

GENERAL NOTES ON TECHNICAL WRITING

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OUTLINE

- How to design a writing plan?
- How to plot a smart figure?
- How to create a smart table?
- How to reference the information?

HOW TO DESIGN A WRITING PLAN?

HOW TO DESIGN A WRITING PLAN?

One Subject (Master Thesis or Research Paper)

- Title
- Abstract
 1. Introduction
 2. Data and Methods
 3. Results
 4. Discussion
 5. Conclusions
- Acknowledgement
- References

HOW TO DESIGN A WRITING PLAN?

Two or More Subjects (PhD Dissertations)

- **Title**
- **Abstract**

1. Introduction

2. First subject

- 2.1. Preface
- 2.2. Data and Methods
- 2.3. Results
- 2.4. Discussion

3. Second subject

- 3.1. Preface
- 3.2. Data and Methods
- 3.3. Results
- 4.4. Discussion

4. Third subject

- **Conclusions**
- **Acknowledgement**
- **References**

BEFORE YOU EVEN START WRITING

- Divide each topic into several subtopics.
- Divide each subtopic into paragraphs.
- Adjust and update your plan as your research progresses.

TITLE

- How to choose a good title?
- A good title does several functions:
 - **First**, it predicts content.
 - **Second**, it catches the reader's interest.
 - **Third**, it reflects the tone or slant of the piece of writing.
 - **Fourth**, it contains keywords that will make it easy to access by a computer search.
- Keeping these functions in mind will help a writer **choose a specific and meaningful title, not a mere label.**

IMPORTANT NOTES

Each title of researches in geology **usually** consists of following:

(1) Subject, (2) location, and (3) method

Examples:

Seismotectonics of Northern Iraq using Moment Tensor Inversion

Probabilistic Seismic Hazard Assessment for Iraq

Avoid long title

GOOD TITLES

- Major Cretaceous Tectonic Events in Iraq

Nazar M.S. Numan (2000)

- Tectonic and Structural Evolution of the Mesopotamia Plain

Saffa F.A. Fouad and Varoujan K. Sissakian (2010)

BAD TITLES

- Evaluation of Tertiary Succession **Rocks** in Amara Oil Field, SE Iraq, Using 2D Seismic Reflection Data
- **Structural and Stratigraphic** Evaluation of Tertiary Successions in Amara Oil Field, SE Iraq, Using 2D Seismic Reflection Data

Do you have any other suggestion(s)?

ABSTRACT

- Why is the abstract so important?

“A poorly written abstract says the author is inexperienced or doesn’t care about quality.”

1. **Journal editors and reviewers** pay close attention to the abstract because it is a good predictor of the quality of the paper.
2. In the case of a **conference paper**, the abstract will determine whether it is accepted or not for presentation to colleagues.
3. It is often the only section of a paper that is read and usually determines whether **a reader downloads and reads the rest of the paper**.

HOW TO WRITE A SCIENTIFIC ABSTRACT?

- The four-part structure provided below will serve as a basic guideline.
1. What **problem** did you study and why is it important?
 2. What **methods** did you use to study the problem?
 3. What were your **key findings**?
 4. What did you **conclude** based on these findings and what are the **broader implications**?

IMPORTANT NOTES

- **Avoid the cut-and-paste approach** when crafting your abstract and instead write a unique, standalone summary.
- Report only those **numbers** that represent the **most important information**.
- Many journals discourage or **prohibit** including **citations**.
- Be sure to **stay within the word limit**, which most journals and conferences set for abstracts (150 to 300 words).

The abstract consists of ONE paragraph

INTRODUCTION

- The introduction leads the reader from a general subject area to a particular topic of inquiry.
- It establishes the **scope**, **context**, and **significance** of the research being conducted by:
 1. **Location of the study area**
 2. **Aim of study**
 3. **Previous studies**
 4. **Data and Methods (briefly)**
 5. **Paper overview.**

EXAMPLE STRUCTURE OF AN INTRODUCTION

- **Introductory paragraph:**
 - Give a general introduction to the topic for broad audience
 - Narrow the focus to your particular topic
 - State your research problem and aims
- **Literature review (usually several paragraphs):**
 - Summarize the **relevant** literature on your topic
 - Describe the current state of the art
 - Note any gaps in the literature that your study will address
- **Research targets (usually one paragraph):**
 - State your hypothesis or research question
 - Briefly describe how you will accomplish your aims
 - Give a preview of your main results and state the contribution of the work (optional)
- **Paper overview (optional; one paragraph):**
 - Give a section-by-section overview of the paper's contents

PREVIOUS STUDIES (LITERATURE REVIEW)

- You must focus on the previous studies that are related to your specific subject and study area.
- If a previous study has different results, focus on the results that are related to you subject.
- Describe them briefly.

