Responsible Research Advising with the Help of Al for **Reputable Journal** Publication

Warren Galas Moyao, PhDCJ July 26, 2024

Training Objectives

Baguio

- 1. Understand the role of AI in the research process and its potential benefits.
- 2. Learn how to effectively use AI tools to enhance research quality without compromising integrity.
 3. Recognize the importance of responsible AI use for successful journal publication.

WHAT IS ARTIFICIAL INTELLIGENCE?

Machine Learning

Using sample data to train computer programs to recognize patterns based on algorithms.

Neural Networks

Computer systems designed to imitate the neurons in a brain.

Natural Language Processing

The ability to understand speech, as well as understand and analyze documents.



Robotics

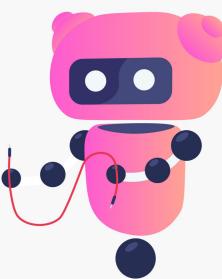
Machines that can assist people without actual human involvement.

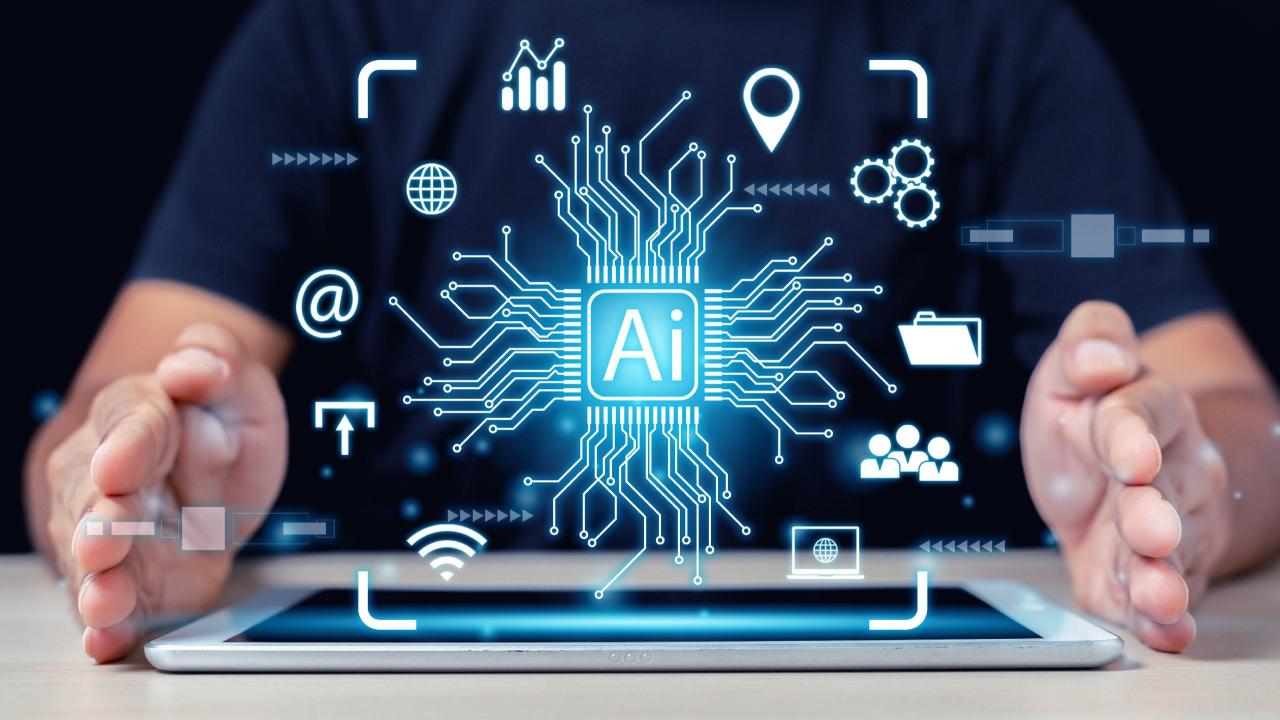






Artificial Intelligence (AI) is the ability for a computer to think and learn.





