HOW TO WRITE A GOOD ABSTRACT

INTRODUCTION

- An abstract is a concise summary of the key points of your paper.

- It is often the first thing readers see, so it should provide an overview of your work.

CHARACTERISTICS OF A GOOD ABSTRACT

- Concise: Keep it short (150–300 words).

- Clear: Avoid jargon and complex language.

- Informative: Summarize the key elements of your research, including objectives, methods, results, and conclusions.

- Self-Contained: The abstract should be understandable without referring to the full paper.

COMPONENTS OF AN ABSTRACT

1. Introduction: Briefly introduce the problem or research question.
2. Methods: Outline the research methodology or approach.
3. Results: Summarize the key findings of the research.
4. Conclusion: State the implications or significance of the findings.

WRITING TIPS FOR AN EFFECTIVE ABSTRACT

- Start with the main question your research addresses.
- Use clear and direct language.
- Avoid details that are not crucial to the main points.
- Write it last, after you have completed the rest of the paper.

EXAMPLES OF STRONG VS. WEAK ABSTRACTS

Strong Abstract

- Briefly presents the research topic, methods, key findings, and implications.

Weak Abstract:

- Too vague, lacks specific details, or includes irrelevant information.

COMMON MISTAKES TO AVOID

-Being too vague: Don’t just state general information.

- Including unnecessary details: Keep it to the essentials.

- Using technical jargon: Keep it accessible to a wide audience.

- Exceeding the word limit: Stay concise.

FINAL CHECK

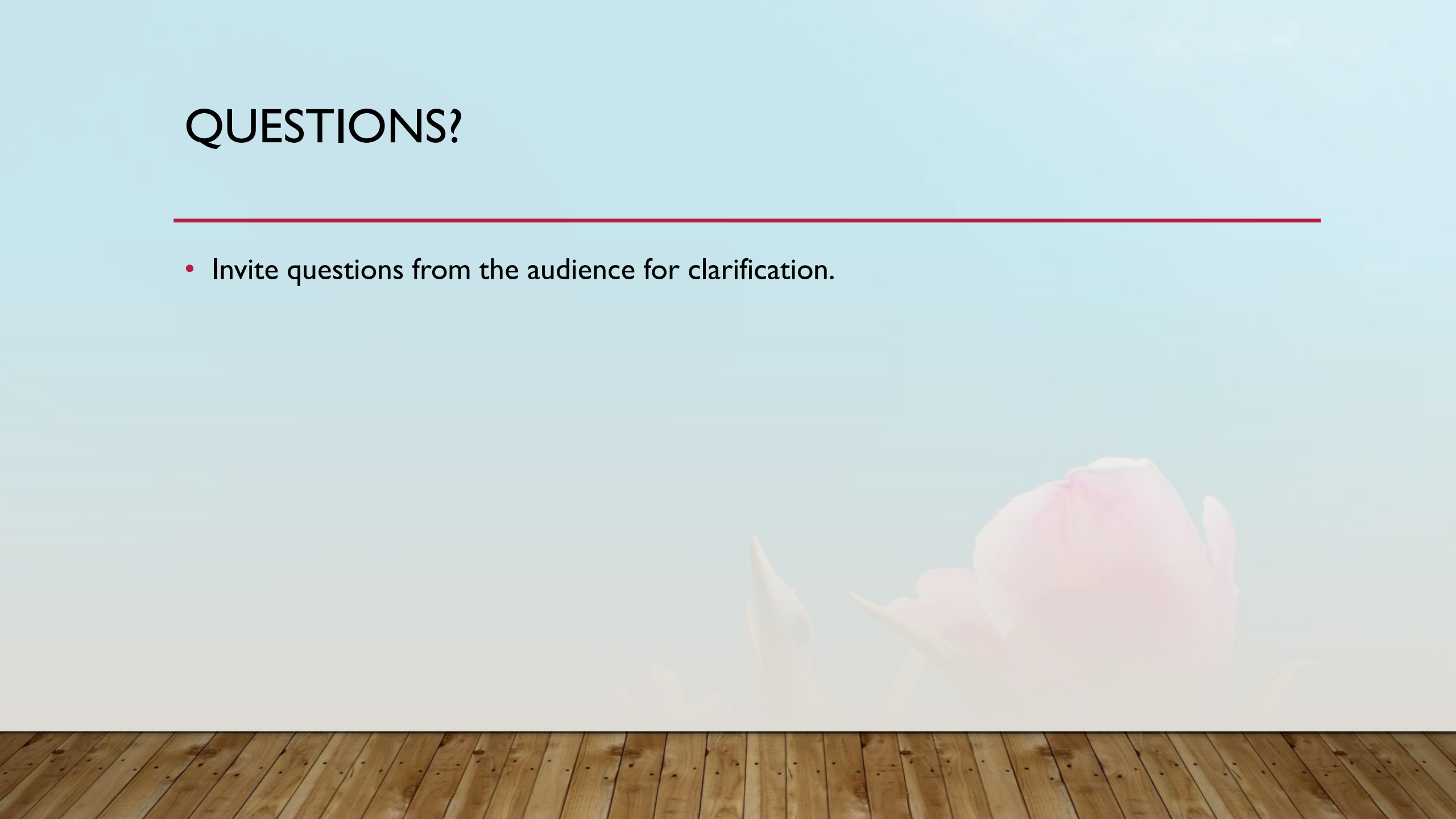
- Does it summarize your paper accurately?
- Is it clear, concise, and informative?
- Have you avoided jargon and unnecessary details?