DATA AND METHODS

- This section of a research paper answers two main questions:
 1. How was the data collected or generated?
 2. How was it analyzed?
- The writing should be direct and precise and always written in the past tense.

Do NOT describe in details the methods that already known.

RESULTS

- The results section is where you report the findings of your study based upon the methodology [or methodologies] you applied to gather information.
- **The results section should state the findings of the research arranged in a logical sequence without bias or interpretation.**
- A section describing results is particularly necessary if your paper includes **data generated from your own research**.

RESULTS AND ETHICS

- Basic Research Misconduct includes:
 - **Falsification** is the changing or omission of research results (data) to support claims, hypotheses, other data, etc.
 - **Fabrication** is the construction and/or addition of data, observations, or characterizations that never occurred in the gathering of data or running of experiments.
 - **Plagiarism** is using or representing the work of others as your own work.

Avoid the FFP

DISCUSSION

- The purpose of the discussion is to :
 1. **interpret and describe the significance of the results.**
 2. **explain any new understanding** about the problem after getting the results.
 3. **connect the results to the introduction** by way of the research questions or hypotheses you posed and the researches you reviewed.

CONCLUSIONS

- **Conclusions represent the shortest part of the research but the most difficult one.**
- **The conclusion is intended to help the reader understand why your research should matter to them after they have finished reading the paper.**
- **A conclusion is not merely a summary of the main topics covered or a re-statement of your research problem, but a synthesis of key points.**
- **[Synthesis is the combination of ideas to form a theory or system.]**

ACKNOWLEDGEMENT

- A page of acknowledgements is usually included at the beginning of a final year project, thesis, or dissertation immediately after the Table of Contents.
- Acknowledgements enable you to thank all **those who have helped in carrying out the research.**
- The general advice is to express your appreciation in a concise manner and to **avoid strong emotive language.**
- Note that personal pronouns such as 'I, my, me, we ...' are **nearly always used in the acknowledgements while in the rest of the project such personal pronouns are generally avoided.**

ACKNOWLEDGEMENT

- The following list includes those people who are often acknowledged.
 1. Main supervisor
 2. Second supervisor
 3. Other academic staff in your department
 4. Technical or support staff in your department
 5. Academic staff from other departments
 6. Other institutions, organizations or companies (Data, Software, and Fund)
 7. Past students
 8. Family and Friends *

REFERENCES

- A citation is a formal reference to a published or unpublished source that you consulted and obtained information from while writing your research paper.
- The way in which you document your sources depends on the writing style manual your professor wants you to use for the class [e.g., **Harvard**, **APA**, **MLA**, **Chicago**, **Turabian**, etc.].

BEFORE ENDING THIS SECTION

Verses from holy books are NOT required.

Dedication is NOT required.

HOW TO PLOT A SMART FIGURE?

WHY ARE FIGURES IMPORTANT?

- Figures are also a key part of the first impression you make on your readers.
- Many readers look at your figures before they read your manuscript.
- Some readers feel that the quality of your figures reflects the quality of your research.

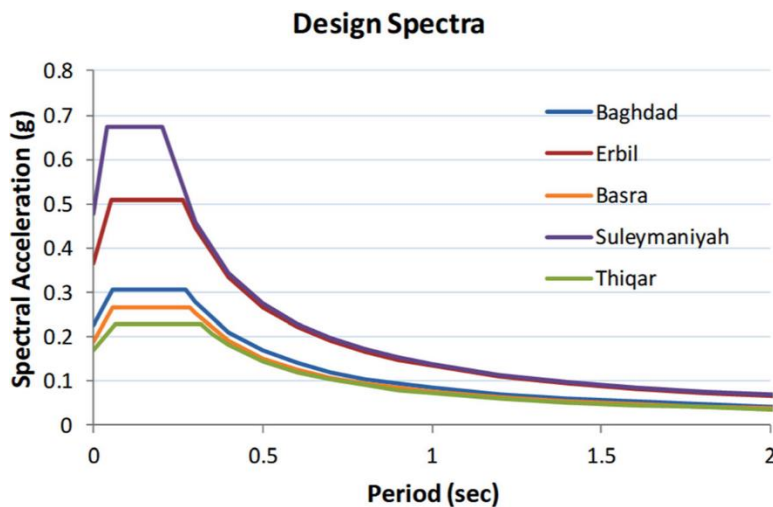
WANT TO MAKE A GREAT FIRST IMPRESSION?