Identify the following AI Tools



Turnitin





QuillBot



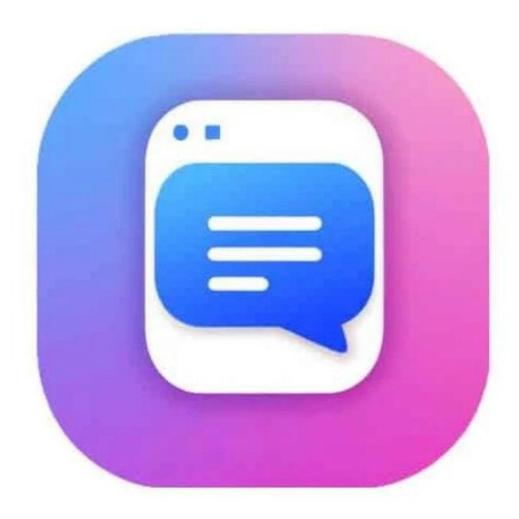


Grammarly





CHATPDF





Elicit



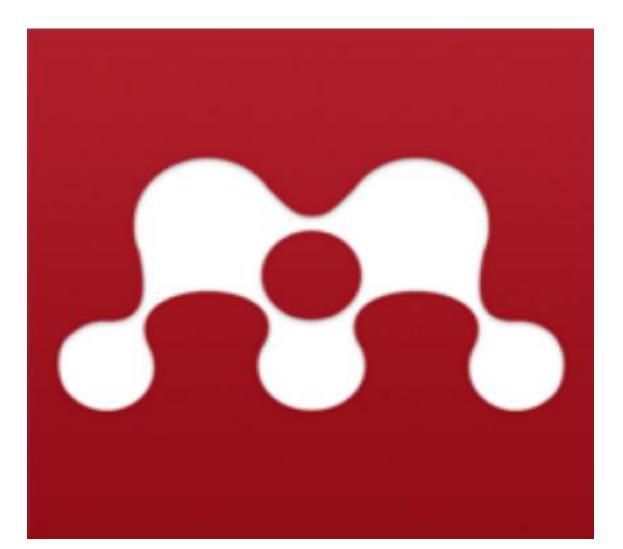


Consensus



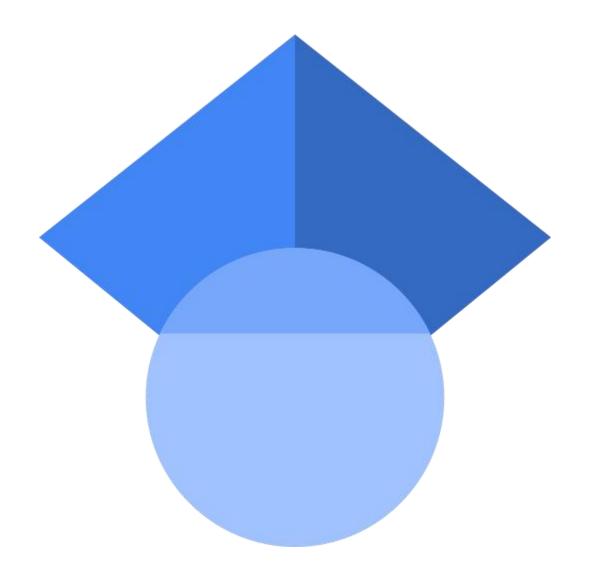


Mendeley





Google Scholar





ChatGPT





Jenni AI



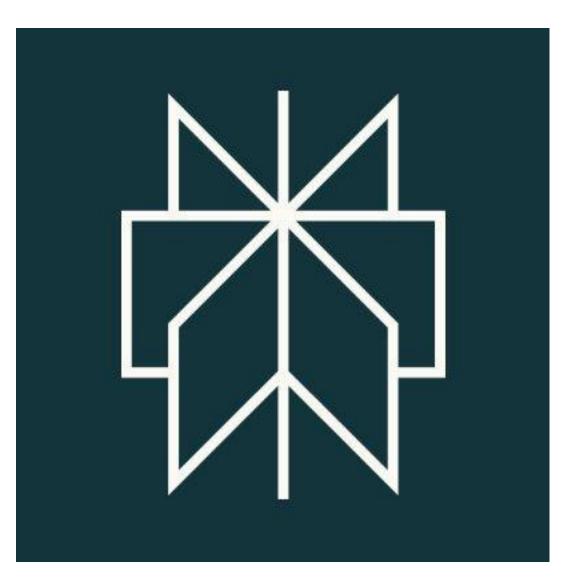


Semantic Scholar





Perplexity











SCISPACE



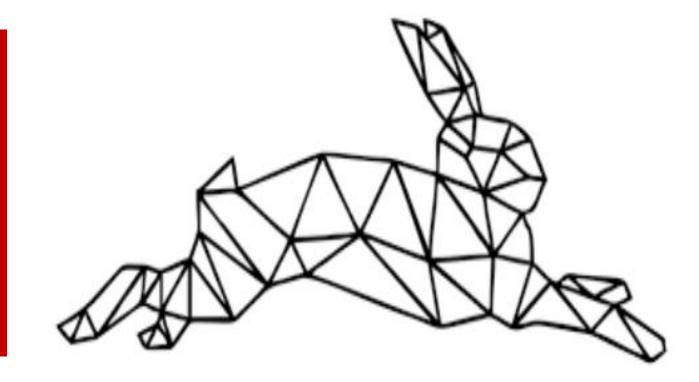


Gemini





Research Rabbit





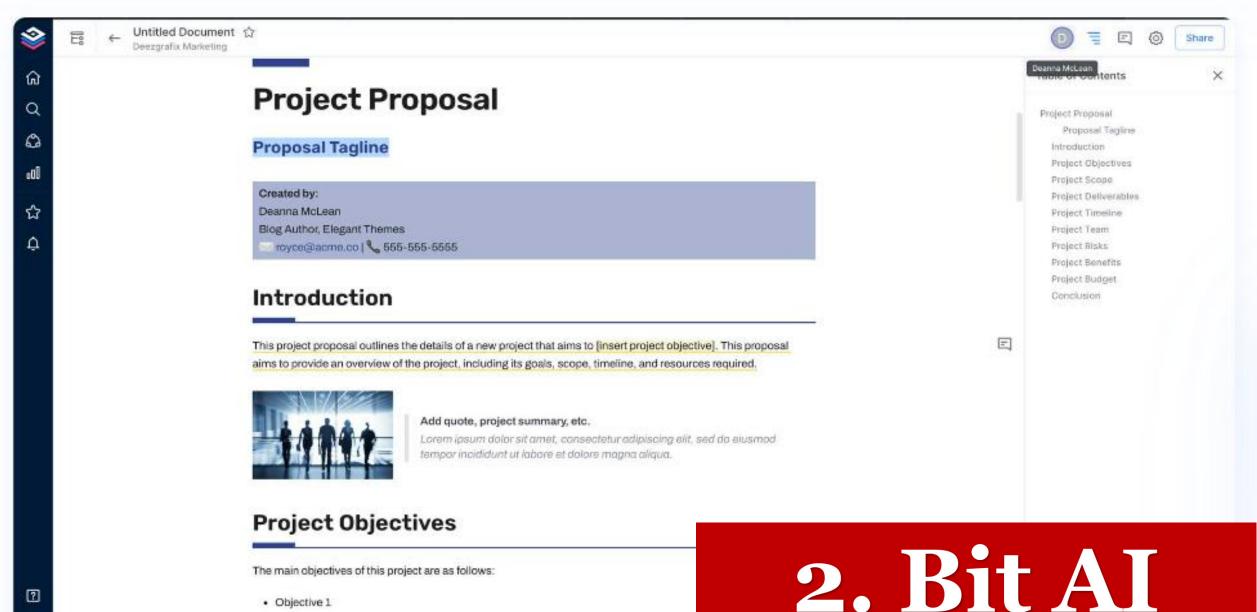
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Best AI Tool for Summarizing Research