CONCLUSION

- - An effective abstract is key to attracting readers and conveying the essence of your research.
- - Make sure it is well-written, focused, and captures the main points of your work.

QUESTIONS?

- Invite questions from the audience for clarification.



MENULIS PENDAHULUAN

- The *Introduction*
  - Background
  - research problem
  - Researh question
  - Aim
  - Objectives
  - scope

AIM - OBJECTIVES

Aim: (TUJUAN UMUM)

- Evaluate artificial intelligence techniques for modelling weather patterns.

Objectives: (TUJUAN KHUSUS)

- Identify and evaluate existing weather pattern modelling techniques.
- Identify artificial intelligence approaches suitable for modelling weather patterns.
- Design and develop at least three artificial intelligent systems for modelling weather patterns.
- Compare and contrast the developed systems with one another and existing approaches to modelling weather patterns.

A strong introduction tells readers why the research is important

This paper presents a design for a platinum catalytic igniter in hydrogen-air mixtures. This igniter has application in nuclear reactors. One danger at a nuclear reactor is a loss-of-coolant accident. Such an accident can produce large quantities of hydrogen gas when hot water and steam react with zirconium fuel rods. In a serious accident, the evolution of hydrogen may be so rapid that it produces an explosive hydrogen-air mixture in the reactor containment building. This mixture could breach the containment walls and allow radiation to escape.

Our method to eliminate this danger is to intentionally ignite the hydrogen-air mixture at concentrations below those for which any serious damage might result.

BACKGROUND

- Describes /Indicate importance/recency of relevant literature (very frequently used)
- Indicate claims based on research (citing and reviewing research) or common knowledge (very frequently used)
- Define terms and constructs in your research that are not frequently used (infrequently used)

RESEARCH PROBLEMS

- Argue for a real-world problem or need (very frequently used)
- Argue that no research was conducted on your topic (frequently used)
- Argue that limited research was conducted on your topic (very frequently used

RESEARCH QUESTION

- Two or more of the following statements are used:
  - State research question or hypothesis of your research (frequently used)
  - Summaries the research design/method of your research (frequently used)
  - State key findings of your research (infrequently used)
  - Indicate scope/parameters of your study (infrequently used)
  - State explicitly the significance or value of your research (infrequently used)

RESEARCH QUESTION (PROBLEM STATEMENT)

- The title of this slide is an example of the arts/science divide, in arts subjects this is generally called "*research question to be answered/addressesed*" in science subjects (especially engineering) this is generally referred to as "*problem to be solved*".

RESEARCH QUESTION (PROBLEM STATEMENT)

In this chapter you need to

- **state the research question, clearly and concisely**
- **demonstrate that this particular research has not been answered (why current approaches fail)**
- **Discuss why this is a worthwhile question (including applications where it may be used)**
- **try to include enough information so that a future researcher could continue your research once you are done.**
- **You have to demonstrate your familiarity with the important researchers in your field here.**

AIM AND OBJECTIVES

- State the aim/purpose/objective of your research (very frequently used) and/or describe theoretical and/or real-world contributions of your research (frequently used)

EVALUATIVE WORDS

- Hyland (2000) states that cautious words (mungkin, bisa jadi, kalau tidak salah) are used for the following reasons:
  - You are uncertain about what you said or read.
  - You want to make clear that you are only presenting your opinion.
  - You are certain about what you are claiming but want to be seen as modest or show deference to your reader.
  - You acknowledge that readers may have reservations about your claim.

WRITING THE LITERATURE

- The *Literature Review* serves to provide the link between your research and previous research.
- Most importantly, the literature review enables you to gain a perspective of your research topic, and helps you to avoid duplicating research efforts and to identify unforeseen problems.
- Therefore, the contents of a *Literature Review* should include the following:

LITERATURE REVIEW (STATE OF THE ART)

- **This chapter outlines the state of the art in your field, organised by ideas, research trends NOT chronologically or by author**
- **The objective of this chapter is to tell the reader that this is an important and interesting problem**
- **Literature Survey vs. Literature Review**
- **Bibliography vs. REFERENCES**

- Relevant account of all research and theories relevant to your topic
- Historical development of your topic if your topic is not entirely new
- Links between the various research areas and identification of the research gaps
- Summary of all methods, analyses and techniques relevant to your topic
- Identification of how your research can contribute to the existing knowledge

WRITING LITERATURE REVIEWS

- A **literature review** is a body of text that aims to review the critical points of current knowledge including substantive findings as well as theoretical and methodological contributions to a particular topic.

