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AI-Powered Research

ปลดล็อกศักยภาพงานวิจัยและ รายงานด้วย AI

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Director, Center for Learning Innovation, MSME Business School

Assumption University



พ่อบ้านเล่างานวิจัย

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Agenda

- AI and Generative AI
- Policies and Ethics
- Prompts
- Identify the Problem/Brainstorming + Demo
- AI-Augmented Literature Review Workflow + Demo
 - Seeding The Literature
 - Expanding the Corpus
 - Composing the Review
- AI for Design and Analysis
- Prompt for Academic Writing Assistance

Tools recommended for registration prior to the training

- ChatGPT <https://chatgpt.com/>
- AI Studio (Gmail) - <https://aistudio.google.com/>
- NotebookLM (Gmail) - <https://notebooklm.google.com/>
- Research Rabbit <https://researchrabbitapp.com/>

- Perplexity - <https://www.perplexity.ai/>
- Liner <https://getliner.com/>
- Undermind <https://www.undermind.ai/>
- Ai2 Scholar QA <https://scholarqa.allen.ai/chat>
- Litmaps www.litmaps.com and
- sign in Google chrome to import plugin

AI and Generative AI



Defining Generative AI

To understand generative artificial intelligence (GenAI), we first need to understand how the technology builds from each of the AI subcategories listed below.

Expert System AI

Programmers teach AI exactly how to solve specific problems by providing precise instructions and steps.

Artificial Intelligence

The theory and methods to build machines that think and act like humans.



Machine Learning

The ability for computers to learn from experience or data without human programming.

Spam email detection, credit scoring, and recommendation systems.

Deep Learning

Mimics the human brain using artificial neural networks such as **transformers** to allow computers to perform complex tasks.

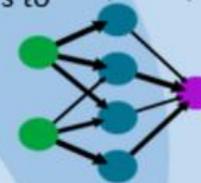


Image recognition, natural language processing, and autonomous driving

Generative AI

Generates new text, audio, images, video or code based on content it has been **pre-trained** on.



ChatGPT



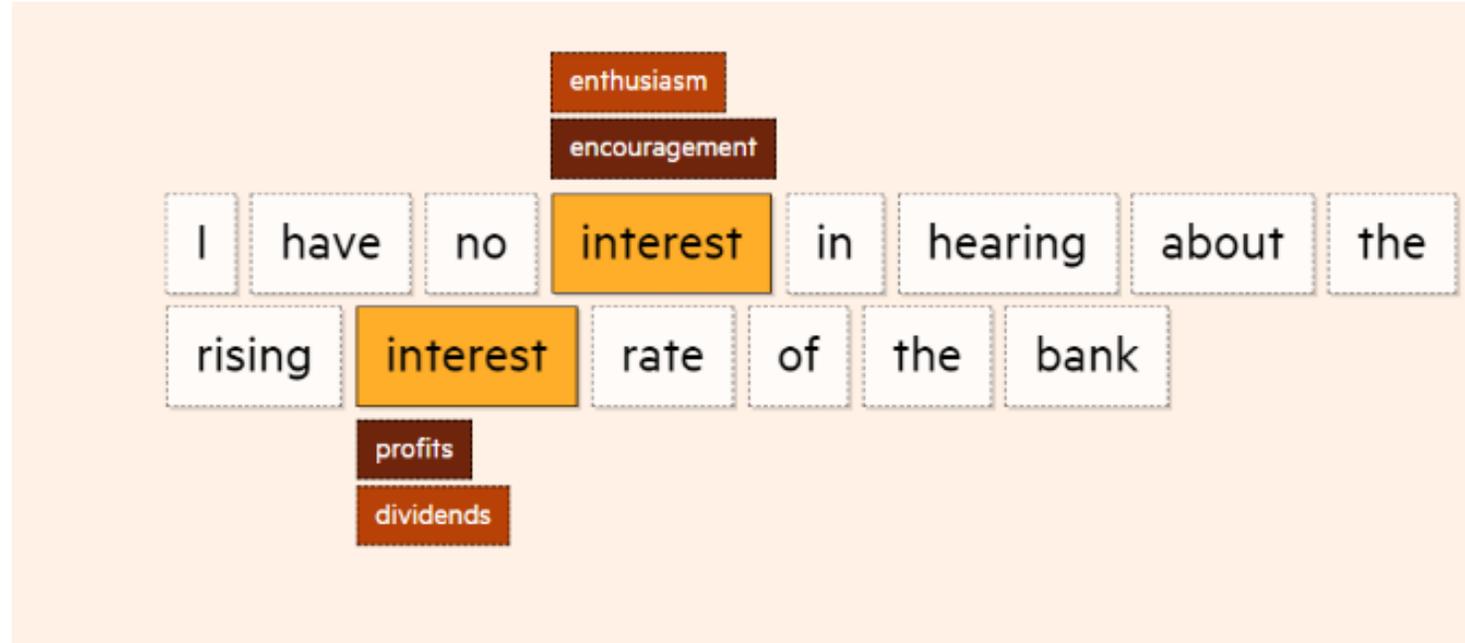
Midjourney



Bard

How Generative AI works: transformer architecture

This prevents incorrect word usage in varying contexts, crucial for advanced text generation.