= 🖸 QuillBot	Paraphraser	🗇 Upgrade to Premium) 🚔 🌜 😤
Paraphraser	English (US) French Spanish German All 🗸	
Grammar Checker	Modes: Standard Fluency Formal Academic Creative Custom Simple Expand Shorten Synonyms:	History
QuillBot Flow	To rewrite text, enter or paste it here and press "Paraphrase."	Compare
Summarizer		Modes.
Translator		Statistics
QuillBot Premium		Tane
QuillBot for Chrome 🖄	Try Sample Text Paste Text	
QuillBot for Word		\$
⑦ Help Center		Senings
🖂 Contact us		
	Upload Doc Paraphrase	illbot

Create Multimedia Documents and Projects With Ease



The main objectives of this project are as follows:

· Objective 1

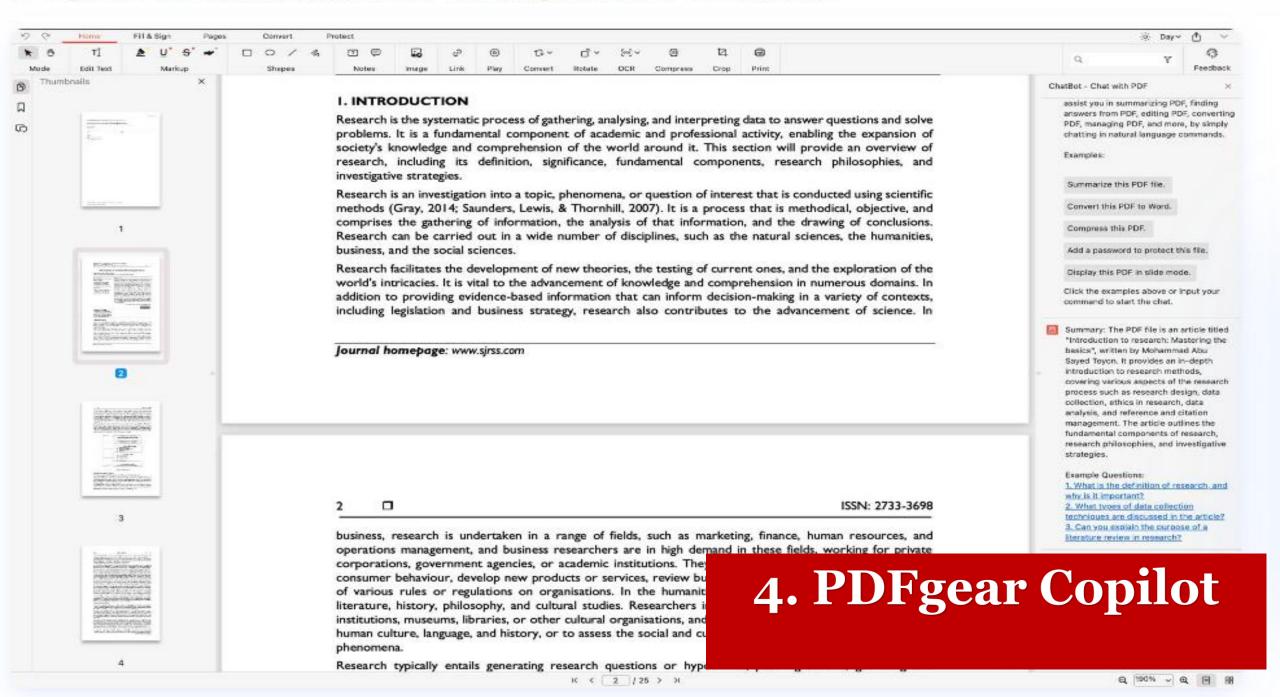
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- Objective 2

