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RESEARCH

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One day CPD Workshop

# Publishing Research in International Journals

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**UET Lahore**

**13<sup>th</sup> November, 2019**

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[Stimulating Creativity and overcoming fear of failure!!! \[Hyperlink\]](#)

**“Imagination is more important than knowledge!”**

*(Albert Einstein)*



# Contents

- How to find a research problem
- Literature review
- Conducting Research Work
- Components of Research paper
- Software: Endnote, Mandely
- Ethics in Publishing
- Journal submission process
- Question Answers (open discussion)

# Opening Remarks

- [DR. ABDULAZIZ I.A. MOHAMED ATABANI](#)

[Introduction to Research](#)



- **Approximately 30,000 years ago some of our ancestors painted on cave walls to tell us stories about their lives and experiences**

<http://life.time.com/culture/lascaux-early-color-photos-of-the-famous-cave-paintings-france-1947/#1>



# The first-time researcher

- ❖ The first time researcher . Undertaking an audit of the skills, knowledge and resources you already possess, and developing a Personal Development Plan for the successful completion of your research.
- ❖ • Getting a flavor of possibilities . Introducing some elements of research design and developing understandings of the varied nature of research.
- ❖ • Why am I doing this research? Exploring your motivations for undertaking research.
- ❖ • Will I have anything new to say? Debunking the idea of originality.
- ❖ • At last, writing up . Planning ahead means ensuring you know the rules, regulations and audiences for your research.



# The first time researcher

Umer has an appointment to see his dissertation supervisor. He is worried. He has no idea what topic he might research or even a clear idea about the different kinds of methodological techniques available to him. His assumption is that it is only great men, who have far more superior skills and knowledge than he might ever possess, who actually do 'real' research. But his intellectual anxieties are only one of his concerns. He also has doubts about whether he will be organized enough to complete a piece of work that he will have to design and execute himself. To date, his only experiences of education have been on courses with set tasks and readings. This dissertation is really going to test him. 'Am I up to it?' he thinks, as he knocks on the supervisor's door.

[Courtesy: Dr. Ali H Kazim]

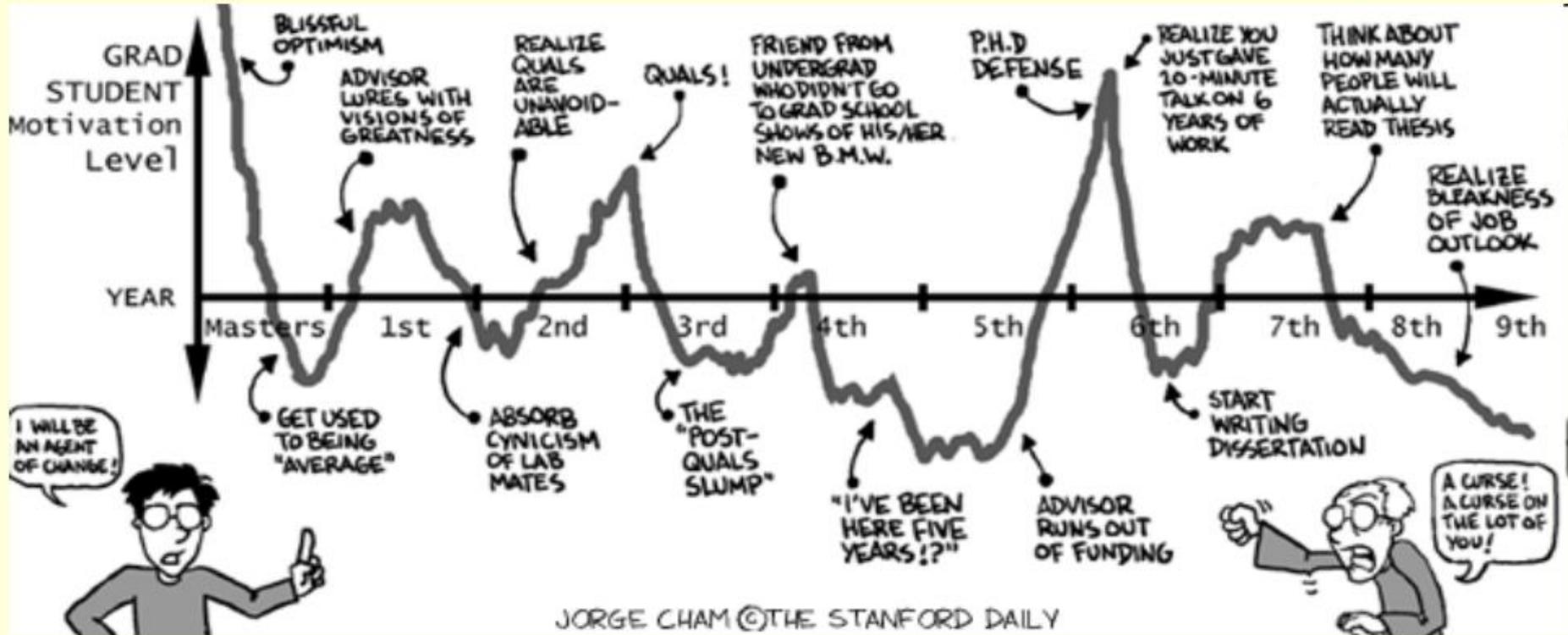


# Is there anything new about my work

It's all been done before. Everything I was planning to do I can now see that other researchers have done before. What's the point, then, of carrying on? Shahid felt a strong sense of rising panic as the deadline for handing in his dissertation was fast approaching. He had completed all the data collection and had also completed quite a lot of the analysis. He realized that his findings were not terribly new to anyone who knew his research field. They also confirmed much of what he had previously thought was the case.



# Are you Ready: [\[Hyperlink\]](#)





# In Class Exercise

What are key characteristics of the best manuscript you have ever read?



# What is Research

Research and experimental development is formal work which is undertaken systematically to increase the stock of knowledge, including knowledge of humanity, culture and society, and the use of this stock of knowledge to devise new applications.