Policies and Ethics

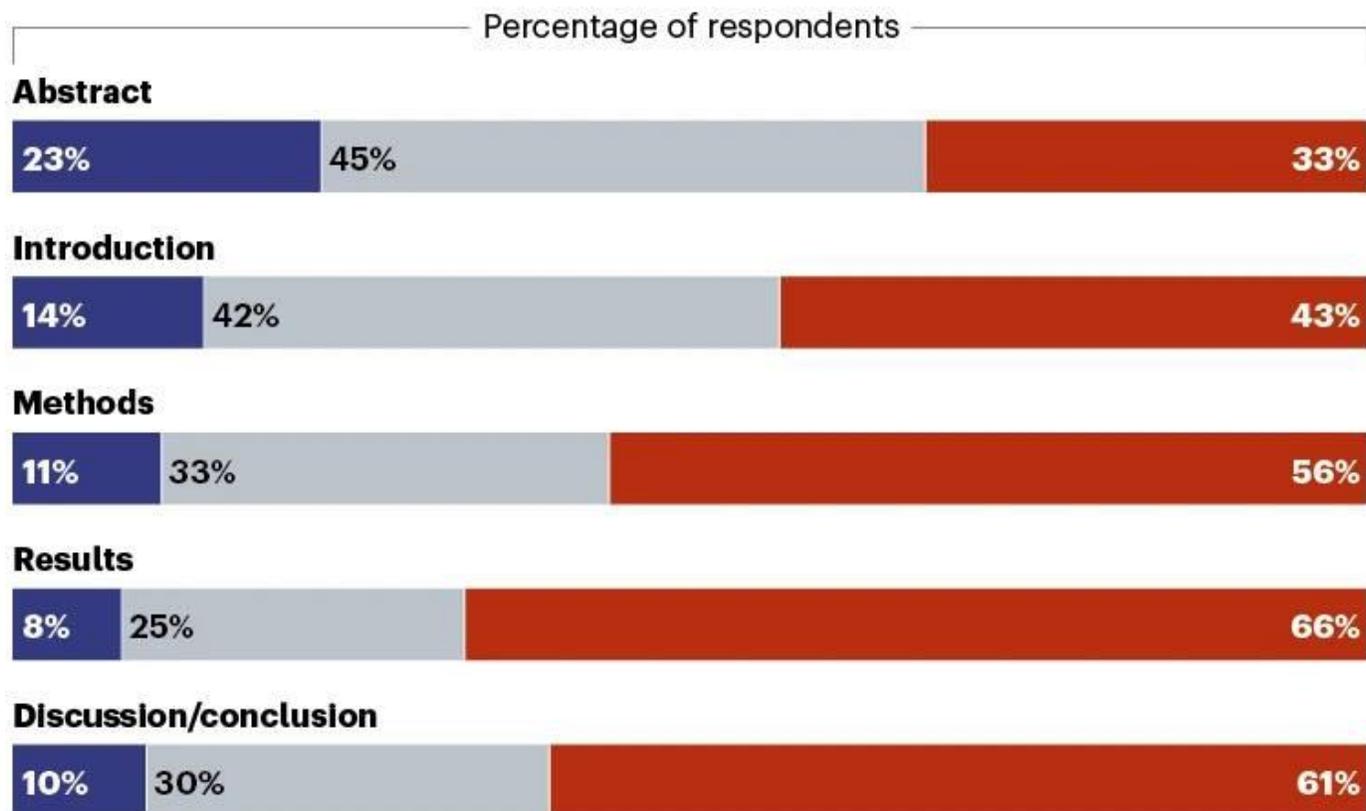


OPINIONS ABOUT USING AI TO DRAFT DIFFERENT SECTIONS OF A PAPER

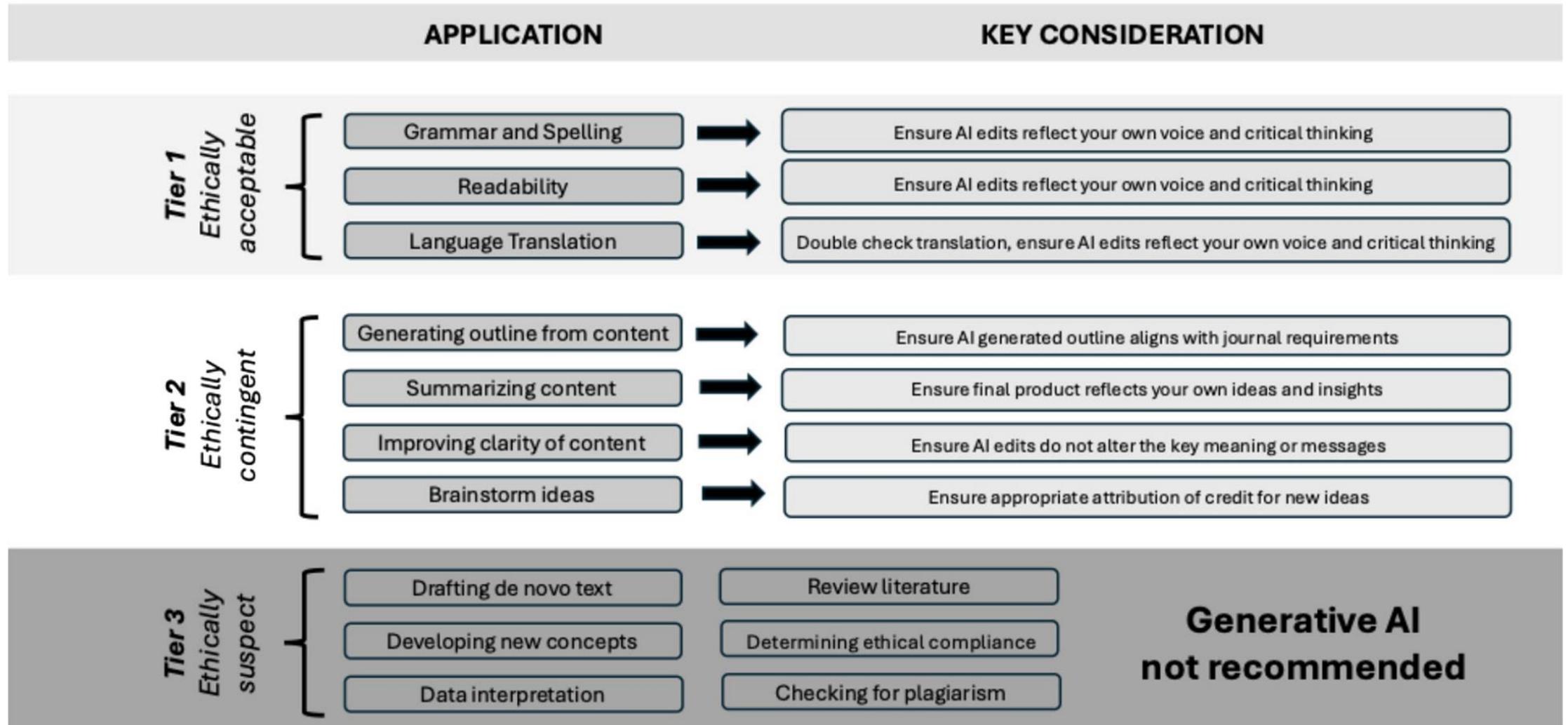
Nature's survey asked people to consider the following scenario: "Dr Bloggs uses an AI tool to write a section of a research paper, then edits the results. They don't disclose that they used AI." Respondents showed most concern about using AI for the results section.