Gain Insight Into Citations With In-Dept Citation Reports

Photosynthesis is a fundamental process that converts solar energy into chemical energy, sustaining life on Earth by providing oxygen, food, and regulating atmospheric carbon dioxide levels (<u>Gao et al.</u> , 2018). It serves as the basis for plant growth and crop yield (<u>Zhang et al.</u> , 2013). The process involves the conversion of sunlight into energy by plants and other organisms, which is used to fuel their activities (<u>Zhu & Gong, 2013</u>). Photosynthesis is crucial for plant productivity, with factors like iron availability influencing the maximum quantum yield of photosynthesis is phytoplankton (<u>Hiscock et al.</u> , 2008). Temperature plays a significant role in photosynthesis, with mechanisms like C3-C4 photosynthesis showing advantages at high leaf temperatures due to reduced photorespiration rates (<u>Monson & Jaeger, 1991</u>). Additionally, salt stress and drought can affect the bioenergicic processes of photosynthesis in outviews molecular mechanisms within chloroplasts, ensuring functionality under varying conditions encountered by plants (<u>Nikkanen & Rintamäki, 2019</u>). Furthermore, nitrogen availability influences photosynthesis, affecting nitrogen uptake, growth, and the overall process, highlighting the intricate mechanisms plants have evolved to optimize this essential biochemical process. X. Yues searches un he trenout this essents	t by scite	Install extension!	Product 🗸 Solutions 🗸 Pricing Blog Log In Sig
V View searches run to drownd this response	regulating atmospheric carbon dioxide levels (<u>Gao et al., 2018</u>). It serves as the involves the conversion of sunlight into energy by plants and other organisms, v is regulated bidirectionally, impacting leaf development and carbon metabolite crucial for plant productivity, with factors like iron availability influencing the mal., 2008). Temperature plays a significant role in photosynthesis, with mechanisms like C to reduced photorespiration rates (<u>Monson & Jaeger, 1991</u>). Additionally, salt st photosynthesis, altering the K:Na ratio and impacting plant responses to enviro photosynthesis involves complex molecular mechanisms within chloroplasts, e (<u>Nikkanen & Rintamäki, 2019</u>). Furthermore, nitrogen availability influences photorularity of plant systems (<u>Yao et al., 2021</u>).	Line prompt(s) left. <u>Start your free trial</u> to get unlimited promotes. Cal energy, sustaining life on Earth by providing oxygen, food, and a basis for plant growth and crop yield (<u>Zhang et al., 2018</u>). The process which is used to fuel their activities (<u>Zhu & Gong, 2013</u>). Photosynthesis feedback (<u>Paul & Pellny, 2003</u>). The efficiency of photosynthesis is aximum quantum yield of photosynthesis in phytoplankton (<u>Hiscock et</u> 3-C4 photosynthesis showing advantages at high leaf temperatures due tress and drought can affect the bioenergetic processes of immental stimuli (<u>Sudhir & Murthy, 2004</u>). The regulation of insuring functionality under varying conditions encountered by plants otosynthesis, affecting nitrogen uptake, growth, and the overall on Earth. It is influenced by various factors such as temperature,	Reference #1 "Photosynthesis converts solar energy into chemical energy to sustain all life on earth by providing oxygen and food, and control the atmospheric carbon dioxide," ~ See tuit context Section: Abstract Structure and Function of the Photosystem Supercomptintan Gao ¹ , Hao Wang ³ , Openg Yuan ³ et al, 2018 Eront. Plant Structure for the Photosystem Supercomptintan Gao ¹ , Hao Wang ³ , Openg Yuan ³ et al, 2018 Eront. Plant Structure for the Photosystem Supercomptintan Gao ¹ , Hao Wang ³ , Openg Yuan ³ et al, 2018 Eront. Plant Structure for the Photosystem Supercomption of the Photosystem Supercomptio
Yi Zhang ¹ , Yu Shi ² , Haijun Gong ³ et al. 2018	\checkmark View searches run to ground this response	B	Beneficial effects of silicon on photosynthesis of tomat seedlings under water stress Yi Zhang ¹ , Yu Shi ² , Haijun Gong ³ <u>et al.</u> 2018

PDFgear Is a Powerful AI Tool For Working With PDF Documents



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Conclusion

The synthesis of research suggests that zinc supplementation can be beneficial in reducing depressive symptoms, particularly as an adjunct to conventional antidepressant therapy and potentially as a monotherapy. Zinc's role in improving mood may be linked to its influence on serum zinc levels and BDNF, although its impact does not seem to be related to the modulation of inflammatory processes. Further research is warranted to fully understand the mechanisms by which zinc exerts its antidepressant effects.

Export cav

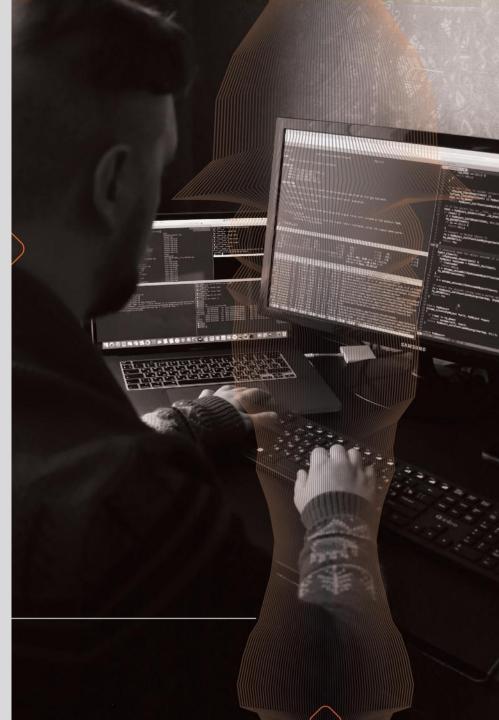


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Using Al for research

Data Collection and Management

- AI can automate data collection from various sources, including online databases, social media, and scientific papers.
- AI algorithms can identify and correct errors, inconsistencies, and missing values in large datasets.
- AI can structure and categorize data efficiently, making it easier to analyze.



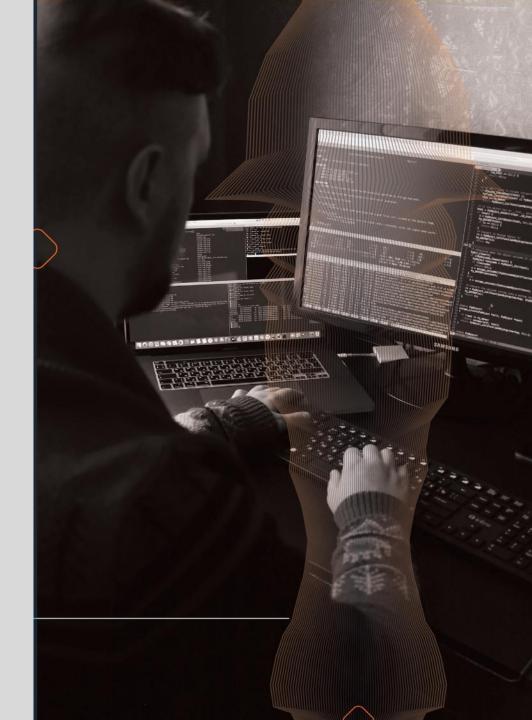
Literature Review

- AI can swiftly identify relevant research papers and articles from vast databases.
- AI tools can generate summaries of research papers, saving time and providing overviews.
 - AI can identify emerging trends and research gaps within a field.