1. **Send a clear message** (each figure answers a specific question)
2. **Choose the best plot type** (choose a plot type that conveys your message in the simplest and most accurate way possible)
3. **Be selective** (use as little data as needed to accurately represent your findings)
4. **Use color effectively** (use colors that are easy on the eyes and look good when printed)
5. **Be consistent** (the style of your figures should be consistent throughout your project “same font style and size”, “same color scheme and line weight”)

USE THE RIGHT SOFTWARE

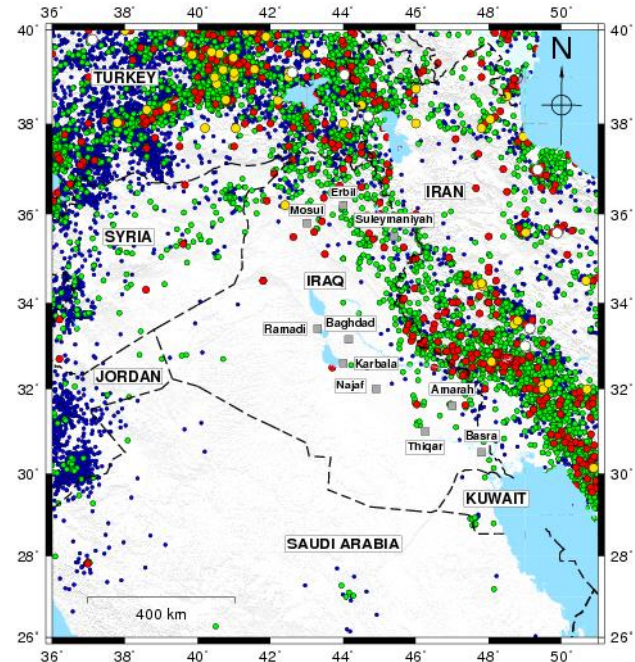
Figures

- Microsoft Excel
- Matlab (**MAT**rix **LAB**oratory)
- Python

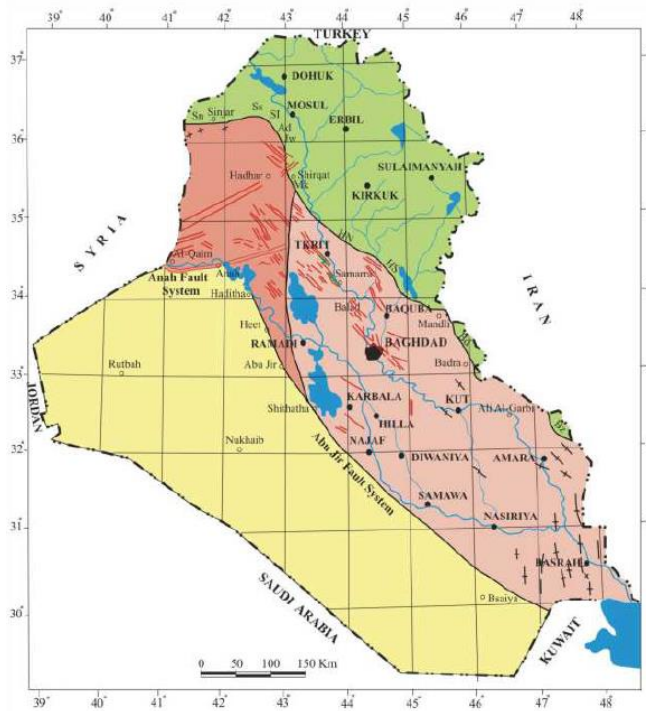


Maps

- GMT (Generic Mapping Tools)
- GIS (geographic information system)