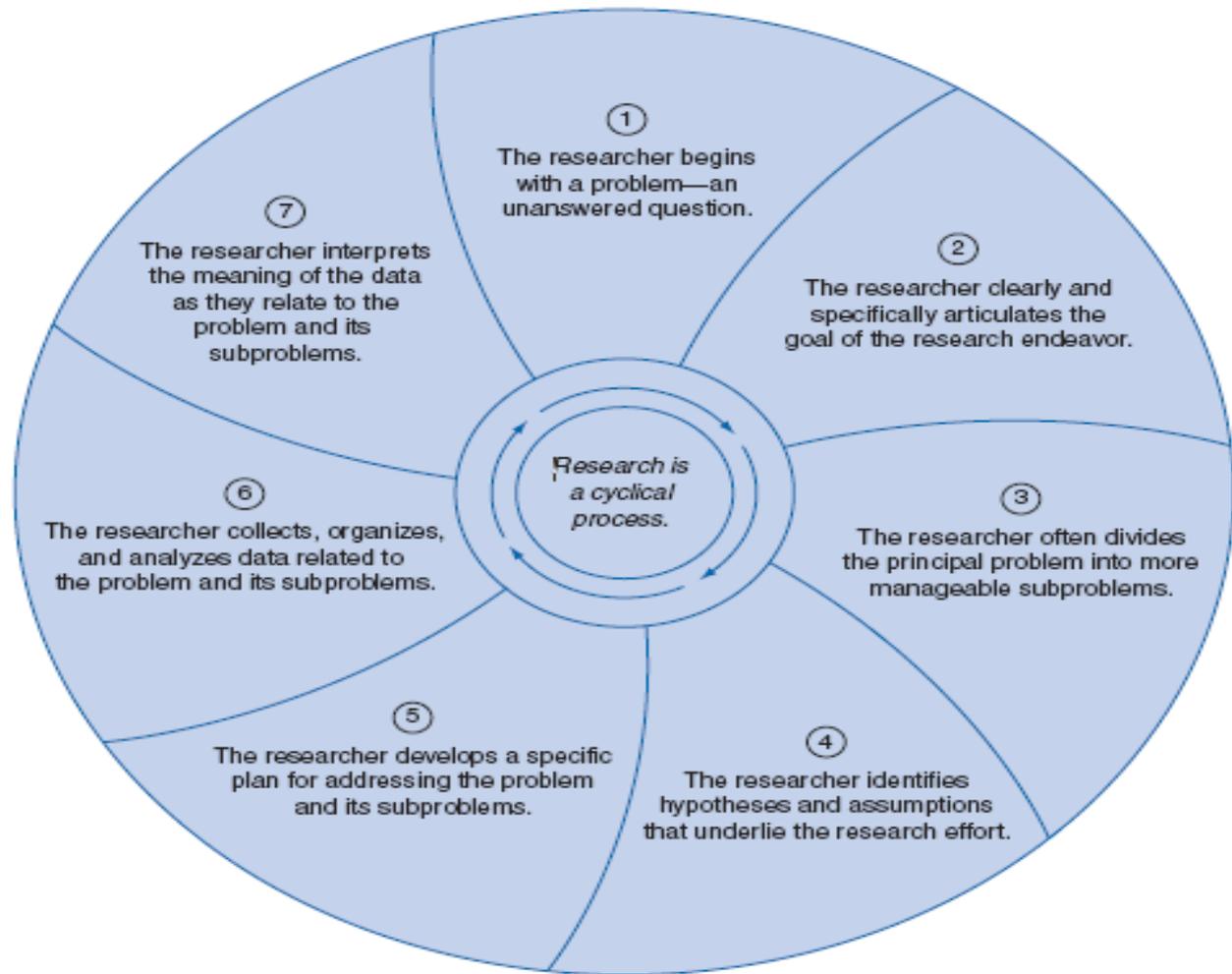


# What is Research

Research is a process of investigation. An examination of a subject from different points of view. It's not just a trip to the library to pick up a stack of materials, or picking the first five hits from a computer search. Research is a hunt for the truth. It is getting to know a subject by reading up on it, reflecting, playing with the ideas, choosing the areas that interest you and following up on them. Research is the way you educate yourself.



# Research is a cyclical process





# Thought Question

What is it that distinguishes a very good manuscript from a bad one?



# Objectives

- What steps do I need to take before I write my paper?
- How can I ensure I am using proper manuscript language?
- How do I build up my article properly?



**What steps do I need to take before I write my paper?**



# Determine if you are ready to publish

You should consider publishing if you have information that advances understanding in a specific research field

## This could be in the form of:

- Presenting new, original results or methods
- Rationalizing, refining, or reinterpreting published results
- Reviewing or summarizing a particular subject or field

If you are ready to publish, a strong manuscript is what is needed next



# What is a strong manuscript?

- Has a clear, useful, and exciting message
- Presented and constructed in a logical manner
- Reviewers and editors can grasp the significance easily

**Editors and reviewers are all busy people –  
make things easy to save their time**

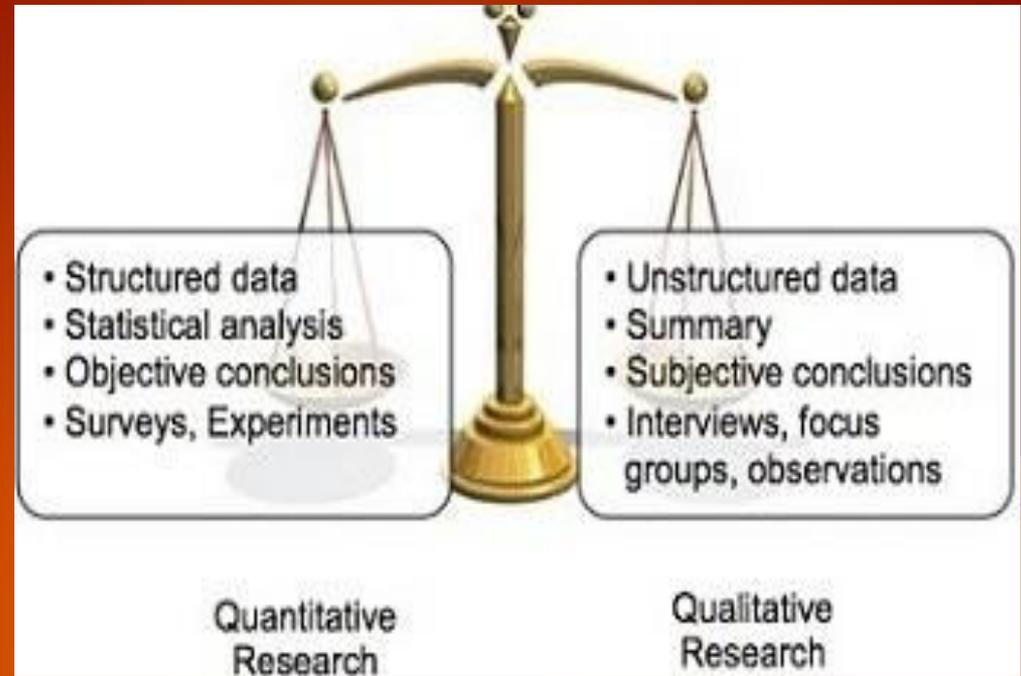
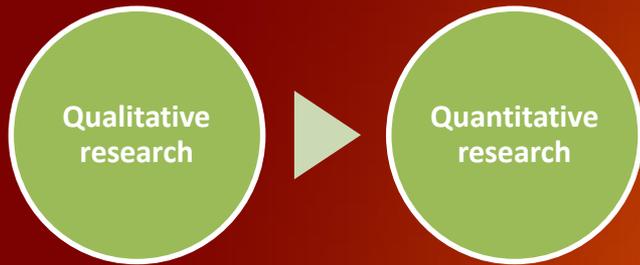


# Steps in Conducting Research

- Identification of research problem
- Literature review
- Specifying the purpose of research
- Determine specific research questions or hypotheses
- Data collection
- Analyzing and interpreting the data
- Reporting and evaluating research



# Research Methods





# Choosing a Topic

- Be sure about the area (Big picture).
- Will it get me out of bed early on a wet Monday morning? Or, if you are an early morning person:
- Will I want to work on it on Friday evening?