Select your view of this behaviour for different sections of the paper

■ It's appropriate ■ Only appropriate with disclosure of AI use ■ Never appropriate



Ethical Use Cases of AI Generative Tools in Writing



Large Language Models (LLMs), such as ChatGPT, do not currently satisfy our [authorship criteria](#). Notably an attribution of authorship carries with it accountability for the work, which cannot be effectively applied to LLMs. Use of an LLM should be properly documented in the Methods section (and if a Methods section is not available, in a suitable alternative part) of the manuscript. **The use of an LLM (or other AI-tool) for “AI assisted copy editing” purposes does not need to be declared.** In this context, we define the term “AI assisted copy editing” as AI-assisted improvements to human-generated texts for readability and style, and to ensure that the texts are free of errors in grammar, spelling, punctuation and tone. These AI-assisted improvements may include wording and

The fast moving area of generative AI image creation has resulted in novel legal copyright and research integrity issues. As publishers, we strictly follow existing copyright law and best practices regarding publication ethics. While legal issues relating to AI-generated images and videos remain broadly unresolved, **Springer Nature journals are unable to permit its use for publication.**

Taylor & Francis supports the responsible use of Generative AI tools that respect high standards of data security, confidentiality, and copyright protection in cases such as:

- Idea generation and idea exploration
- Language improvement
- Interactive online search with LLM-enhanced search engines
- Literature classification
- Coding assistance

Generative AI tools must not be listed as an author. Authors must clearly acknowledge within the article or book any use of Generative AI tools.

Authors should not submit manuscripts where Generative AI tools have been used in ways that replace core researcher and author responsibilities, for example:

- text or code generation without rigorous revision
- synthetic data generation to substitute missing data without robust methodology
- generation of any types of content which is inaccurate including abstracts or supplemental materials

Authorship

... In addition, **artificial intelligence tools cannot be authors.** ...

Artificial intelligence (AI). AI-assisted technologies [such as large language models (LLMs), chatbots, and image creators] do not meet the Science journals' criteria for authorship and therefore may not be listed as authors or coauthors, nor may sources cited in Science journal content be authored or coauthored by AI tools. Authors who use AI-assisted technologies as components of their research study or as aids in the writing or presentation of the manuscript should **note this in the cover letter and in the acknowledgments section of the manuscript.**

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ELSEVIER

The use of generative AI and AI-assisted technologies in scientific writing

this policy only refers to the writing process, and not to the use of AI tools to analyze and draw insights from data as part of the research process.

Where authors use generative AI and AI-assisted technologies in the writing process, these technologies should **only be used to improve readability and language of the work.**

Authors should **disclose in their manuscript** the use of AI and AI-assisted technologies and a statement will appear in the published work.

Authors **should not list AI and AI-assisted technologies as an author or co-author, nor cite AI as an author.**

Figures, images and artwork

We do **not permit the use of Generative AI or AI-assisted tools to create or alter images** in submitted manuscripts.

International Publisher Policy Summary

	Springer Nature	Taylor & Francis	Science	Elsevier
Idea generation		✓		
Literature classification		✓		
Coding assistance		✓		
Readability	✓	✓	✓	✓
Insight generation				✗
AI co-author	✗	✗	✗	✗
AI images	✗	✗	✗	✗

Guidelines to the Cornell community

Duty of verification. The reliability and quality of AI-powered literature review tools are limited by the databases they search, which can affect the comprehensiveness and accuracy of the results. Therefore, it is advisable to use these tools in conjunction with other methods. Another major concern when using these tools is plagiarism, as they can produce verbatim copies of existing work without proper attribution or introduce ideas and results from actual published work but provide incorrect or missing citations. To minimize the risk of unintentional plagiarism, it is best to start with original text and then use GenAI assistance to refine it, in line with the distinction between AI-assisted and AI-written text (van Dis, Bollen, Zuidema et al., 2023). This will help ensure that AI-generated text is original and reflects the authors' own work, as also emphasized in journals and professional societies that permit the use of GenAI tools (but note that some journals prohibit the use of GenAI for any part of the research process entirely; see **Appendix 1** for a summary of existing community publication policies, noting that such policies are subject to change by those communities and publishers). Finally, depending on the extent of GenAI assistance with information search and literature review production (specifically, when it is used beyond grammatical polishing of authorwritten text), researchers may have a duty of disclosure for this research stage.

AI assistance in idea development, and proofreading is acceptable with clear author disclosure and oversight. However, using AI to **generate images or fabricate data is not permitted.**

Declaration of GenAI and AI-Assisted Technologies

Generative AI tools (OpenAI, 2024; Antropic, 2024) were used to support specific aspects of the research process, including [briefly state usage]. All outputs were reviewed and validated by the authors to ensure accuracy and academic integrity.

- the drafting of participant-facing materials (e.g., survey instructions)
- clarifying initial code definitions during qualitative analysis
- generating Python scripts for data preprocessing, which were subsequently reviewed and modified by the researchers

***Always check the journal's policy.**

Declaration of GenAI and AI-Assisted Technologies

At the end of the Methods section

- Example:
No Generative AI tools were used in the research or writing of this paper.
- Purpose: To confirm AI tools were not involved in research design, data analysis, or manuscript preparation.