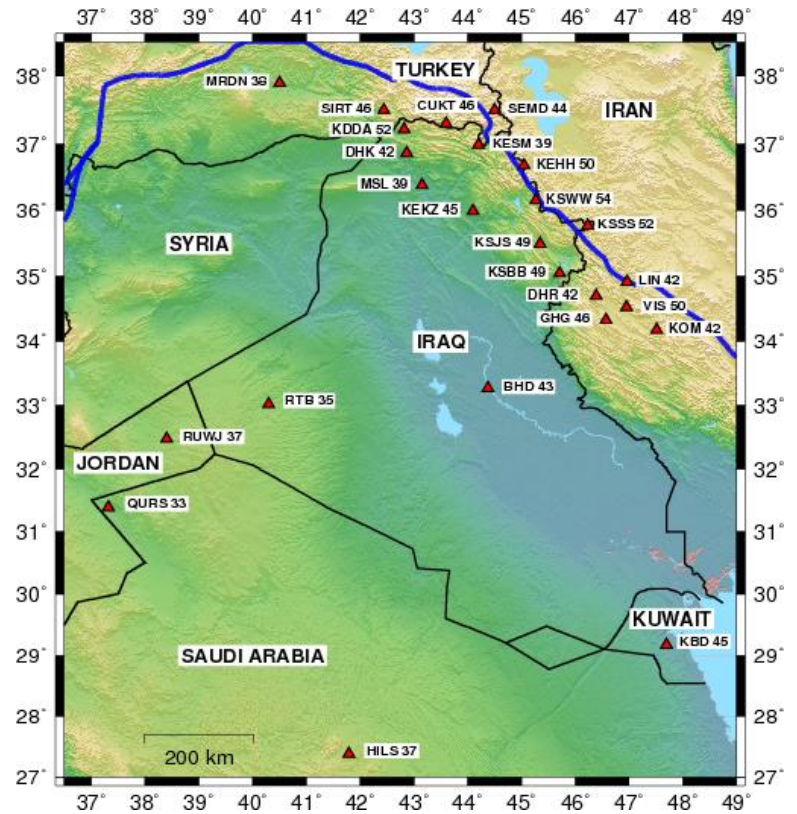


PLOT YOUR "OWN" FIGURE OR MAP

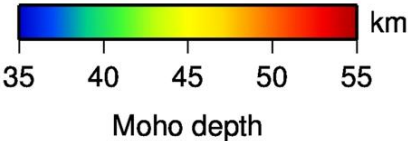
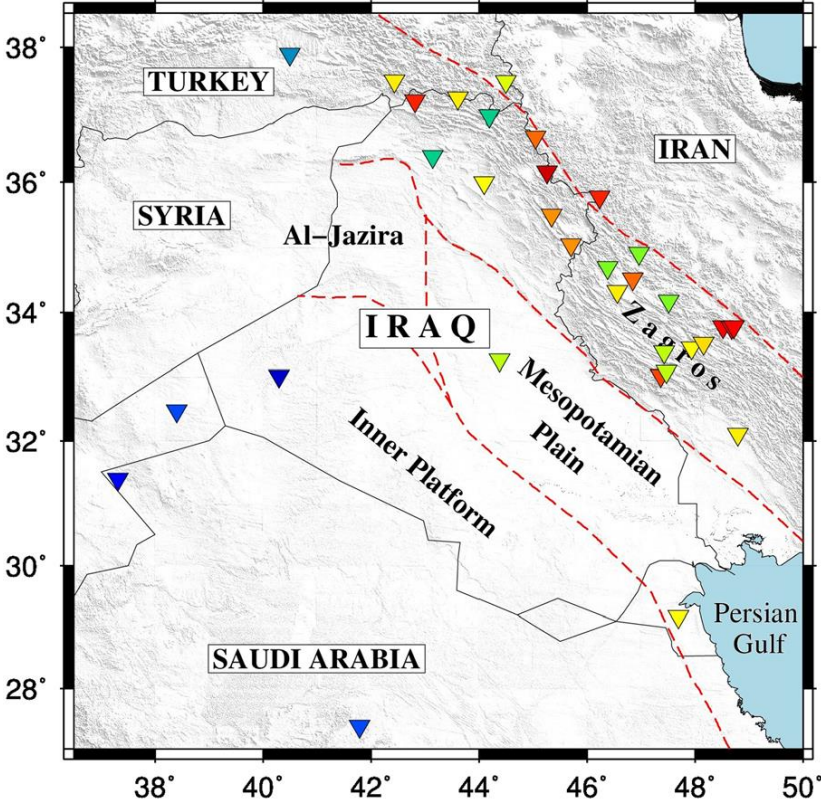