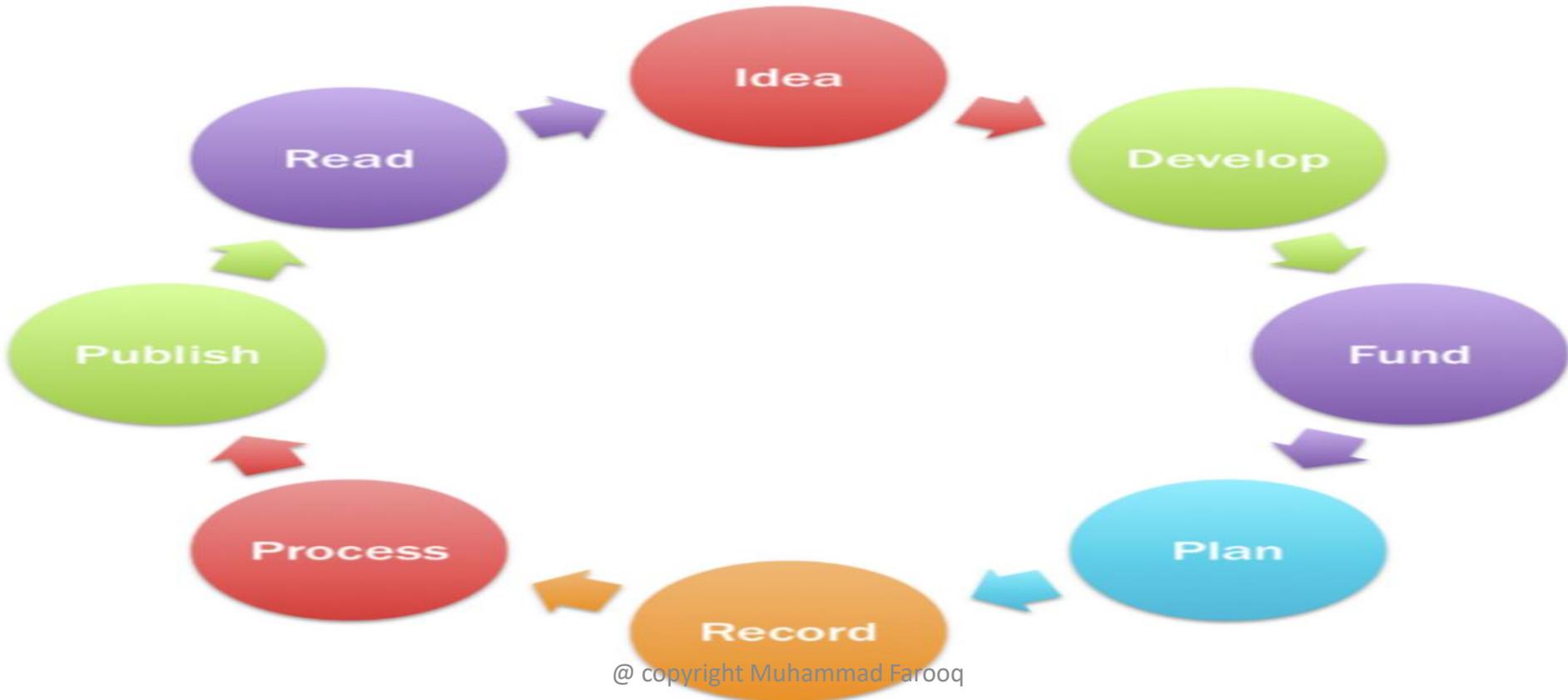


## Size of topic and time available

- Not too big, not too small, but doable within the time, space and resources available.
- Look how long have the previous MSc/PhD students have taken.

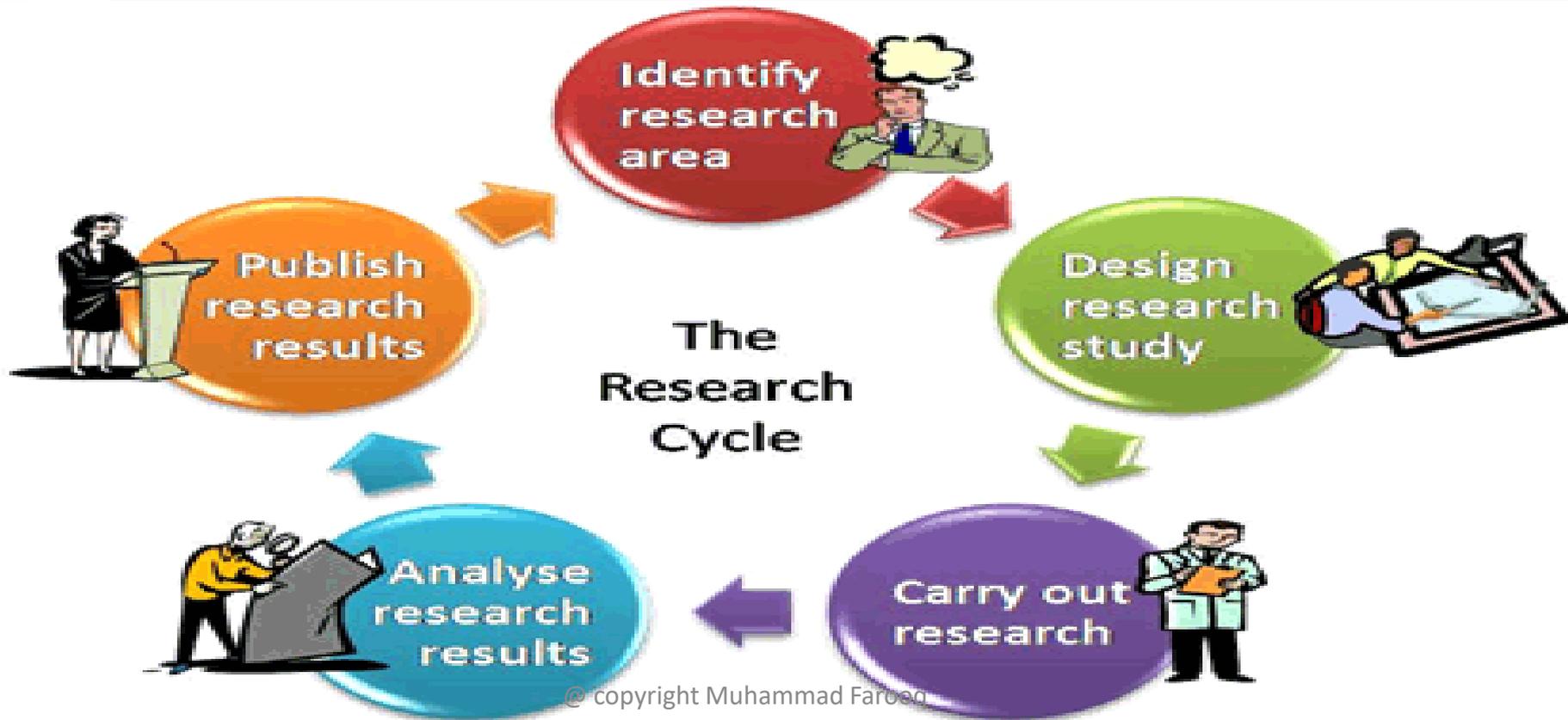
# [SURPRIZE QUIZ]







