Academic English

Lecture 9

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Lecture Contents

1. **Curriculum Introduction**
2. **Title (nature summary)**
   - **Academic Word List**
   - **Key words collection**
3. **Abstract**
   - **Importance, Method, and Wording**
   - **Abstract Appreciation (Good/Bad)**
   - **Notification of Applied/Practical Research, Applied Basic Research, & Basic Research**
4. **Conference Culture**
   - **Preparation – Invitation, Registration, Visa**
   - **Travel – Accommodation, Venue, Transportation**

Lecture Contents

5. **Academic Presentation**
   - **PowerPoint Skills**
   - **Presenting and Q&A Skills**

6. **Literature Review**
   - **Basic sentence patterns**
   - **Survey Appreciation**
   - **Intensive reading and Extensive reading**
   - **Reference importance (avoiding plagiarism)**

Lecture Contents

7. Essay Writing
   - Organizational structures/patterns
   - Chart, Pictures & Equation description
   - English Writing
8. Submission
   - Submission letter
   - Argumentative writing
9. Annex/Attachment
   - Resume/CV
   - Recommendation letter/Personal statement

Resources

Google

academic writing

All Books Images News Videos More Settings Tools

About 454,000,000 results (0.45 seconds)

Writing for Education. A broad definition of **academic writing** is any **writing** done to fulfill a requirement of a college or university. **Academic writing** is also used for publications that are read by teacher and researchers or presented at conferences.

Definition of Academic Writing - English Grammar Rules & Usage
https://grammar.yourdictionary.com/word.../definition-of-academic-writing.html

About this result Feedback

People also ask

What are the types of academic writing?

What is academic writing skills?

What are the characteristic of academic writing?

What is the academic style of writing?

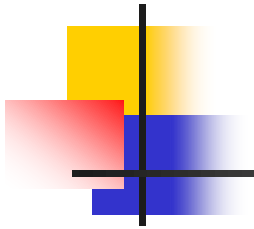
Academic writing

Academic writing, or scholarly writing is a prose style. Normally deliv in an impersonal and dispassionate tone, it is targeted at a critical ar informed audience, based on closely investigated knowledge; and intended to reinforce or challenge concepts or arguments. Wikipedia