THE PURPOSE OF A LITERATURE REVIEW

- to refine your research question and objectives;
- to highlight research possibilities that have either been explicitly identified by other authors or have possibly been overlooked in the past;
- to avoid repeating the work of others;
- to identify research methods and strategies that may be usefully applied in your own research.

WHEN WRITING YOUR LITERATURE REVIEW REMEMBER WHAT IT IS NOT:

- It is not a report that lists all the papers and books you have read whether they are relevant or not.
- It must not dedicate a page or paragraph to each article in turn merely reporting on their content

GOOD LITERATURE REVIEW

- A needs to be critical, that is, you have to take a stand on the issues.
- It should not just be a description of past research work but an analysis of past research and how it is linked to your research topic.
- Any criticism needs to be substantiated by a balanced evaluation, it should not be cherry-picking of research work that is 'favourable' to your view.
- An unbalanced or biased literature review can be easily sensed by the reader.

- is up-to-date
- provides an insightful analysis of the ideas and conclusions in the literature
- points out similarities and differences, strengths and weaknesses in the literature
- identifies gaps in the literature for future research
- identifies the context for which the literature is important.
- clearly delimits the subject matter to be reviewed covers all important relevant literature

TIPS ON WRITING LITERATURE REVIEW:

- Identify keywords in your research topic.
- Use the keywords to identify publications most relevant to your research topic. You can start with about 10 publications.
- Read the abstract of the identified publications and zoom in to the information that is most relevant to your topic.
- Take notes and compile the information as a summary list in linear order.
- From the summary list, identify common ideas and form linkages between the publications.
- Write the first draft of the literature review based on the 10 publications.

SOURCE OF LITERATURE REVIEW

- *Books*
- *Journals*
- *Conference proceedings*
- *CDs and DVDs*
- *Company reports and documentation*
- *Theses*
- *Manuals*
- *Software*
- *The Internet*

THE INTERNET

- What is the purpose of the site – is it to provide information or to sell a product?
- When was the site updated?
- Is the site part of (or related to) an official organisation (a professiona body, government department or academic institute or research group)? For example, the IEEE, the Project Management Institute, British Computer Society, etc.?

- Are there any copyright issues associated with the material?
- Is there an author for the material? Is the author qualified to providethe information?
- Is the site recognised from other sources?
- Is the material biased? ‘Does the author have a “vested interest” inthe topic’ or an axe to grind?

- **Intute (http://www.intute.ac.uk/sciences/). Intute is a free service**that provides access to information in engineering, mathematics and computing.
- **ISI Web of Knowledge (http://wos.mimas.ac.uk/).**
- **Research Navigator (http://www.researchnavigator.com/).**
- **ACM Association of Computing Machinery (http://www.acm.org).**
- **The Collection of Computer Science Bibliographies (http://liinwww.**ira.uka.de/bibliography/).

- IEEE Computer Society (http://www.computer.org).
- Lecture Notes in Computer Science (www.springer.de/comp/lncs).
- DBLP bibliography (http://dblp.uni-trier.de).
- HCI Bibliography (http://www.hcibib.org).
- IngentaConnect (http://www.ingentaconnect.com/)
- Neuron AI directory (http://www.neuron.co.uk/)
- Free on-line dictionary of computing (http://foldoc.org/).
- IBM Systems Journal (http://www.research.ibm.com/journal/sj/).
- Journal of Digital Information (http://jodi.tamu.edu/).

CITE AND REF!

- In your assignments you must demonstrate that you have used relevant, good quality sources to support your arguments by:

  - providing **in-text citations** in the body of your work

  AND

  - a **reference list** at the end of your work

CITE AND REF STYLES

- Harvard style (author/ date)
- American Psychological Assoc. (author/ date)
- Modern Language Assoc. (author/ date)
- Modern Humanities Research Assoc. (author/ date)
- Chicago, Vancouver & Footnote (all numeric)

ask your tutor which system you should use

WHY REVIEW LITERATURE

- **Why are you asked to write a literature review?**
- You are asked to write literature reviews in some of your courses so that you can demonstrate to your lecturers that you are able to:
  - ☐ determine what has already been written on a topic
  - ☐ identify previous approaches to the topic
  - ☐ identify central issues in the field
  - ☐ integrate what previous researchers have found
  - ☐ identify important issues still unresolved.

HOW TO PRESENT LITERATURE REVIEW

- Descritive / Reporting: what happened, what author discusse, found
- Interpretive/Criticel : ask, answer, analyis

EVALUASI

- Author
- Source