# Research Cycle





# Ultimate Aim





# Role of Data in Research

## Role of Data in Research

Gather data using data collection instrument



Reading about research leads to new research questions



Others learn about research in newspapers and scholarly journals

Create a data file from instrument (questionnaire)



Analyze data statistically ; produce charts and tables



Write about findings



# Innovation





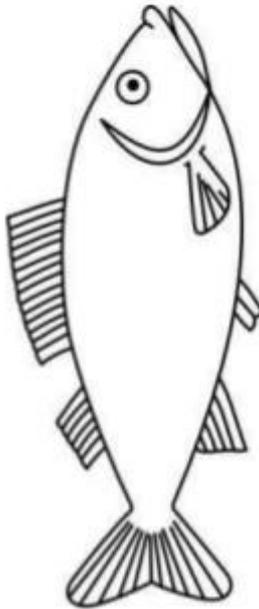
# Things that may GO wrong:

- 1) You run out of time.
- 2) Access is refused by a key institution or individual.
- 3) A key contact in an organization you are studying leaves.
- 4) You discover that someone has already done your research.
- 5) You lose your job.
- 6) Your response rate is very low.
- 7) Your manager or supervisor interferes with your plans.
- 8) You fall ill.
- 9) You change your job, making access to the site of your research difficult.
- 10) You split up with your partner.



- 11) You lose the citation for a key reference.
- 12) You find that you have too much data to analyse, or too little.
- 13) Your tape recorder doesn't work, or runs out of batteries.
- 14) You run out of money.
- 15) You cannot find key references in your library.
- 16) You are absolutely fed up with your project.
- 17) You have written too much, or too little.
- 18) Your computer crashes.
- 19) The margins on your text are not the right size for binding.

## General structure of a research article



- Title
  - Abstract
  - Keywords
- 
- Main text (IMRAD)
    - Introduction
    - Methods
    - Results
    - And
    - Discussions
- 
- Conclusion
  - Acknowledgement
  - References
  - Supplementary data

Make them easy for indexing and searching (informative, attractive, effective)

Journal space is not unlimited, more importantly, your reader's time is scarce. Make your article as concise as possible.



# Getting Ready With Data

- Gather all important data, analyses, plots and tables
- Organize results so that they follow a logical sequence
- Consolidate data plots and create figures for the manuscript



# Decide the most appropriate type of manuscript

- Conference Papers
- Full articles/Original articles
- Short communications/letters
- Review papers/perspectives
  - Self-evaluate your work: Is it sufficient for a full article? Or are your results so thrilling that they need to be shown as soon as possible?
  - Ask your supervisor and colleagues for advice on manuscript type. Sometimes outsiders see things more clearly than you.



# Conference Papers

- Excellent for disseminating early or in-progress research findings
- Typically 5-10 pages, 3 figures, 15 references
- Draft and submit the paper to conference organisers
- Good way to start a scientific research career

## Sample Conference Paper titles:

- **“Global Warming Prevention Technologies in Japan” at 6<sup>th</sup> Greenhouse Gas Control Technologies International Conference**
- **“Power consumption in slurry systems” at 10<sup>th</sup> European Conference on Mixing**



# Full articles/Original article

- Standard for disseminating completed research findings
- Typically 8-10 pages, 5 figures, 25 references
- Draft and submit the paper to appropriate journal
- Good way to build a scientific research career

## Sample full article titles:

- “Hydrodynamic study of a liquid/solid fluidized bed under transverse electromagnetic field”
- “Retinoic acid regulation of the Mesp–Ripply feedback loop during vertebrate segmental patterning”
- “Establishing a reference range for bone turnover markers in young, healthy women”



# Short Communications Articles

- Quick and early communications of significant, original advances.
- Much shorter than full articles.

## Sample Short Communications titles:

- PLEASE ADD IN SUITABLE EXAMPLES FROM YOUR DISCIPLINE.



# Review papers/perspectives

- Critical synthesis of a specific research topic
- Typically 10+ pages, 5+ figures, 100 references
- Typically solicited by journal editors
- Good way to consolidate a scientific research career

## Sample full article titles:

- “Advances in the allogeneic transplantation for thalassemia”
- “Stress and how bacteria cope with death and survival”
- “Quantifying the transmission potential of pandemic influenza”

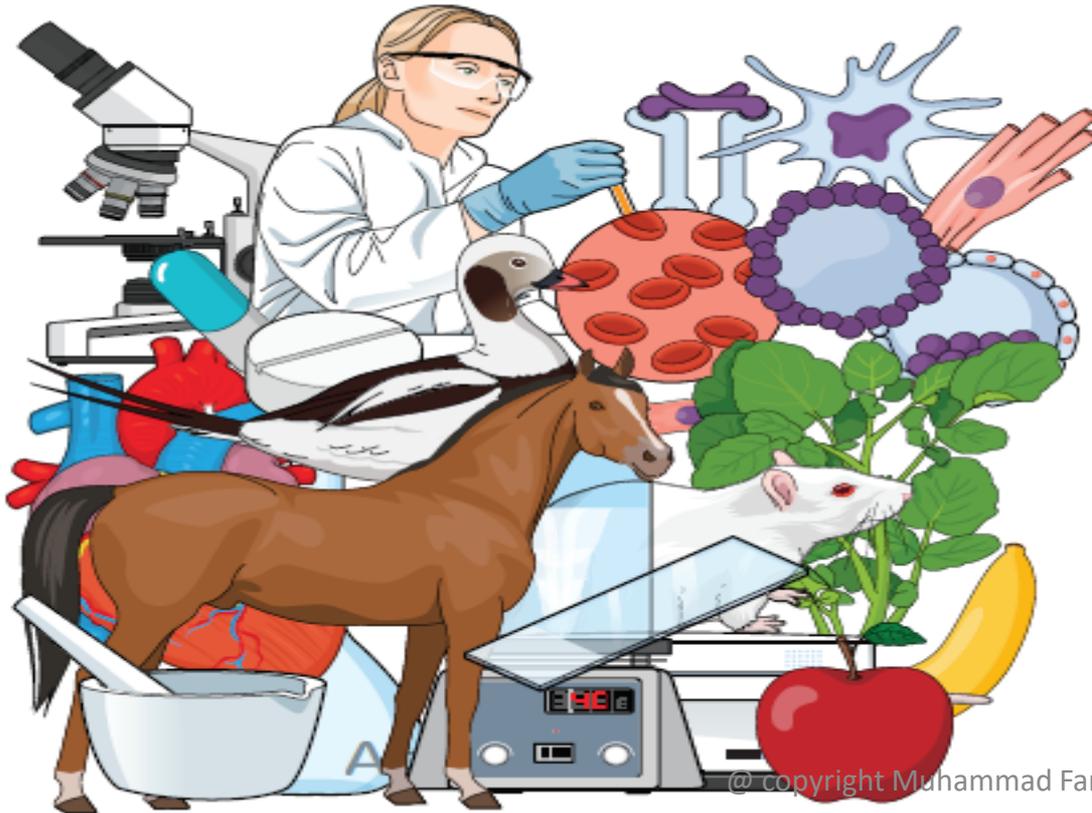


# First Draft

- Identify two or three important findings emerging from the experiments. Make them the central theme of the article.
- Note the readership of the journal that you are considering to publish your work.
- Prepare figures, schemes and tables in a professional manner