People also search for View 10+

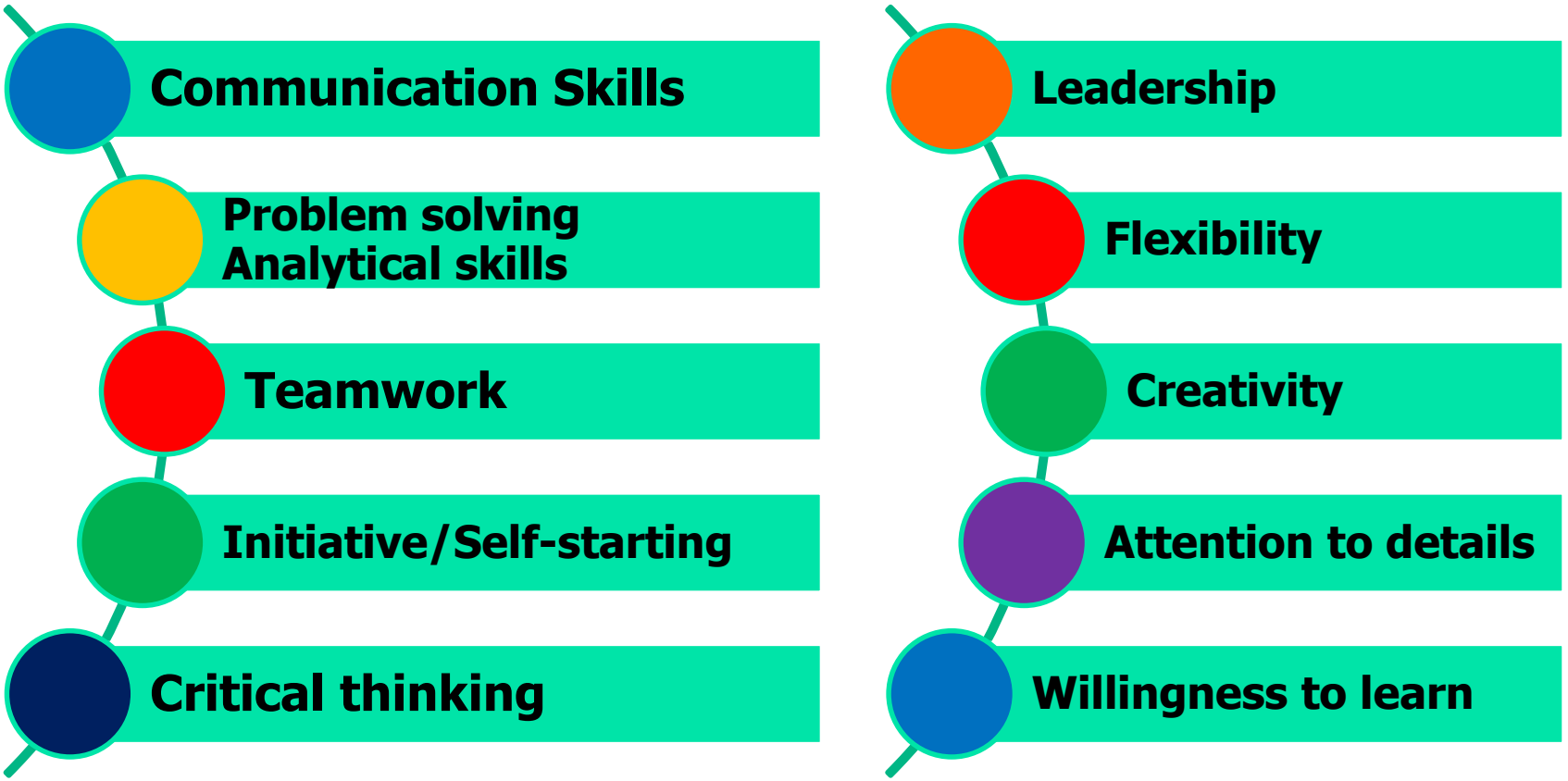
Reference

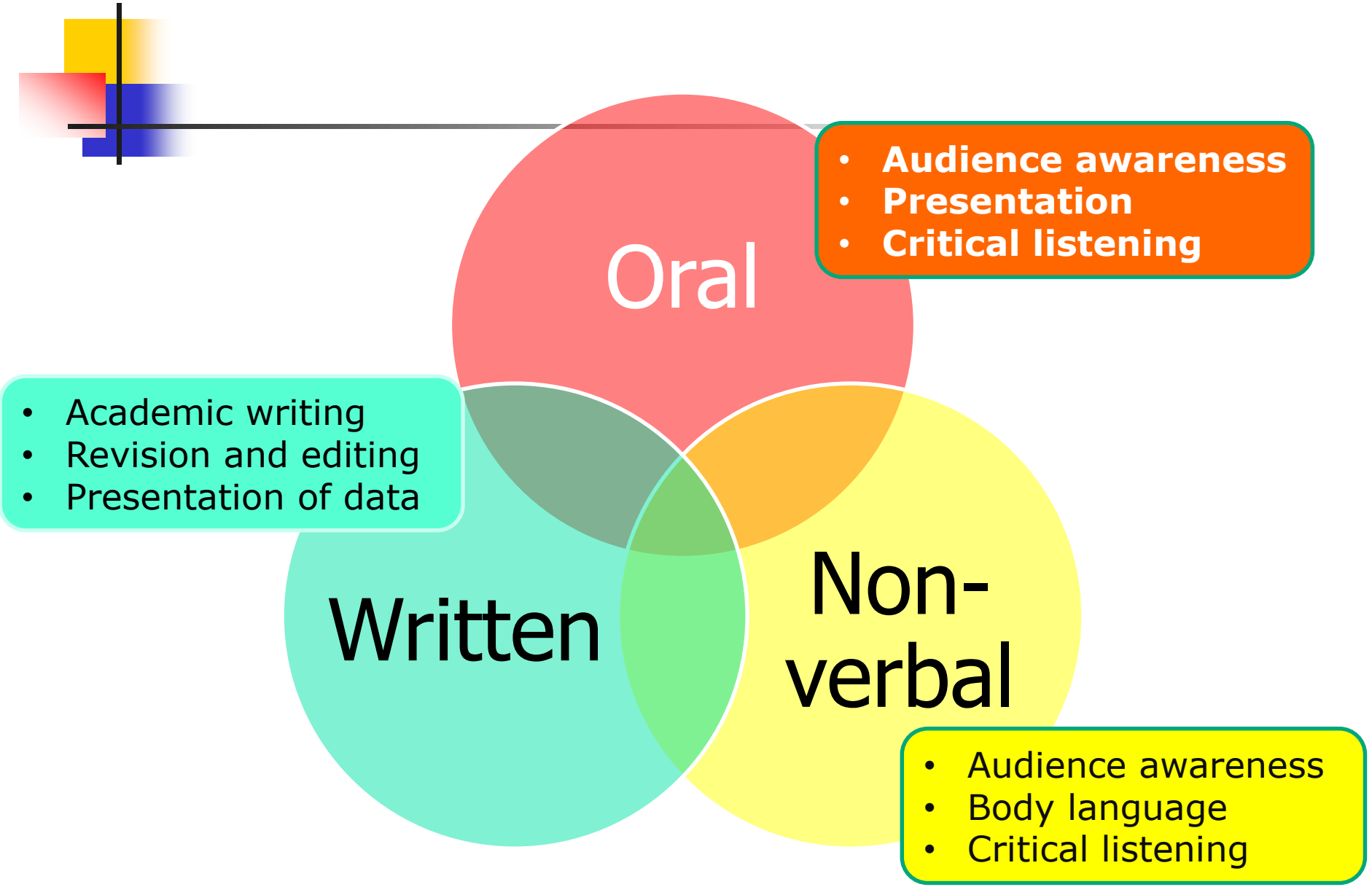
- Petey Young. **Writing and Presenting in English: The Rosetta Stone of Science.** 2006 Elsevier press.
- Robert Goldbort. **Writing for Science**. 2006 Yale University Press.
- Michael Katz. **Elements of the Scientific Paper**.
- Robert A. Day, Barbara Gastel. **How to write and publish a scientific paper. Electron Industry Press**.
- Journals: ***Science, Nature, Cell, PNAS, JACS, PRL, IEEE Trans…***



Some bigger picture …

Skills required for a research student




Oral
Written
Non-verbal
• Audience awareness
• Presentation
• Critical listening
• Academic writing
• Revision and editing
• Presentation of data
• Audience awareness
• Body language
• Critical listening

Some key challenges in academic writing

- You are working very hard on the research paper, but are still frustrated

You have read many papers

You have done a lot work

You are trying to think in English

Your draft is still not accepted!

Things you need to do before hands

- Doing some real, original research is the key
  - Collection/analysis of data
  - Backup data/software
- Reading is a prerequisite, not only papers from your own field, but also from other, related, and even unrelated fields
  - Rule of thumb: 5 paper per day!
  - Don’t forget books!
- Writing is a habit – start now!
  - Note taking in English!
  - Write daily!
- Reference management
  - Use some tools, such as EndNote
  - Your own way of managing references

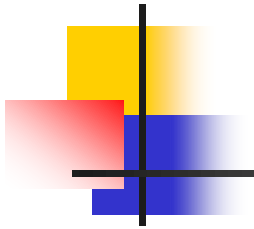
Doing good research is a prerequisite!

How to produce a good academic paper

- First you MUST do something, not just READ something
- Problem formulation is the first task to think about
  - Handed over by your supervisor
  - A choice of your own
  - A choice from someone else
  - No idea?
- Don’t expect to get paper accepted in the first try
  - Revisions/rejections are perfectly normal and part of the learning experience

How to produce a good academic paper

Editing Tools?