Sn: Sinjar
 Ss: Sassan
 SI: Sheikh Ibrahim
 Ad: Addaya
 Jw: Jawan
 Hb: Habbariya
 Mk: Makhul
 HN: Himreen North
 HS: Himreen South
 Bd: Badra
 Bz: Buzrgan

- Zagros Fold – Thrust Belt
- Mesopotamia Foredeep
- Al-Jazira Plain
- Mesopotamia Plain
- Inner (Stable) Platform
- Subsurface fault
- Subsurface fold
- Surface fold



THE FINAL MAPS



HOW TO CREATE A SMART TABLE?

MAKE YOUR OWN TABLE

Table 1
Crustal Thickness (Moho Depth) of the Northeastern Margin of the Arabian Plate in Iraq and Surrounding Regions

Country	Station name	Latitude	Longitude	Moho depth (km)	Reference
Jordan	RUWJ	32.4750	38.4020	37	Al-Damegh et al. (2005)
Saudi Arabia	HILS	27.3800	41.7900	37	
	QURS	31.3900	37.3200	33	
Kuwait	KBD	29.1755	47.6933	45	Pasyanos et al. (2007)
Iran	DHR	34.6997	46.3860	42	Afsari et al. (2011)
	GHG	34.3294	46.5686	46	
	KOM	34.1764	47.5144	42	
	LIN	34.9186	46.9624	42	
	VIS	34.5253	46.8527	50	
	E1	33.091	47.4788	43	Motaghi, Shabanian, and Kalvandi (2017)
	E2	33.3952	47.4319	43	
	V6	33.4507	47.9391	45	
	E3	33.5261	48.1602	47	
	V10	33.0254	47.3704	51	
	V4	33.7843	48.5217	59	
	V1	33.7833	48.7209	60	
	Turkey	SHGR	32.108 46	48.801	46
CUKT		37.2473	43.6077	46	Mellors et al. (2008)
SEMD		37.5000	44.5000	44	
SIRT		37.5010	42.4392	46	
Iraq	MRDN	37.9000	40.5000	38	Gök et al. (2007)
	KSBB	35.0415	45.7092	49	Gritto et al. (2008)
	KSSS	35.7696	46.2362	52	
	KSWW	36.1493	45.2624	54	
	KSJS	35.4965	45.3452	49	
	KEHH	36.6764	45.0470	50	
	KESM	36.9846	44.1981	39	
	KDDA	37.2125	42.8207	52	
	KEKZ	35.9893	44.0970	45	
	MSL	36.3817	43.1483	39	Gök et al. (2008)
	BHD	33.2700	44.3800	43	
Iraq	RTB	33.0200	40.3000	35	Al-Heety (2002)
	DHK	36.8606	42.8665	40	Abdulnaby (2013)

HOW TO REFERENCE THE INFORMATION?

FREQUENTLY REFERENCED ITEMS

Harvard Referencing

- Book (with a single author)
- Book (with two authors)
- Book (with three authors)
- Book (with four or more authors)
- Book – Chapter in an edited book
- Journal Article – Print
- Journal Article with a DOI (Electronic)
- Reports

BOOK (WITH A SINGLE AUTHOR)

- **In the text**

Bryman (2016) recommends...

Quantitative data is more suited to the study due to... (Bryman, 2016).

- **In the reference list**

Author Surname, Initial(s). (Year) *Title*. Edition (if not first edition). Place of publication: Publisher.

Bryman, A. (2016) *Social research methods*. 5th edn. Oxford: Oxford University Press.

BOOK (WITH TWO AUTHORS)

- **In the text**

Wallace and Wolf (2006) found that...

Globalization is a theory that has many concepts... (Wallace and Wolf, 2006).

- **In the reference list**

**Author Surname, Initial(s). and Author Surname, Initial(s).
(Year) *Title*. Edition (if not first edition). Place of publication:
Publisher.**

Wallace, R. A. and Wolf, A. (2006) *Contemporary sociological theory: expanding the classical tradition*. 6th edn. Upper Saddle River, N.J.: Prentice Hall.

BOOK (WITH THREE AUTHORS)

- **In the text**

Greig, Taylor and MacKay (2013) found that...