# Structure of a Scientific Paper



Title  
Introduction  
Materials & Methods  
Results  
Graphs & Tables  
Pictures & Illustrations  
Discussion  
References  
Abstract  
Keywords



# Article Structure

- **Title**
- **Authors**
- **Abstract**
- **Keywords**

Need to be accurate and informative for effective indexing and searching

- **Main text**
  - Introduction
  - Methods
  - Results
  - Discussion (Conclusion)

Each has a distinct function

- **Acknowledgements**
- **References**
- **Supplementary material**

Section [Length]	Purpose	Verb Tense	Elements
<b>Abstract</b> [200-250 words]	Mini-version of the paper	Simple-past – refers to work done	<ul style="list-style-type: none"> <li>Principal objectives</li> <li>Methods used</li> <li>Principal results</li> <li>Main Conclusions</li> </ul>
<b>Introduction</b> [500-1,000 words] <b>Literature Review</b> [1,000-2,000 words]	Provides rationale for the study	Present – refers to established knowledge in the literature	<ul style="list-style-type: none"> <li>Nature &amp; scope of the problem</li> <li>Review of relevant literature</li> <li>Hypothesis</li> <li>Approach (and justification for this approach)</li> <li>Principal results</li> <li>Main conclusions</li> </ul>
<b>Method &amp; Materials</b> [500-1,000 words] <ul style="list-style-type: none"> <li>Sampling</li> <li>Data Collection</li> <li>Measurement</li> </ul>	Describes what was done – experiment, model, or field study	Simple past – refers to work done	<ul style="list-style-type: none"> <li>Description of materials</li> <li>Description of procedure in logical order</li> <li>Sufficient detail so that procedure can be reproduced</li> </ul>
<b>Results</b> [500-1,500 words] <ul style="list-style-type: none"> <li>Analysis</li> </ul>	Presents the data, the facts – what you found, calculated, discovered, observed	Simple past – refers to what was found, observed	<ul style="list-style-type: none"> <li>Your results</li> <li>Your observations during experiments/fieldwork</li> <li>Your observations about the results (e.g., compare/contrast between experiments)</li> <li>Results of calculations using the data, such as rates or error</li> </ul>
<b>Discussion</b> [1,000-1,500 words] <ul style="list-style-type: none"> <li>Evaluation</li> </ul>	<ul style="list-style-type: none"> <li>Shows the relationships among the facts</li> <li>Puts results in context of previous research</li> </ul>	Present – emphasis on established knowledge, present results	<ul style="list-style-type: none"> <li>Trends, relationships, generalizations shown by the results</li> <li>Any exceptions, outlying data (and why)</li> <li>How your results agree/disagree with previous studies, and why</li> </ul>
<b>Conclusions</b>	Summarizes your principal findings	Present – emphasis on what should now be accepted as established knowledge	<ul style="list-style-type: none"> <li>Conclusions should relate back to the introduction, the hypothesis</li> <li>Summary of evidence supporting each conclusion</li> <li>Implications, the significance of your results or any practical applications</li> </ul>
<b>Title</b> [8-15 words]	Draws readers' interest		



# Title

As you craft a name for your paper, you should consider these potential objectives for the title you choose. A title should:

- Describe the content of the paper
- Distinguish the paper from others on a similar topic
- Catch the reader's attention and interest
- Match search queries so people will find your paper (and cite it)



A good title should contain the **fewest** possible words that **adequately** describe the contents of the paper

### DO

Convey the main findings of the research

Be specific

Be concise

Be complete

Attract readers

### DON'T

Use unnecessary jargon

Use uncommon abbreviations

Use ambiguous terms

Use unnecessary details

Focus on part of the content only



# Authorship

## General principles for who is listed first

- First Author
  - Conducts and/or supervises the data generation and analysis and the presentation and interpretation of the results
  - Puts paper together and submits the paper to the journal
- Corresponding author
  - The first author or a senior author from the institution



# Abstract

- It is not easy to include all this information in just a few words. Start by writing a summary that includes whatever you think is important, and then gradually prune it down to size by removing unnecessary words, while still retaining the necessary concepts.
- Don't use abbreviations or citations in the abstract. It should be able to stand alone without any footnotes.



# Abstract

The quality of an abstract will strongly influence the editor's and potential reader's decision

A good abstract:

- Is precise and honest
- Can stand alone
- Uses no technical jargon or acronyms
- Is brief and specific
- Cites no references

Use the abstract to “sell” your article



# Abstract

**A Good Abstract Should State:**

- What problem or issue was addressed?**
- What was done?**
- How was it done?**
- What was found or learned?**
- What was recommended?**



# Keywords

**Keywords are important for indexing: they enable your manuscript to be more easily identified and cited**

**Check the Guide for Authors for journal requirements for key word limits**

- **Keywords should be specific**
- **Avoid uncommon abbreviations and general terms**



# Introduction

**Provide the necessary background information to put your work into context**

**It should be clear from the introduction:**

- **Why the current work was performed**
  - objectives
  - significance
- **What has been done before**
- **What was done (in brief terms)**
- **What was achieved (in brief terms)**



# Introduction

## DO

- Consult the Guide for Authors for word limit
- “Set the scene”
- Outline “the problem” and hypothesis(es)
- Ensure that the literature cited is balanced, up to date and relevant
- Define any non-standard abbreviations and jargon



# Introduction

## DON'T

- Write an extensive review of the field
- Disproportionately cite your own work, work of colleagues or work that only supports your findings while ignoring contradictory studies or work by competitors
- Describe methods, results or conclusions other than to outline what was done and achieved
- Overuse terms like “novel” and “for the first time”



## MATERIALS AND METHODS [Hyperlink]

- How did you answer this question? There should be enough information here to allow another scientist to repeat your experiment. Look at other papers that have been published in your field to get some idea of what is included in this section.
- If you had a complicated protocol, it may helpful to include a diagram, table or flowchart to explain the methods you used.



# MATERIALS AND METHODS

- Do not put results in this section. You may, however, include preliminary results that were used to design the main experiment that you are reporting on. ("In a preliminary study, I observed the owls for one week, and found that 73 % of their locomotor activity occurred during the night, and so I conducted all subsequent experiments between 11 pm and 6 am.")
- Mention relevant ethical considerations. If you used human subjects, did they consent to participate. If you used animals, what measures did you take to minimize pain?



# RESULTS

- This is where you present the results you've gotten. Use graphs and tables if appropriate, but also summarize your main findings in the text. Do NOT discuss the results or speculate as to why something happened; that goes in the Discussion.
- You don't necessarily have to include all the data you've gotten during the semester. This isn't a diary.
- Use appropriate methods of showing data. Don't try to manipulate the data to make it look like you did more than you actually did.



# Results

## The main findings of the research

### DO

- Use figures and tables to summarize data
- Show the results of statistical analysis
- Compare “like with like”

### DON'T

- Duplicate data among tables, figures and text
- Use graphics to illustrate data that can easily be summarized with text



# DISCUSSION

Highlight the most significant results, but don't just repeat what you've written in the Results section. How do these results relate to the original question? Do the data support your hypothesis? Are your results consistent with what other investigators have reported? If your results were unexpected, try to explain why. Is there another way to interpret your results? What further research would be necessary to answer the questions raised by your results? How do your results fit into the big picture?