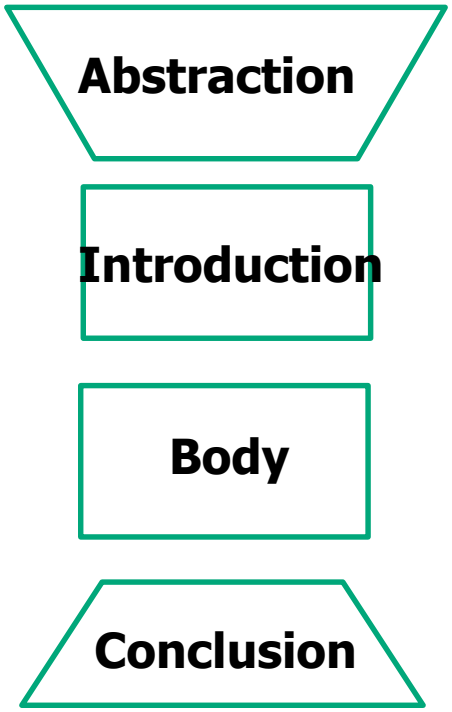
Organizational structures/patterns

Organizational structures of a paper

- Dependent on your research topics/objectives

Review paper	• Review/Survey on specific topics
Research paper	• Problem-solution style
Comparison-contrast	• Two or more related concepts/techniques/methods

Criterion of structure
Review articles: AIBC



Survey paper

Cyber–Physical Systems: A Perspective at the Centennial

This paper surveys cyber–physical systems and the potential benefits of the convergence of computing, communications, and control technologies for developing next-generation engineered systems.

By Kyoung-Dae Kim and P. R. Kumar, *Fellow IEEE*

ABSTRACT | Cyber-physical systems (CPSs) are the next generation of engineered systems in which computing, communication, and control technologies are tightly integrated. Research on CPSs is fundamentally important for engineered systems in many important application domains such as transportation, energy, and medical systems. We overview CPS research from both a historical point of view in terms of technologies developed for early generations of control systems, as well as recent results on CPSs in many relevant research domains such as networked control, hybrid systems, real-time computing, real-time networking, wireless sensor networks, security, and model-driven development. We outline the potential for CPSs in many societally important application

that require tight integration of computing, communication, and control technologies to achieve stability, performance, reliability, robustness, and efficiency in dealing with physical systems of many application domains [2].

Even though the specific context of problems and challenges of today's CPSs is different from those in the past, the basic goal of developing control systems through integration of technologies from computing and communication has roots that go back nearly a century. For example, at the time of World War II, the development of automatic antiaircraft guns was one of the most important and challenging problems that required tight integration of technologies from the mechanical, electrical, electronics,

Review paper

JOURNAL OF AIRCRAFT
Vol. 39, No. 1, January–February 2002

What

Now

Airplane Design—Past, Present, and Future

Why

The state of the aerospace industry in general, and specifically the aeronautics and aircraft design portion of it, is examined in a long-term historical context. The current "crisis" in aeronautics is shown to be both a unique development and a continuation of our cyclical past, for reasons to be discussed in the text of the article. The evolution of the methods and techniques that have been available to synthesize and develop a new airplane configuration are also examined. Although much will change in terms of tools and techniques, much will remain remarkably invariant in basic overall design strategies and the attributes of those skilled in their execution. Finally, some positive steps are suggested that we individually (in our respective companies, agencies, and institutions), and collectively as an aeronautics community, can take to ensure the development of a future generation of airplane designers who are as skilled as those who have created our heritage.