Data Analysis and Interpretation

- AI can uncover hidden patterns and correlations within complex datasets.
 AI algorithms can create models to forecast future
 - trends and outcomes.
 - AI can generate interactive visualizations to help researchers understand data better.



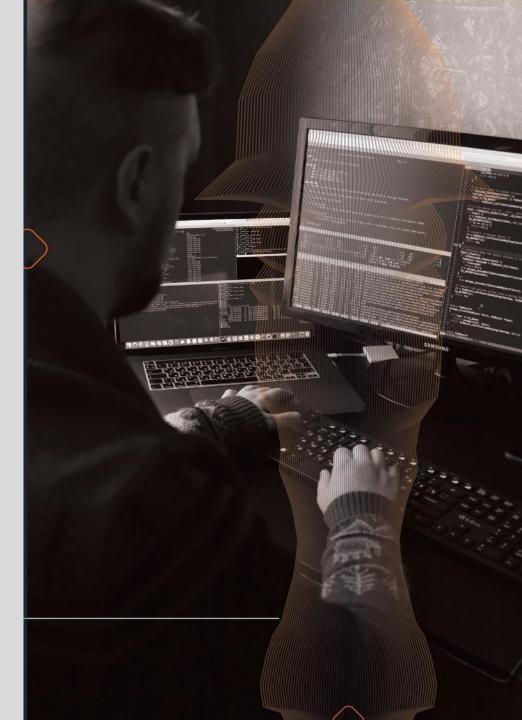
Research Design and Experimentation

- AI can suggest potential research questions and hypotheses based on data analysis.
- AI can optimize experimental designs to maximize efficiency and accuracy.
- AI can simulate experiments to test different scenarios and parameters.



Writing and Publication

- AI can assist in writing and editing research papers, suggesting improvements in style and clarity.
 - AI can automatically generate citations and reference lists.
 - AI-powered platforms can streamline the submission and review process for research papers.





What are the **EVOLVING ROLES** of Research **Advisers**?

Mentor and Coach

Help students develop soft skills, critical thinking, and problemsolving abilities.



Technology Integrator

Guide students on effectively using AI, data analytics, and other digital tools for research.



Research Ethics Guardian

Need to be wellversed in research ethics guidelines and regulations.



Career Counselor

Help students identify potential career paths based on their research interests.



Lifelong Learning Advocate

Encouraging continuous learning and skill development.



OLD: Based on degrees (MA & PhD) and High Position **NEW:** based on publication & citation

2.

1.

OLD: Implement thesis/dissertation manual of the school
NEW: Implement standards of high impact publications

3.

OLD: Guide students to finish a degree **NEW:** Guide students to publish in peer reviewed journals

OLD: Gives the title of the research **NEW:** Requires student to complete literature review to define the gap as basis for title

OLD: Edits the submitted manuscript in the hard copy **NEW:** Uses tracking comments of Microsoft to edit

6.

5.

OLD: Relies on a statistician to treat and interpret data
NEW: Trains students to process data by themselves

7. OLD: Corrects grammar and mechanics NEW: Uses Grammarly software to check

- 8. OLD: Reads only what is submitted NEW: Reads the literature and suggests additional readings
- 9. **OLD:** Suspects plagiarized sections **NEW:** Uses software to detect plagiarism

10. OLD: Serves as sole expert guide **NEW:** Consults experts on methods, peer review, and publication

11. OLD: Requires completion of manuscript as basis of quality
 NEW: Requires newness of discovery from results derived from sound methodology

12: OLD: Requires the student to do all the work
NEW: Co-authors with the student in publishing the work



Scientific Writing for International Publications: The Web of Science and Scopus Standards

Adopted from: GENARO V. JAPOS, PhD, DM, EdD, DHRM, DODT





Anatomy of Well Written Publishable Papers

The Elsevier Scopus/Thomson Reuters Standard





The Elsevier Scopus Manuscript Format

Section	Purpose
Title	Reflects content, entices reader
Author	Ensures recognition of the researcher(s)
Abstract	Summarizes the research and the conclusions
Keywords	Ensures the article is correctly identified in abstracting and indexing services
Body text	
Introduction	Puts the work into context
Methods	Explains how the data were collected
Results	Describes what was discovered
Discussion & Conclusions	Explores the implications of the findings
Acknowledgements	Ensures those who helped with the research are recognized
References	Ensures previously published work is recognized
Supplementary material	Provides online additions to the article, such as raw data, video and audio



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Title

 "The title should reflect the article's content clearly and precisely, and enable the reader to decide whether they want to read the article. The title is the main advertisement for the article – a great title will entice the audience to read on, whereas a poorly titled article may never reach its target audience. Keep the title simple, catchy and specific. Omit unnecessary words such as 'a study of', 'investigations of', 'observations on,' and avoid using abbreviations and jargon."





Authors

"The listing of authors should only include those who have made an intellectual contribution to the research, who will take public responsibility for the data and conclusions, and who have approved the final version of the manuscript."

The author should have an ORCID ID, Scopus Author ID and/or ResearcherID (Thomson Reuters ID).





Keyword List

"A list of important words that reflect the research, in addition to those already used in the title. Choosing the right keywords will increase the likelihood of your article being found by other researchers, as keywords are used by abstracting and indexing services."





Abstract

• The abstract should summarize the problem or study objective, the method, the results, and the conclusions of your research. The abstract enables you to elaborate on each major section of the article, usually in up to 200 words.





• The abstract should give sufficient detail that the reader can decide whether or not to read the whole article. Together, the title and the abstract should be able to stand on their own, as they are processed further by indexing services





•It is best not to include references, figures or tables in the abstract – you have 200 words to describe your research, so use them wisely. Many authors write the abstract last, so that it accurately reflects the content of the article.