# Discussion

## Provide answers to the questions:

- How do the results relate to the study's objectives, hypotheses or research questions?
- How do the findings relate to previous work done by others or by you and your team?
- What are the possible interpretations of your findings? Which do you prefer? Why?
- What are the limitations of your study?



## Avoid

- Making “grand statements” that are not supported by the data

**Example:** “This novel treatment will massively reduce the prevalence of malaria in the third world”

- Introducing new results or terms



# Graphics

***“Readers... often look at the graphics first and many times go no further. Therefore, the author and the reviewer should be particularly sensitive to inclusion of clear and informative graphics.”***

***– Henry Rapoport, Associate Editor, Journal of Organic Chemistry***



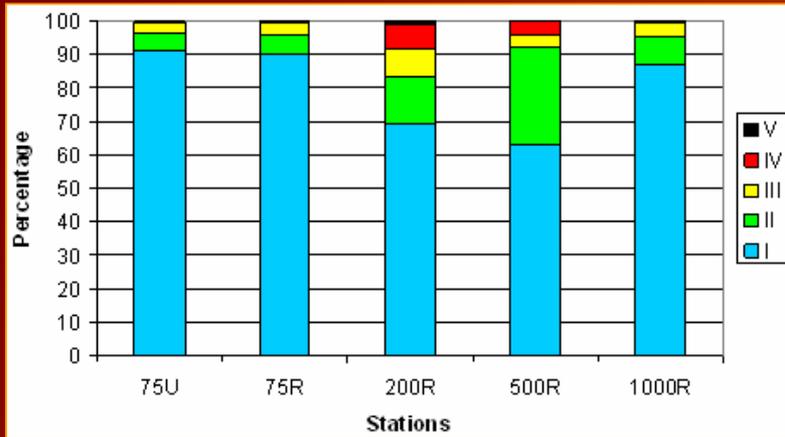
## Graphics

**Figures and tables can be the most effective way to present results**

- Captions should be complete sentences and be able to stand alone, so that the figures and tables are understandable without the need to read the entire manuscript!
- The data represented should be easy to interpret
- Colour should only be used when necessary



# Graphics



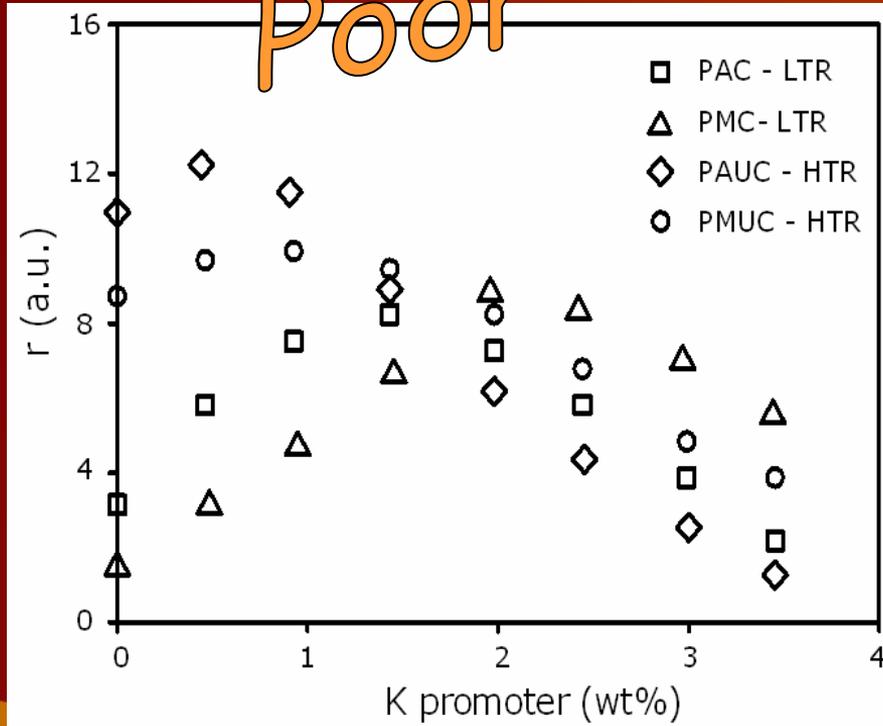
The figure and table show the same information, but the table is more direct and clear

ECOLOGICAL GROUP					
Station	I	II	III	IV	V
<b>75U</b>	91.3	5.3	3.2	0.2	0.0
<b>75R</b>	89.8	6.1	3.6	0.5	0.0
<b>200R</b>	69.3	14.2	8.6	6.8	1.1
<b>500R</b>	63.0	29.5	3.4	4.2	0.0
<b>1000R</b>	86.7	8.5	4.5	0.2	0.0