Methods

Postgraduate Researchers (PGRs; often also referred to as doctoral students or candidates) from across the UK were invited to complete an anonymous online questionnaire hosted on the Qualtrics XM survey platform. Potential participants were invited to view an information sheet and consent form via the survey platform and to complete the questionnaire only if they were happy to participate. The Participant Information Sheet, consent section, and final section of the survey made it clear that consent could be withdrawn up to the point of final submission but that, once submitted, the anonymous nature of the survey meant that recorded responses could no longer be removed. Participants were reminded that they could contact their Graduate School/Doctoral College to find out about guidance/training on academic integrity if, they had concerns about their own use of Generative AI.

The questionnaire comprised five demographic questions and 21 questions about awareness and use of Generative AI and took approximately 20 min to complete (see <https://doi.org/10.5258/SOTON/D3304>). The survey was promoted via two national organisations supporting PGRs and via informal contact with Graduate Schools and Doctoral Colleges. The survey was additionally promoted via the authors' social networks on X and LinkedIn. It opened on 4 December 2023 and closed on 28 February 2024. The quantitative data was analysed using IBM SPSS Statistics 29.0, and the qualitative data from the free-text questions were analysed using reflexive thematic analysis (Braun & Clarke, 2006) using NVivo 14. The qualitative results were analysed separately by two of the authors and then compared and refined during subsequent conversations. Analysis was largely inductive due to the exploratory nature of the survey. **No Generative AI tools were used in the research or writing of this paper.**



Declaration of GenAI and AI-Assisted Technologies

After the Conclusion section

- Example:
Declaration of Generative AI and AI-assisted technologies in the writing process
During the preparation of this work the author(s) used no generative AI or AI-assisted tools or services.
- Purpose: To clarify whether AI tools were used during the manuscript writing or editing process.

Ethics statement

Written informed consent was obtained from the patient. This case report complies with institutional ethical guidelines.

Data availability statement

This manuscript synthesizes information from existing sources, without generating new data.

Acknowledgments

The authors have no acknowledgments to declare.

Declaration of generative AI and AI-assisted Technologies in the Writing Process

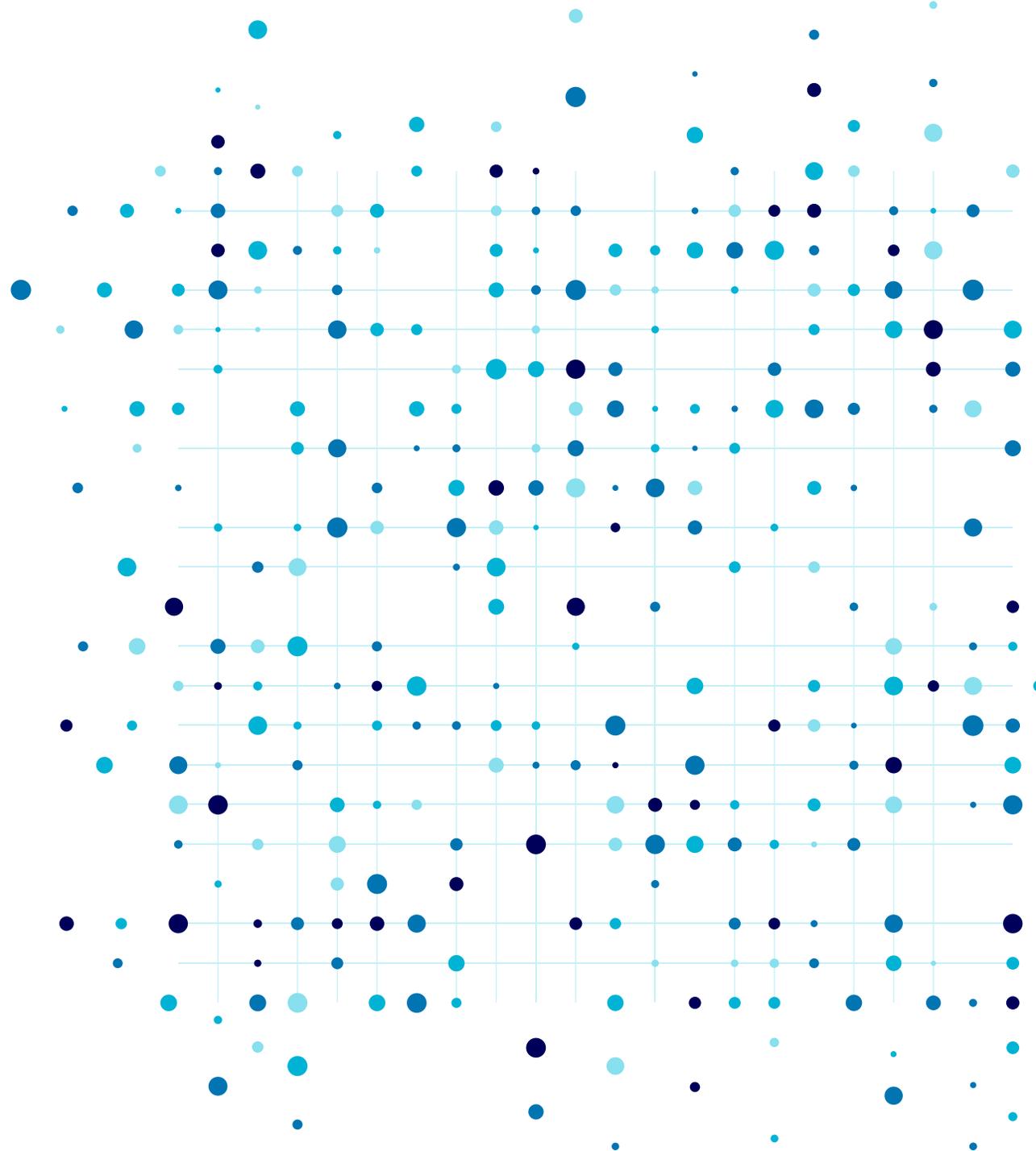
No generative AI or AI-assisted tools were used in the writing of this manuscript.