Introduction

The introduction should be brief. It is meant to provide context and background, but should not be a history lesson. It should state clearly the problem being investigated, the background that puts the problem in context, and the reasons for conducting the research. You should summarize relevant research to provide context, and state the questions you are answering.





•Briefly and logically lead the reader to your hypothesis(es),research question(s), and general experimental design or method, if relevant.





Method

• (Also called Materials and Methods or Experimental Methods) This section provides the readers with enough detail that they can replicate your research. Explain how you studied the problem, identify the procedures you followed, and structure these as logically as possible. If your methods are new, you will need to explain them in detail.





• If you are writing a manuscript about research that involved human participants, animals, stem cells or other biohazard materials, you will need to include certain information in the ethics statement, such as the patients' consent and permission to publish.





Results

- This section should present your findings objectively, and explain what was found, largely in text.
- This is where you show how your new results contribute to the body of scientific knowledge, so it is important to be clear and set them out in a logical sequence.
- Raw data are rarely included in a scientific article; instead the data are analyzed and presented in the form of figures, graphs, tables, and descriptions of observations.





- Tables and figures must be numbered separately, and should be in the sequence that you refer to them in the text.
- Figures should have a brief description (a legend), providing the reader with sufficient information to know how the data were produced. It is important not to interpret your results - this should be done in the Discussion & Conclusions section.





Discussion & Conclusions

This section describes what your results mean, specifically in the context of what was already known about the subject of the investigation. You can present global and specific conclusions here, but be careful not to summarize your manuscript – this is what the abstract is for.





Acknowledgments

 This section should be brief and include the names of individuals who have helped with your research, such as contributors, and suppliers who provided materials free of charge. Authors should also disclose in their article any financial or other substantive conflict of interest that might be seen to influence the results or interpretation of their research.





References

•The references section at the end of the article includes all references cited in your article. This section is in contrast to a bibliography, common in books, where works read but not necessarily cited in the text are listed.

Source: www.elsevier.com/authors





The Critical Causes of Papers Being Rejected by Reviewers

Adopted from: GENARO V. JAPOS, PhD, DM, EdD, DHRM, DODT





X MANUSCRIPT DOES NOT FOLLOW AUTHOR GUIDELINES

One of the main reasons for an immediate return of a manuscript, or a rejection, is because the manuscript is **not formatted** for the journal.

Before a manuscript is submitted, all the relevant guidelines should be followed. Read the **author guidelines** of the chosen journal, and make sure that any additional guidelines are consulted (Medicalwriters.com, 2017).





X POOR WRITING AND GRAMMAR

Poor writing, manuscript structure and **preparation** are all key reasons for rejecting papers, even with strong results.

With scientific writing, the simplest and most direct statement of the intended message is always best. In other words, say what you mean and mean what you say and do not use big words (Pierson, 2004).





X JOURNAL MISMATCH

Manuscripts that lie outside of the stated AIMS and SCOPE of the journal are likely to be rejected.

Many manuscripts are rejected outright by this reason. Spend time in choosing ACCURATE journals for your paper and review your options before coming up with a decision (Editage Insights, 2013).





X LACK OF ORIGINALITY, NOVELTY & SIGNIFICANCE

Authors should give specific reasons why the **research** is **important**.

For papers to be published in well-recognized, peer reviewed journal, they must have scientific value that could affect a particular medical intervention, could have a bearing on policy discussion and/or implementation or could change a conventional theory or belief (Ajao,2005; Editage Insights, 2013).





X FLAWED METHODOLOGY

An *inappropriate methodology* or the use of *old methodology* that has been surpassed by newer, more powerful methods that provide more robust results are *fatal flaws* warranting *rejection*.

If the methodology of a study is flawed or questionable, the result is bound to be flawed and questionable as well (Ajao, 1997).





Training Workshop: Thesis Advising and Paneling Using Generative Al X SUB-OPTIMAL/OVERINTERPRETATION OF RESULTS

Too often, authors ramble in the discussion and include irrelevant and redundant material. Thus, the discussion of results should not just be a repetition of the data found in the tables and figures.

A clear and honest approach to the interpretation of results is likely to increase the chances of a manuscript being accepted (San Francisco Edit, 2008).





READ X INACCURATE CONCLUSIONS NOT SUPPORTED BY DATA

Make sure your conclusions are **not overstated**, are **supported**, and **answer** the **objectives**. Be sure to provide **alternative explanations** and **do not** just simply **restate** the results.





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X VIOLATION OF RESEARCH ETHICS, PUBLICATION ETHICS

Research ethics ignored such as consent from patients or approval from an ethics committee for animal research and/or issues on **publication ethics** such as **multiple submissions**, **plagiarism**, **gift authorship**, **fake affiliation**, **and ghost authorship**, among others corrode the integrity of science.

Scientific research is built on a foundation of trust. However, this trust will endure only if the scientific community devotes itself to clarify and transmit the values associated with ethical scientific conduct (Parasuraman, Raveendran, & Ahmed, 2015).





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X FAILURE TO REVISE AND RESUBMIT AFTER PEER REVIEW

Failure to respond to the comments at resubmission is a **lost opportunity.** All **comments** should be carefully answered in a **detailed rebuttal letter**. If the comment can be implemented, then this should be done, and if not, a detailed explanation as to why this is not possible, should be given.

The peer-review process is not just an insurance policy against dissemination of unethical, erroneous, or potentially dangerous material. It also plays a vital role in ensuring that each published article conveys its message as accurately, unambiguously, and convincingly as possible (Pierson, 2004).





OTHER REJECTION REASONS NOT RELATED TO QUALITY (Editage Insights, 2013)

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- Space Constraints- It is not uncommon for journals to reject high-quality manuscripts for lack of space.
- **Quality and experience of Peer Reviewers-** The professional experience, educational background and knowledge of the reviewer decide the fate of the paper manuscript.