# Graphics

Poor

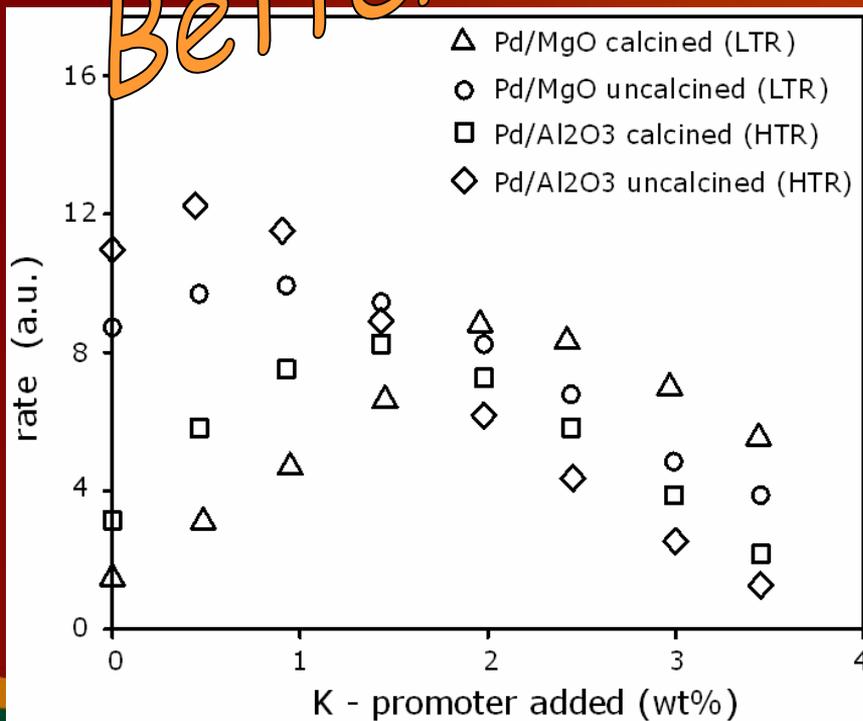


- Legend is poorly defined
- Graph contains too much data
- No trend lines



# Graphics

Better

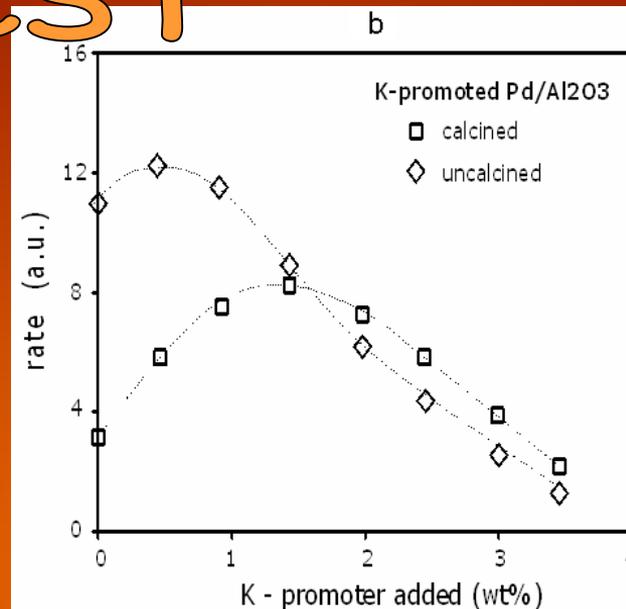
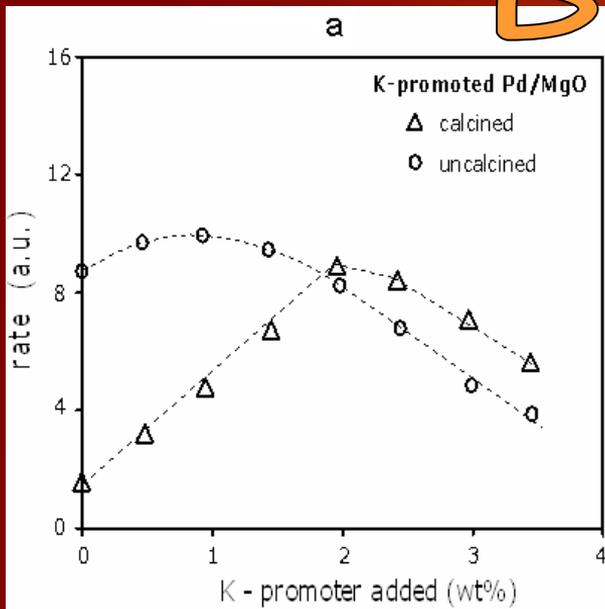


- Legend is well defined but there is still too much data and no trendlines



# Graphics

# Best



- Legend is clear
- Data are organized better
- Trend lines are present



# Conclusion

- Your conclusion is your chance to have the last word on the subject. The conclusion allows you to have the final say on the issues you have raised in your paper, to summarize your thoughts, to demonstrate the importance of your ideas, and to propel your reader to a new view of the subject. It is also your opportunity to make a good final impression and to end on a positive note.
- Your conclusion can go beyond the confines of the assignment. The conclusion pushes beyond the boundaries of the prompt and allows you to consider broader issues, make new connections, and elaborate on the significance of your findings.



# Conclusion

Your conclusion should make your readers glad they read your paper. Your conclusion gives your reader something to take away that will help them see things differently or appreciate your topic in personally relevant ways. It can suggest broader implications that will not only interest your reader, but also enrich your reader's life in some way. It is your gift to the reader.



# Acknowledgements

**Acknowledge anyone who helped you with the study, including:**

- Anyone who helped with the writing or English, or offered critical comments about the content
- Researchers who supplied materials or reagents
- Anyone who provided technical help

**State why people have been acknowledged and ask their permission**

**Acknowledge sources of funding, including any grant or reference numbers**



# References

It is important to properly and appropriately cite references in scientific research papers in order to acknowledge your sources and give credit where credit is due. Science moves forward only by building upon the work of others. There are, however, other reasons for citing references in scientific research papers. Citations to appropriate sources show that you've done your homework and are aware of the background and context into which your work fits, and they help lend validity to your arguments. Reference citations also provide avenues for interested readers to follow up on aspects of your work -- they help weave the web of science. You may wish to include citations for sources that add relevant information to your own work, or that present alternate views.



# Supplementary material

Information related to and supportive of the main text, but of secondary importance

Includes:

- **Microarray data**
- **Method validation**
- **Additional controls**
- **Video data**

**Will be available online when the manuscript is published**



***“Journal editors, overloaded with quality manuscripts, may make decisions on manuscripts based on formal criteria, like grammar or spelling. Don't get rejected for avoidable mistakes; make sure your manuscript looks perfect”***

***Arnout Jacobs, Elsevier Publishing***

**Thus, both the science and the language need to be of top quality!**



## Manuscript Language – Overview

**Write with clarity, objectivity, accuracy, and brevity**

- **Key to successful manuscript writing is to be alert to common errors:**
  - Sentence construction
  - Incorrect tenses
  - Inaccurate grammar
  - Mixing languages