References

1. Lance JW, Burke D. Mechanisms of spasticity. Arch Phys Med Rehabil 1974;55:332-337.

doi: 10.1097/ph9.0000000000000075

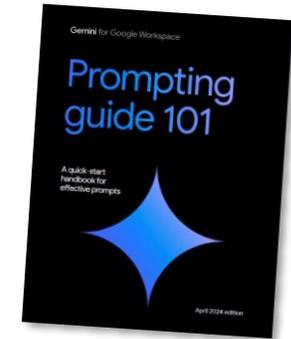
Prompts



Effective Prompt

There are four main areas to consider when writing an effective prompt. You don't need to use all four, but using a few will help!

- **Persona** Persona / audience / role
- **Task** Task
- **Context** Context
- **Format** Format / style / example



Here is an example of a prompt using all four areas that could work well in Gmail and Google Docs:



You are a Google Cloud program manager. Draft an executive summary email to [persona] based on [details about relevant program docs]. Limit to bullet points.

Effective Prompt

Persona / audience / role

Task

Context

Format / style / example

example in context is crucial

Context – allows AI to target responses.

Example – allows AI to infer the desired format and produce aligned outputs.

Identifying Problems/Brainstorming

Labels:

Persona/audience/role Task Model

Context Format/style



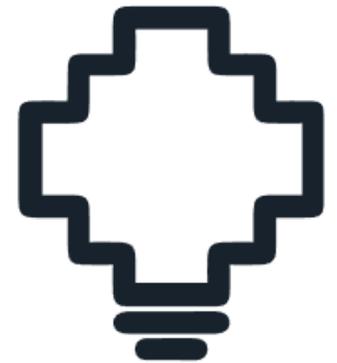
AI tools demo

Research Topics



Open Knowledge Maps

A visual interface to the world's scientific knowledge
openknowledgemaps.org



Open Knowledge Maps

Database

Map a research topic with AI

Get an overview - Find documents - Identify concepts

PubMed (life sciences)

BASE (all disciplines)

[Refine your search](#) ▾

Enter your search term

GO

Try out: [digital education](#) [climate change AND impact](#)

