebut, misal APA, IEEE, dll.

Referencing Softwares



MENDELEY

RefWorks

zotero

9. Ucapan Terima Kasih

- Ucapan terima kasih kepada pihak yang berperan dalam penelitian: pemberi dana, bahan dan sarana penelitian, sponsor.
- Ucapan kepada individu yang berperan namun tidak memiliki hak kepengarangan.

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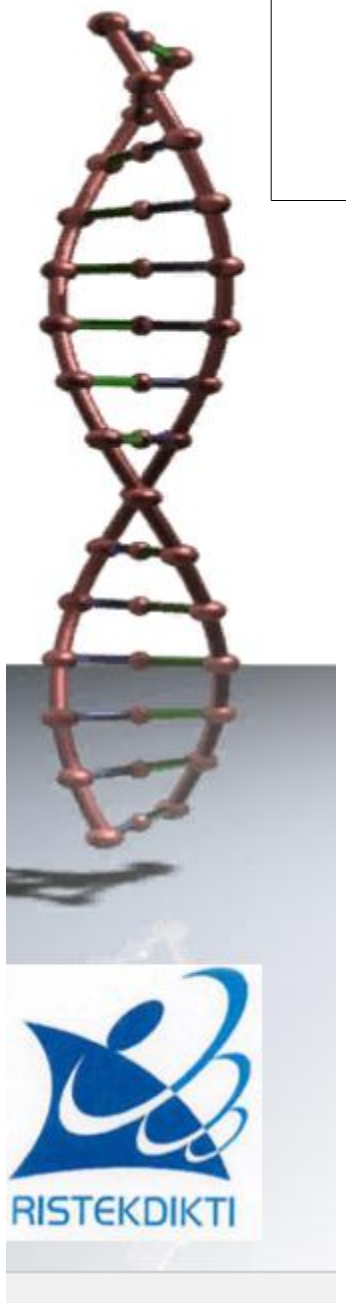

10 TIPS TO IMPROVE YOUR MANUSCRIPT

1. Carefully select the most appropriate journal
2. Read guideline for author
3. One paper, one message
4. Attractive and descriptive title
5. Figures should be clear
6. Be honest and modest
7. Start with structure with items/bullets
8. Become a reviewer
9. Always be polite and respectful
10. Also cite

Terima kasih
Happy writing
Happy Life