**Check the Guide for Authors of the target journal for any language specifications**



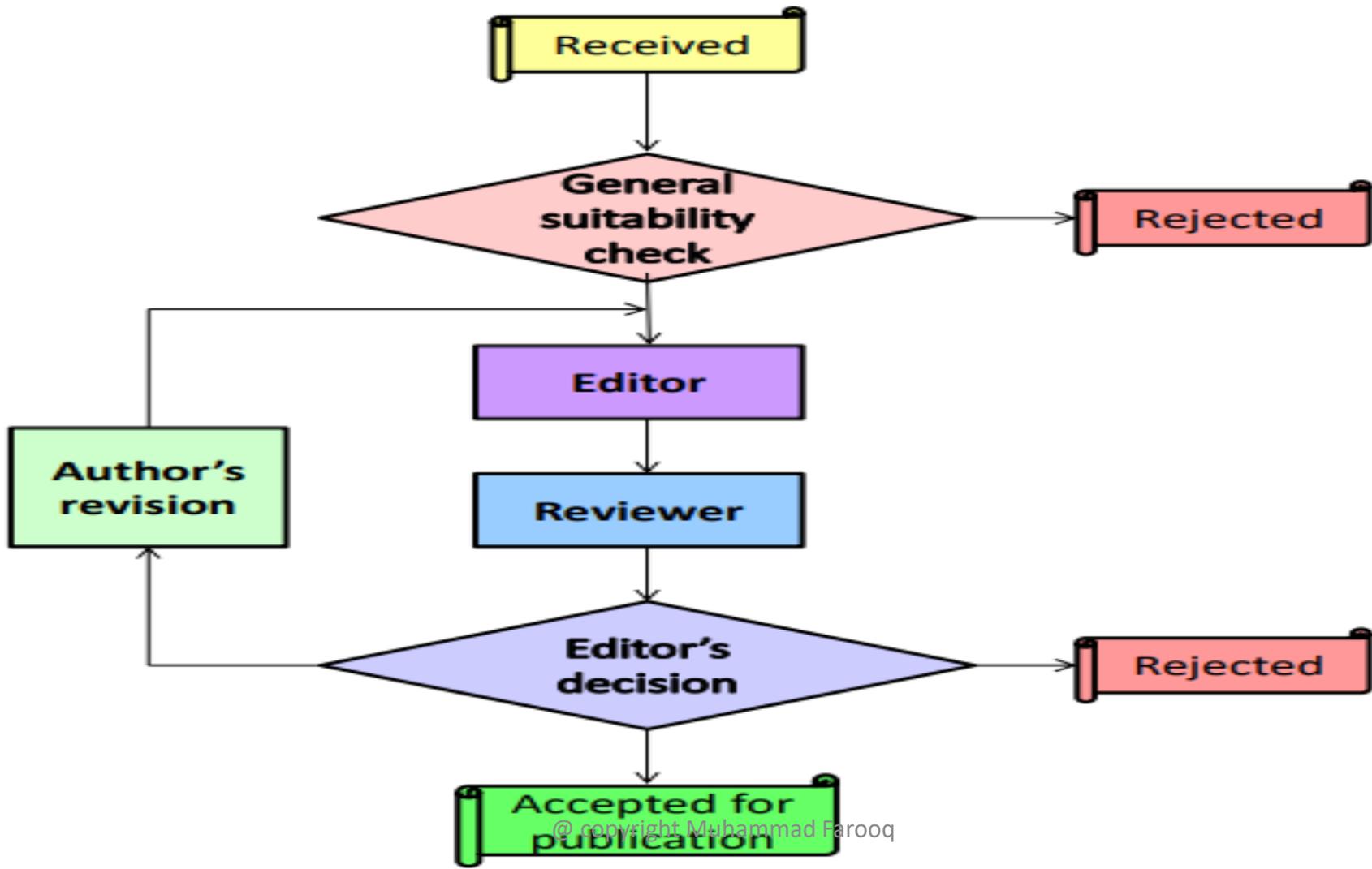
# Software: Endnote, Mendeley

- Online Practice



# Journal Submission Process

- Online Practice





# Layout

- **Keep line spacing, font and font size consistent throughout – double-spaced 12-point Times New Roman is preferred**
- **Use consistent heading styles throughout and no more than three levels of heading**
- **Number the pages**
- **Number the lines of each page, if the journal requires – check the Guide for Authors**
- **Order and title sections as instructed in the Guide for Authors – Figure and Table sections are normally together following References**



# Length

*“...7,500 to 8,500 is the ideal length for a submitted manuscript, including ESSENTIAL data only”*

**Consult the Guide for Authors  
for word and graphic limits**



## Final checks

### Revision before submission can prevent early rejection

What can I do to ensure my paper is in the best possible state prior to submission?

- Ask colleagues to take a look and be critical
- Check again that everything meets the requirements requested in the Guide for Authors!
- Check that the scope of the paper is appropriate for the selected journal – change the journal rather than submit inappropriately to the wrong journal for your article.



## Cover letter

- This is your chance to speak to the editor directly
- Keep it brief, but convey the particular importance of your manuscript to the journal
- Suggest potential reviewers

This is your opportunity to convince the journal editor that s/he should publish your study, so it is worth investing time in the cover letter.



# Cover letter

## Include:

- **Editor name – Address to journal editor, not generic**
- **First sentence – provide title, author list and journal name**
- **Briefly describe:**
  - **your research area and track record**
  - **the main findings of your research**
  - **the significance of your research**
- **Confirm the originality of the submission**
- **Confirm that there are no competing financial interests**



# Final checks

**Re-Review before submission can prevent early rejection!!!**

**What can I do to ensure my paper is in the best possible state prior to submission?**

- If necessary, get a colleague or approved editing service to improve the language and ensure that the manuscript possesses the three “C”s
- Ensure that the literature cited is balanced and that the aims and purpose of the study, and the significance of the results, are clear
- Use a spellchecker



# Language Editing Services

Recommended companies include:

- Edanz Editing
- Liwen Bianji
- International Science Editing
- Asia Science Editing
- SPI Publisher Services
- Diacritech Language Editing

## Service

Use of an English-language editing service listed here is not mandatory, and will not guarantee acceptance for publication in Elsevier journals but it will help to improve your chances that your manuscript will be accepted!



# Ethical Issues



## **Unethical behavior “can earn rejection and even a ban from publishing in the journal”**

Terry M. Phillips, Editor, *Journal of Chromatography B*

### **Unethical behaviour includes:**

- **Multiple submissions**
- **Redundant publications**
- **Plagiarism**
- **Data fabrication and falsification**
- **Improper use of human subjects and animals in research**
- **Improper author contribution**



# Multiple submissions

Multiple submissions save your time but **waste editor's time and it is unethical!**

The editorial process of your manuscripts will **be completely stopped** if the duplicated submissions are discovered!!

*“It is considered to be unethical...We have thrown out a paper when an author was caught doing this. I believe that the other journal editor do the same thing”*

James C. Hower, Editor, *International Journal of Coal Geology*



# Multiple submissions

Competing journals constantly exchange information on suspicious papers

You should not send your manuscripts to a second journal **UNTIL** you receive the **'reject'** decision from the first journal

**DON'T DO IT!!**



# Redundant publication

**An author should not submit for consideration in another journal a previously published paper**

- **Published studies should not be republished!**
- **Previous publication of an abstract and short conference paper in the proceedings of conferences does not preclude subsequent submission for publication, but full disclosure should be made at the time of submission**



# Redundant publication

- Re-publication of a paper in another language is acceptable, provided that there is **full and prominent disclosure of its original source** at the time of submission
- At the time of submission, authors should disclose details of related papers, even if in a different language, and similar papers *in press*



# Plagiarism

*“Plagiarism is the appropriation of another person’s ideas, processes, results, or words without giving appropriate credit, including those obtained through confidential review of others’ research proposals and manuscripts”*

**Federal Office of Science and  
Technology Policy, 1999**



# Plagiarism

*“Presenting the data or interpretations of others without crediting them, and thereby gaining for yourself the rewards earned by others, is theft, and it eliminates the motivation of working scientists to generate new data and interpretations”*

**Bruce Railsback, Professor, Department of Geology, University of Georgia**

For more information on plagiarism and self-plagiarism, please see:  
<http://facpub.stjohns.edu/~roigm/plagiarism/>



# Plagiarism

**Plagiarism is a serious offence that could lead to paper rejection, academic charges and termination of employment. It will seriously affect your scientific reputation!**

**DON'T DO IT!**

**Unacceptable paraphrasing, even with correct citation, is also plagiarism!**



# Data fabrication and falsification

- Fabrication is making up data or results, and recording or reporting them
- Falsification is manipulating research materials, equipment, processes; or changing / omitting data or results such that the research is not accurately represented in the research record

**“The most dangerous of all falsehoods is a slightly distorted truth”**

**G.C. Lichtenberg (1742–1799)**



# Improper author contribution

**Authorship credit should be based on**

- 1. Substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data**
- 2. Drafting the article or revising it critically for important intellectual content**
- 3. Final approval of the version to be published**

**Authors should meet conditions 1, 2, and 3. Those who have participated in certain substantive aspects of the research project should be acknowledged or listed as contributors. Check the **Guide for Authors** and ICMJE guidelines: <http://www.icmje.org/>**



# Read article in 5 mins (Not for beginners)

- ❖ Order of reading
  - ❖ • Abstract
  - ❖ Introduction
  - ❖ • Conclusion
  - ❖ • Analyze figure
  - ❖ • Experimental section
  - ❖ • Don't forget to annotate and use Mendeley
  - ❖ • Make summary



Thank  
you!!