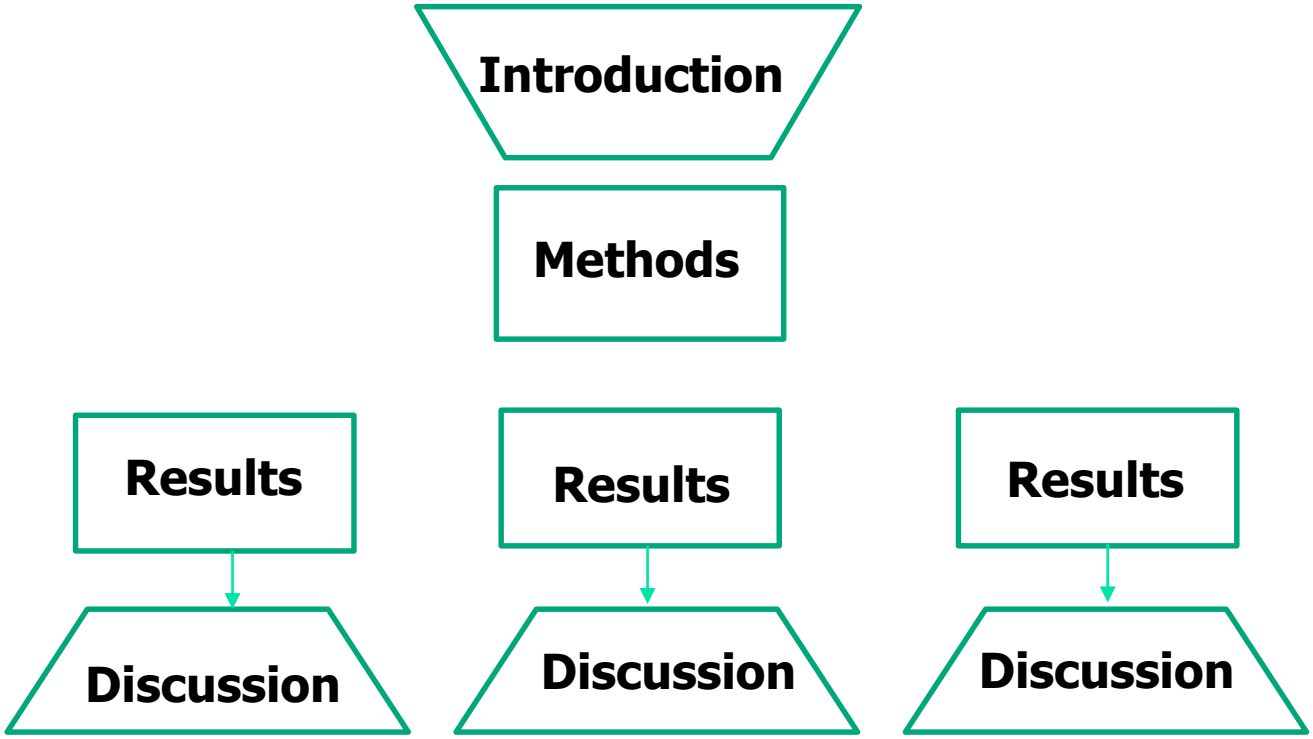
Conclusions

Future

Context

- Introduction
- Current Situation
- Technical Progress
- Where Are We Going?
- Conclusions
- References

Criterion of structure (Comparison)