Open Knowledge Maps

Maps instead of lists

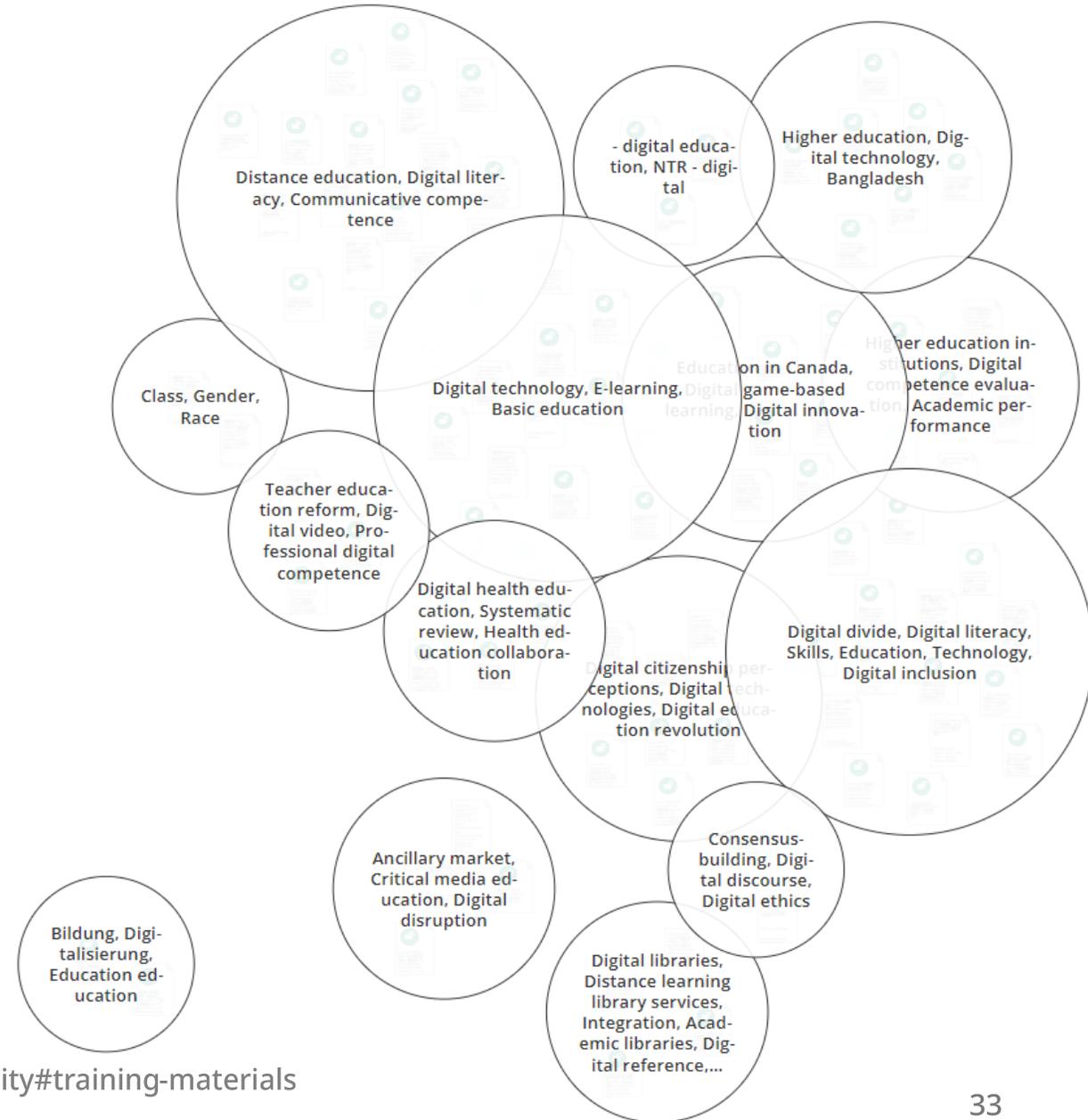
A bird's eye view of a field

Identify relevant concepts,
keywords

Interactive! Zoom in and out

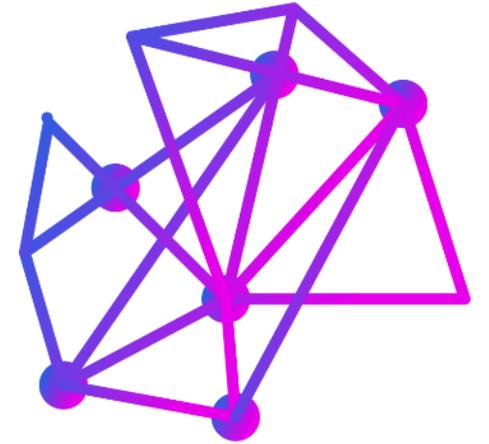
Search algorithm:

Text similarity between metadata of the 100 documents. The algorithm groups those papers together that have more words in common.



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Build a network of academic papers and we'll analyze the network to help you *discover* the most relevant literature.

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Select two papers and we will show you how the *literature connects* them together.

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To: Paper title, DOI, PubMed URL, or arXiv URL



หาที่ละ 1 เรื่อง

Keyword, Paper title, DOI, PubMed, or arXiv

หาที่ละ 2 เรื่อง เพื่อหา “เส้นทางเชื่อมต่อ”

Keyword, Paper title, DOI, PubMed, or arXiv

Inciteful

The most comprehensive search

- งานสำคัญ (Most Important Papers)
- งานทบทวนวรรณกรรม (Review Papers)
- งานล่าสุดจากผู้ประพันธ์ 100 อันดับแรก (Recent Papers by the Top 100 Authors)
- งานสำคัญล่าสุด (The Most Important Recent Papers)
- ผู้ประพันธ์ทรงอิทธิพล (Top Authors)
- ผู้ประพันธ์ที่น่าจับตา (Upcoming Authors)
- สถาบันที่ผลิตงานที่เราค้นหา (Institutions)
- วารสารที่เกี่ยวข้อง (Top Journals)
- วารสารที่พิมพ์งานคล้ายกับงานที่เราค้นหา (Similar Journals)

Inciteful Help Follow Paper title, DOI, PubMed URL, or arXiv URL

Did you know you can search directly from Zotero? Check out our new [Zotero plugin](#) and see the [Twitter thread](#) on how to use it.

But that's just good teaching! The case for culturally relevant pedagogy

Gloria Ladson-Billings *Theory Into Practice* | 10.1080/00405849509543675

2237 Cited By 15 Citing 1995 Published No Open Access 84,994 Papers in Graph 948,343 Citations in Graph 2 Graph Depth

Links: [Publisher](#) | [Full Text from LibKey](#)

Similar Papers

These papers cite the same papers as your selected paper. They tend to bias towards newer papers in the field.

Most Important Papers

These are the "Most Important" papers as ranked by PageRank. These tend to be the older papers in the field.

	num_cited_by	page_rank	published_year
Ways with Words Shirley Brice Heath	4277	126.63928	1983

Review Papers

These papers cite the most papers present in the graph. As a result, there is a high likelihood that these papers are review papers.

	num_cited_by	num_citing	published_year
Programming Paradigms and Beyond Chitra Kishanmuthi, Keki Pister	22	1529	2019

Recent Papers by the Top 100 Authors

	adamic_adar	num_cited_by	published_year
Democratizing Creative Early Educational Experiences: A Matter of Racial Justice	0.164169	0	2022

The Most Important Recent Papers

	page_rank	num_cited_by	published_year
Language crossing and the problematisation of ethnicity and socialisation	0.459529	20	2022

Other Data

This section highlights other interesting data related to the network.

Top Authors

This section tries to identify the top authors in the network.

	total_page_rank	num_papers
Shirley Brice Heath	137.591466	21

Upcoming Authors

This section tries to identify the upcoming authors in the network.

	num_papers	total_page_rank
Brittany Aronson	16	3.568359

Institutions

This section tries to identify the top institutions in the network.

	num_papers	total_page_rank
Stanford University	703	387.929653

Top Journals

This section tries to identify the most relevant journals for this research area.

	num_papers	total_page_rank
<i>Educational</i>	160	200.510425

Similar Journals

These are the journals where the most similar papers were published.

	num_papers	similarity
<i>Teachers College Record</i>	608	28.577574

Inciteful – literature connects

A

Taylor & Francis Online

Communication Research Reports >
Volume 39, 2022 - Issue 2

Open access

21,936 Views | 56 CrossRef citations to date | 86 Altmetric

Listen

Research Article

AI companions for lonely individuals and the role of social presence

Kelly Merrill Jr., Jihyun Kim & Chad Collins

Pages 93-103 | Published online: 12 Mar 2022

Cite this article

<https://doi.org/10.1080/088224096.2022.2045929>

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B

Taylor & Francis Online

Home > All Journals > Behavioral Sciences > Qualitative Researc... > List of Issues > Volume 3, Issue 2 > Using thematic anal...