Finding the reasons behind a child's behaviour... (Greig, Taylor and MacKay, 2013).

- **In the reference list**

Author Surname, Initial(s)., Author Surname, Initial(s). and Author Surname, Initial(s). (Year) *Title*. Edition (if not first edition). Place of publication: Publisher.

Greig, A., Taylor, J. and MacKay, T. (2013) *Doing research with children: a practical guide*. 3rd edn. London: Sage.

BOOK (WITH FOUR OR MORE AUTHORS)

- **In the text**

Begg *et al.* (2014) found that...

The elasticity of demand demonstrates... (Begg *et al.*, 2014).

- **In the reference list**

First Author Surname, Initial(s). *et al.* (Year) *Title*. Edition (if not first edition). Place of publication: Publisher.

Begg, D.K.H. *et al.* (2014) *Economics*. 11th edn. London: McGraw-Hill.

BOOK – CHAPTER IN AN EDITED BOOK

- **In the text**

Zheng (1997) looked at the cultural influences...

The culture of western business during the period...(Zheng, 1997).

- **In the reference list**

Chapter Author Surname, Initial(s). (Year) 'Title of chapter', in Editor(s) Surname, Editor(s) Initial. (ed. or eds.) *Title of book*. Edition (if not first). Place of publication: Publisher, Page numbers.

Zheng, X. (1997) 'Chinese business culture from the 1920s to the 1950s', in Ikeo, A. (ed.) *Economic development in twentieth century East Asia: the international context*. London: Routledge, pp. 35–54.

JOURNAL ARTICLE – PRINT

- **In the text**

Austin (2009) argues that periodical conflict may be expected...

It can be assumed that pickpocketing...(Austin, 2009)

- **In the reference list**

Author of article Surname, Initial(s). (Year) 'Title of article', *Journal title*, Volume(Issue), Page range.

Austin, T. (2012) 'Takers keepers, losers weepers: theft as customary play in southern Philippines', *Journal of Folklore Research*, 49(3), pp. 263–284.

JOURNAL ARTICLE – PRINT

- **Notes**
- Enclose the title of the article in single quotation marks.
- Capitalize the first letter of each of the main words of the journal title, but not the linking words such as "and", "for", "of" or "the".

JOURNAL ARTICLE WITH A DOI (ELECTRONIC)

- What is a **DOI**? Digital Object Identifier
- **In the text**

Dobson (2006) identified that the depiction...

The stereotypical portrayal of cultures...(Dobson, 2006).

- **In the reference list**

Author of article Surname, Initial(s). (Year) 'Title of article', *Title of journal*, Volume(Issue), Page range (if available). doi:

Dobson, H. (2006) 'Mister Sparkle meets the 'Yakuza': depictions of Japan in The Simpsons', *Journal of Popular Culture*, 39(1), pp. 44–68. doi: <https://doi.org/10.1111/j.1540-5931.2006.00203.x>

JOURNAL ARTICLE WITH A DOI (ELECTRONIC)

- **Notes**
- Always write DOI in lower case letters in your references, e.g. doi.
- A DOI should be written with the prefix <https://doi.org/> followed by the DOI number.
- Never put a full stop after a DOI as it may be assumed that it is part of the DOI and prevent it from working.
- Enclose the title of the article in single quotation marks.
- Capitalize the first letter of each of the main words of the journal title, but not the linking words such as "and", "for", "of" or "the".

REPORT

- **In the text**

Snowdon (2017) looked at the cost of healthy eating...

It was found that the cost of a healthy diet...(Snowdon, 2017)

- **In the reference list**

Online/Electronic with a URL

Snowdon, C. (2017) *Cheap as chips: Is a healthy diet affordable?* IEA Discussion Paper No. 82. Available at: <https://iea.org.uk/wp-content/uploads/2017/03/Cheap-as-Chips-PDF.pdf> (Accessed: 30 March 2017).

IMPORTANT NOTES

- Make sure that **number of references** in the text is the same as the number of references in the reference list.
- Use the **same style of referencing** for the whole research paper, thesis, or dissertation.
- “**Et al.**” is short for the Latin term “**et alia,**” meaning “**and others.**”

FOR MORE DETAILS ON HARVARD REFERENCING

<https://www.librarydevelopment.group.shef.ac.uk/referencing/harvard.html>

THANK YOU FOR ATTENDING

QUESTIONS?