Comparison paper

AIAA JOURNAL
Vol. 44, No. 6, June 2006

Comparison of Strategies for the Active Control of Buzz-Saw Tones

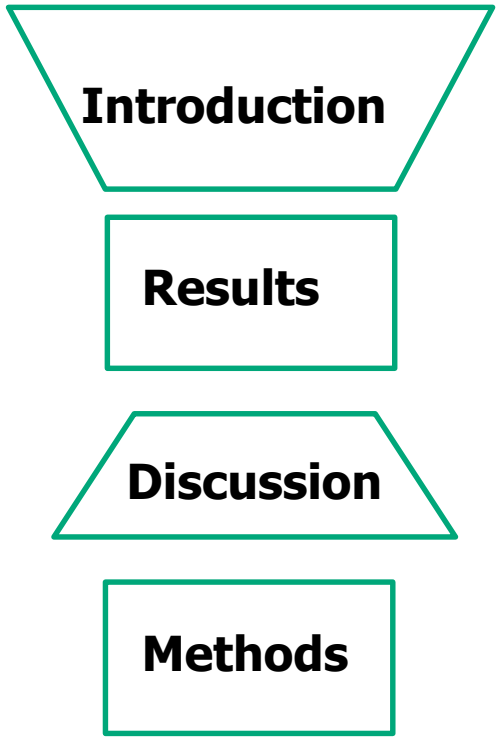
The results are presented of a feasibility study into the use of active control to reduce the low-engine-order components of buzz-saw noise produced in an aeroengine. It is shown that effective control performance can be achieved using a single ring of circumferentially spaced control actuators and a single ring of error sensors. Two control approaches are investigated: the minimization of the sum of the squared pressures at the error sensors, and the minimization of the sum of weighted squared spinning mode amplitudes. A comparison is made between the performance obtained by these control objectives. It is shown that pressure minimization and minimization of spinning mode amplitudes at the duct walls yields identical control performance. It is also shown that the amplitude of the evanescent modes excited by the control actuators is the fundamental factor in limiting control performance when noise and extraneous modes are absent at the error sensors. The variation of sound power reduction vs tip speed is investigated in detail. It is shown that, following control, a new set of resonances arise because of standing waves set up between the secondary sources and the duct exhaust termination and between the sensors and the duct inlet termination. Considerable improvements in control performance can be achieved by weighting the modal control objective such that control is focussed on the buzz-saw mode.

- Introduction
- Modeling of the Buzz-Saw Sound Field in the Engine Duct
- Active Control Strategies
- Control Performance with a Single Ring of Sources and Sensors
- Active Control Performance in Presence of Extraneous Modes and Noise at Error Sensors
- Conclusions

Criterion of structure (Research paper)

- IMRAD:
- Introduction
- Methods
- Results
- Discussion

Criterion of structure (with exceptions)



- IRDAM:
- Introduction
- Results
- Discussion
- Methods
- For example: Cell, Nature, Science, PNAS

History of IMRAD

Louis Pasteur (1822-1895)
Germ theory of disease
Spontaneous generation of disease

Significance of IMRAD

- **Editor**: IMRAD can save page and cost of journal.
- **Reviewer**: IMRAD can save time of review.
- **Author**: IMRAD can help author to organize and write article.

Criterion for Introduction

- Use the introduction to show that you are knowledgeable about your field of study and existing research. Your introduction should contain:
  - A summary of existing research on the subject
  - Your thesis statement, hypothesis or research question
  - Theory (if relevant)
  - An introduction to the field, the current situation or to prevailing practice
- The introduction should explain **what we know, and what we are uncertain about**. It should explain and summarise, but it should also ask questions, clarify, compare etc. **Everything you write here must relate to your research question.**

Criterion for Methods

- Use your method chapter to show that you arrived at your results by applying valid and reliable methods. Explain what you did; your research, treatment or professional intervention, and how you did it.
  - Account for …
  - Document …
  - … for what you did and did *not* do
- **Your method chapter shows how you arrived at your results**

Criterion for Results

- A relatively large part of your paper/thesis should be devoted to your results (findings, data, empirical evidence). In this section you should:
  - Present the findings
  - Organise, classify, analyse and (if relevant) categorise
  - Explain and interpret (e.g., differences between various studies)
  - Assess and evaluate .
- **Your results = the essence of your paper.** The Introduction and Methods chapter should build up to your Results by showing how you arrived at your results (Methods) and their significance (Introduction).

Criterion for Results

- The heart of an experimental article is its presentation of results.
- The use of visuals for photos, graphs, or tables.

Criterion for Discussion

- In this chapter you discuss the results of your study/project.
  - Is it possible to generalise?
  - Make comparisons with other studies
  - Are there alternative explanations?
  - What are the strong and weak aspects of your paper?
  - What are the practical implications?
  - Is more research needed?
  - Make recommendations (to be applied in practice).

Homework

1. Introduce the methods section of your paper in 5 min in your domain on next class
   - Assign 4 students to present and 6 students to question
   - A video camera will record everyone's presentation and replay it on class with a Q & A process.

2. Find 2 research papers from your own field, finding the defects of the organizational structures/patterns