Using thematic analysis in psychology

Virginia Braun & Victoria Clarke

Page 77-101 | Published online: 21 Jul 2006

Cite this article

871,031 Views | 110,530 CrossRef citations to date | 548 Altmetric

Sample our Behavioral Sciences Journals

Read this article

References | Citations | Metrics | Reprints & Permissions

Abstract

Thematic analysis is a poorly demarcated, rarely acknowledged, yet widely used qualitative analysis method within psychology. In this paper, we argue that it offers an accessible and theoretically informed approach to analysing qualitative data. We outline what thematic analysis is, locating it in relation to other qualitative analytic methods that search for themes or patterns, and in relation to different epistemological and ontological positions. We then provide clear guidelines to those wanting to start thematic analysis, or conduct it in a more deliberate and rigorous way, and consider potential pitfalls in

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Ain Shams Engineering Journal

Volume 5, Issue 4, December 2014, Pages 1093-1113

Sentiment analysis algorithms and applications: A survey

Walaa Medhat^a, Ahmed Hassan^b, Hoda Korashy^b

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<https://doi.org/10.1016/j.asej.2014.04.011>

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Abstract

Sentiment Analysis (SA) is an ongoing field of research in text mining field. SA is the computational treatment of opinions, sentiments and subjectivity of text

FEEDBACK

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C How you can search directly from Zotero? Check out our new [Zotero plugin](#) **A** [Twitter thread](#) on how to use it.

Sentiment analysis algorithms and applications: A survey
Walaal Medhat, ... Hoda Korashy
Ain Shams Engineering Journal, 2014

→

AI companions for lonely individuals and the role of social presence
Kelly Merrill, ... Chad Collins
Communication Research Reports, 2022

3 Min Hops **3** Max Hops **25939** Papers Searched **3** Paths Found **6** Papers in Paths

When the results are a "small" graph such as this, we recommend using the "Extended Graphs" feature to allow for longer paths and more context. [Activate →](#)

Paper Filters

Keywords & Authors: albert einstein relativity

Min Year: 2005 Max Year: 2015 Ext. Graph:

B How you can search directly from Zotero? Check out our new [Zotero plu](#) **A** [Twitter thread](#) on how to use it.

Using thematic analysis in psychology
Virginia Braun, Victoria Clarke
Qualitative Research in Psychology, 2006

→

AI companions for lonely individuals and the role of social presence
Kelly Merrill, ... Chad Collins
Communication Research Reports, 2022

2 Min Hops **2** Max Hops **27228** Papers Searched **2** Paths Found **2** Papers in Paths

When the results are a "small" graph such as this, we recommend using the "Extended Graphs" feature to allow for longer paths and more context. [Activate →](#)

Paper Filters

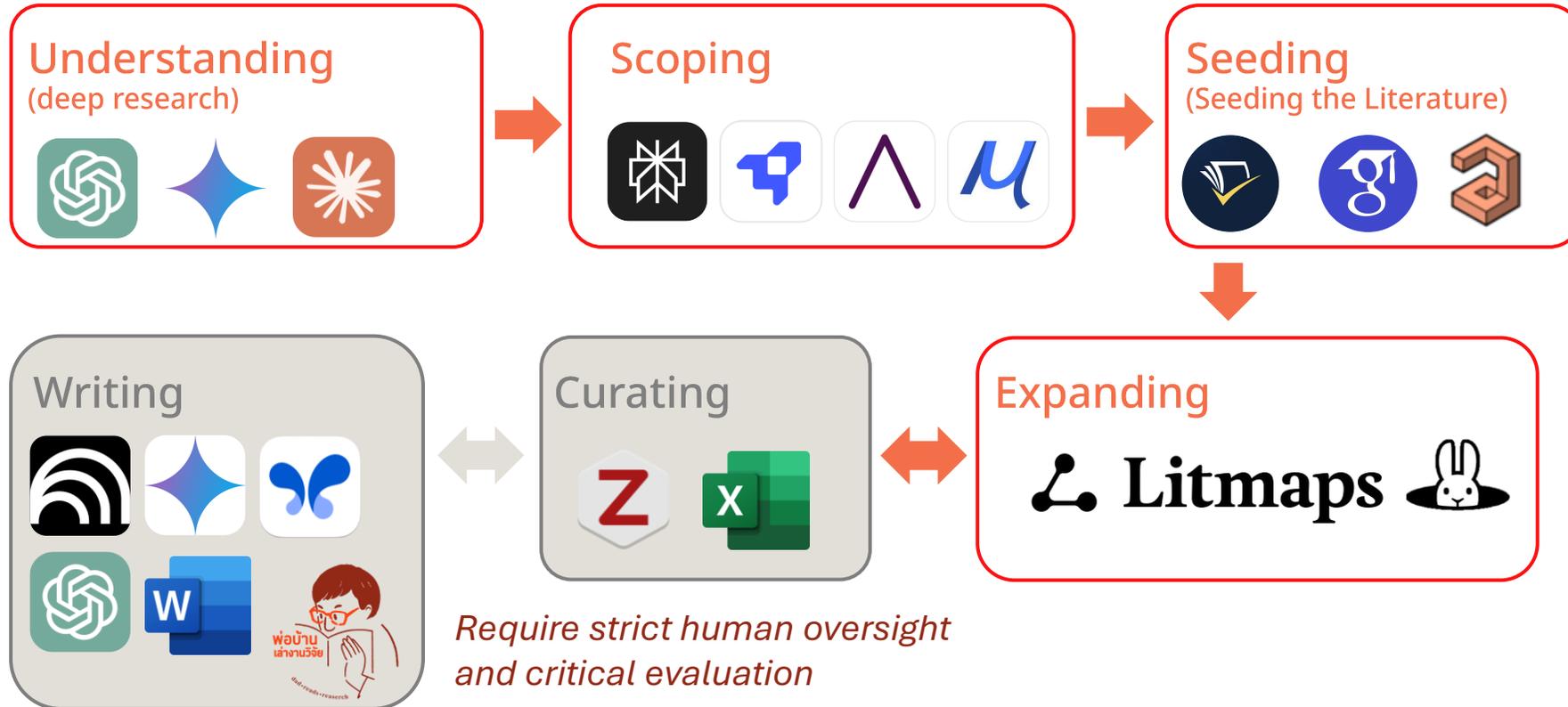
Keywords & Authors: albert einstein relativity

Min Year: 2005 Max Year: 2015 Ext. Graph:

AI-Augmented Literature Review Workflow

The background of the slide features a light blue grid pattern. Overlaid on this grid are numerous dots in various shades of blue and teal, ranging from small, faint dots to larger, more prominent ones. The dots are scattered across the right side of the slide, creating a modern, data-driven aesthetic.