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OTHER REJECTION REASONS NOT RELATED TO QUALITY (Editage Insights, 2013)

- Volume of submissions- Journals that attract large number of submissions will also reject a large number of manuscripts even high quality ones.
- Journal editor is looking for something specific at a particular time-Journal editors might be interested in a current topic in which case they might tend to accept more papers on that particular topic.





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OTHER REJECTION REASONS NOT RELATED TO QUALITY (Editage Insights, 2013)

• The journal receives more than one submission on the same topic- The journal may well choose to publish only one of the manuscripts, rejecting the other for no other reason than that they already have a paper on a similar topic.



Baguio General Evaluation Prompts:

- "Evaluate the overall quality and coherence of this research paper."
- "Identify the strengths and weaknesses of this research paper."
- "Assess the clarity and effectiveness of the research paper's argument."
- "Critique the structure and organization of the research paper."
- "Evaluate the appropriateness of the research methodology used."

Baguio Specific Section Evaluation Prompts

- "Critique the introduction section of this research paper."
- "Evaluate the literature review section for comprehensiveness and relevance."
- "Assess the methodology section for clarity and rigor."
- "Critique the results section for clarity and presentation of findings."
- "Evaluate the discussion section for depth and coherence."

Baguio Style and Language Prompts:

- "Check the paper for grammatical errors and clarity of expression."
- "Assess the overall writing style and tone of the paper."
- "Evaluate the use of academic language and terminology."

Ethical Considerations Prompts:

- "Assess the ethical implications of this research."
- "Evaluate the research for potential biases."
- "Check if the research adheres to ethical guidelines."

- "Compare this research paper to similar studies in the field."
- "Identify potential areas for future research based on this paper."
- "Suggest improvements to enhance the impact of this research paper."

Prompts for AI Critique of a Scopus Journal Paper

- "Evaluate the overall quality of this research paper for potential publication in a Scopus indexed journal."
- "Assess the strengths and weaknesses of this research paper based on Scopus journal standards."
- "Provide a comprehensive critique of this research paper, considering its suitability for publication in a top-tier Scopus journal."



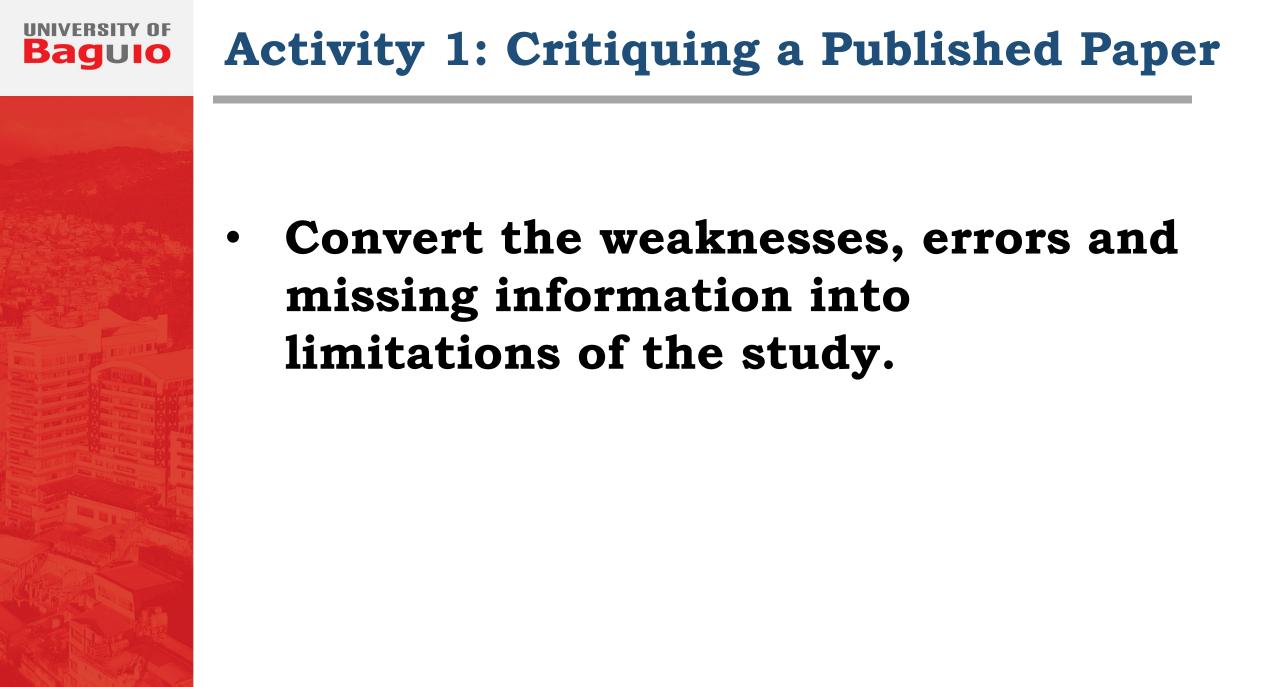
Workshop: **Using AI for Effective Research** Paper Advising/Critiquing

- Visit Google Scholar. Download any article that you've published.
- Go to CHAT PDF and UPLOAD the downloaded article.

• From title to list of references, identify the weaknesses, errors and missing information and provide suggestion for the improvement of each section of the paper.

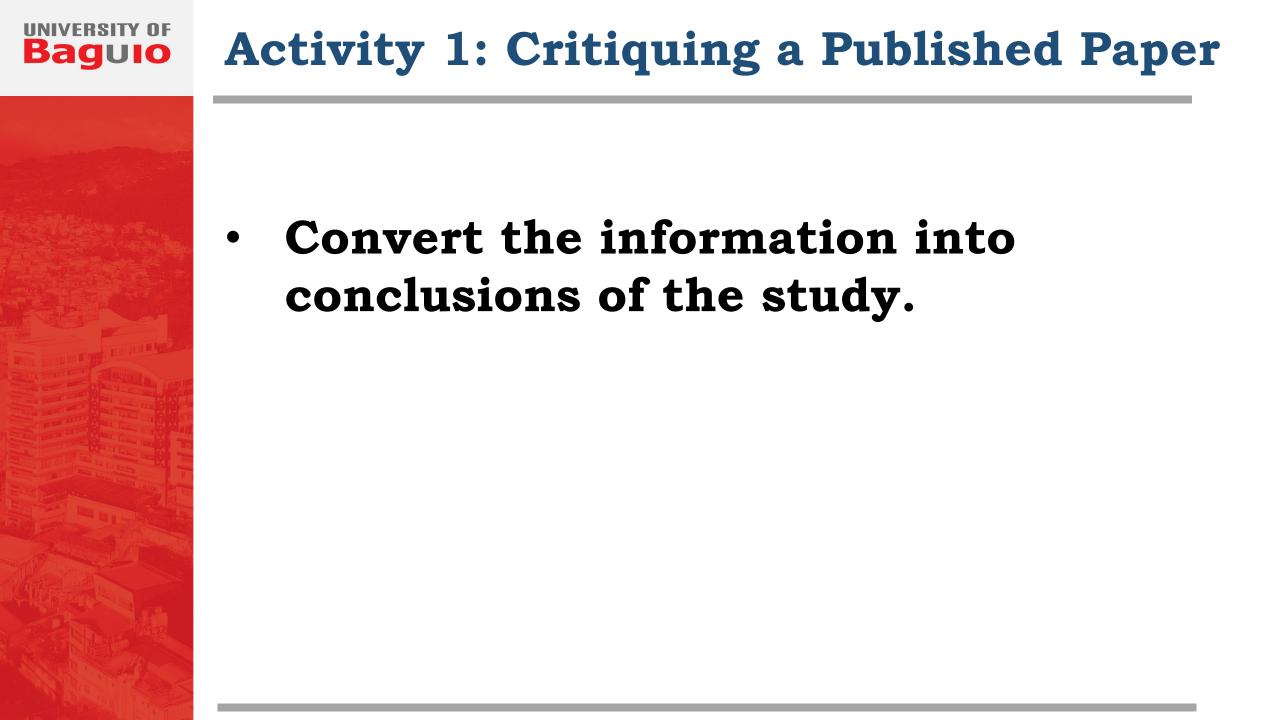
• Identify the type of references format. Identify which references did not follow correctly APA 7th edition. Explain errors and missing information. Make a list of corrected references. Give the percentage of correct references according to APA 7th edition. Paste the references from the file.

Write a justification report why • this paper should be rejected for publication. Give the impact of the weaknesses, errors and missing information to the validity and generalizability of the results. **Explain how these weaknesses can** be addressed.



What are the research questions and research hypotheses? Write the table number and title that answer and summarize the answer for each into one sentence.

Which research questions and • hypotheses are not adequately answered in the results and discussion. What relevant data in the result and discussion are not captured the result and discussion. Which conclusion are not supported by evidence in the data and by the literature?



• Identify new knowledge contribution from this study which is not a duplication of any existing online scientific publication. Identify if this new knowledge is discussed in the results and captured in the conclusion and connected to recommendations for further research.

- Use Gemini or Perplexity or Chat GPT or Chat PDF
- Write the title of your OLD thesis/ dissertation and the SOPs.
- Evaluate this research title and objectives in terms of its capability to be published, scholarly content and style of writing at par the world's best universities.

 Provide an improved title that would include content, methodology theoretical lens or theory generation as needed.

 Assess this research paper for alignment with current research trends and methodologies. Write the advanced methodology for this modified paper with AI application as annotations.

Identify potential gaps in the research and suggest ways to strengthen the paper's contribution to the field.

 Evaluate the clarity and coherence of the paper's argument and structure.

 Check for any outdated information or references and suggest updates. Provide list of sources published from 2019 to 2024.

- Improve the introduction to better contextualize the research problem and highlight the paper's unique contribution.
- Update the literature review to incorporate recent studies and strengthen the theoretical framework.

- Evaluate the research methodology for its robustness and explainability, considering current standards.
- Enhance the presentation of results by using clear visualizations and emphasizing key findings.

- Strengthen the discussion section by providing deeper insights, addressing limitations, and discussing implications.
- Revise the conclusion to effectively summarize key findings, highlight contributions, and suggest future research directions.

- Verify the accuracy and consistency of citations and references.
- Revise the list of references using the APA format 7th Edition.

UNIVERSITY OF **Bagulo**

Activity 3: Crafting Research Topics aligned with Specialization

Use GEMINI or CHAT GPT:

I am a graduate of (what is your bachelor's degree), my previous job is _____, my current job is _____, the highest promotion rank that I could get is _____, my current rank _____, I teach in (what programs), my department/ school/ university aspires to be , write my research agenda with three themes. For each theme, write three research titles which are advanced in content, methodology and technology and theoretical lens.



 Based on the scientific literature available today, write the predicted new knowledge contribution for each titles.



• Write the urgency of each title given the research gaps and social development needs of (your place).



Give the criteria for selections of • the best among the nine titles and considering the research gaps contribution to new knowledge, potential for utilization, and potential for social transformation. Rank the nine titles with one as the highest and nine as the lowest. Present the data in tabular format.



 Select the title ranked first.
 Based on the given title, write three objectives.



• Write a discussion with applicable theories to this study. The discussion must be with in-text citation. **Provide the list of references** in APA format 7th edition.



• Write the research design fit for the study.