AI-Augmented Literature Review Workflow



Deep Research

☰ ChatGPT 5.1 ▾



What are you researching?

Get a detailed report

+ 🔍 Research 🌐 ▾



📎 Add photos & files

🔍 Deep research ✓

25 left
More available on December 28

🛒 Shopping research

🖼️ Create image

🤖 Agent mode

⋮ More >

☰ Gemini



สวัสดี vasa

🔍 Deep Research

👉 สร้างรูปภาพ

🖼️ Canvas

📖 การเรียนรู้แบบมีคำแนะนำ

ถาม C



รวดเร็ว ▾



Using AI Scope the Research Landscape

AI can be used to help understand research on topics of interest, but it should not be used to write or draft the literature review.



Perplexity
perplexity.ai
freemium



Liner
getliner.com
freemium



ANSWERTHIS
answerthis.io
freemium



Undermind
undermind.ai
freemium



Ai2 Scholar QA
scholarqa.allen.ai
free

There is no single “best” tool. Its effectiveness depends on the context and the specific subject being explored.

Identifying Problems

Brainstorm research topics (ChatGPT, Gemini, Claude, and Perplexity)

<https://youtu.be/NypB7V-iUgo>

ChatGPT + Gemini to identify keywords

<https://youtu.be/gjTYb2PToQ8>

Research gap with Semantic Scholar & Google Scholar

<https://youtu.be/EaW98MTSEKM>

Seeding the Literature



Free Multidisciplinary Academic Databases with metadata services

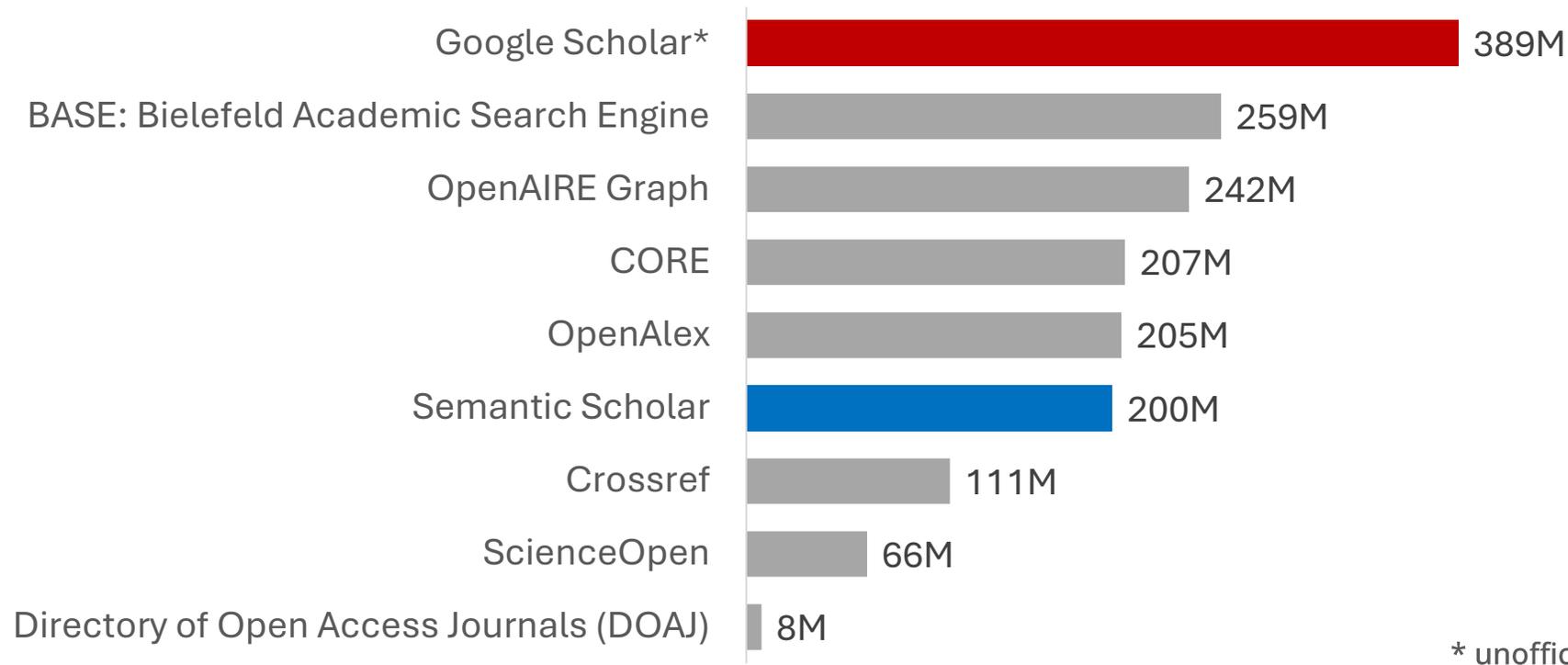
Name	Size*
Google Scholar	389,000,000 Google
BASE: Bielefeld Academic Search Engine	259,497,239 Bielefeld University
OpenAIRE Graph	242,000,000 OpenAIRE AMKE (not-for-profit)
CORE	207,000,000 Open University
Semantic Scholar	200,000,000 Allen Institute for Artificial Intelligence
OpenAlex	205,000,000 OurResearch
Crossref	111,231,936 Crossref
ScienceOpen	66,000,000 ScienceOpen Inc.
Directory of Open Access Journals (DOAJ)	8,265,735 IS4OA

* https://en.wikipedia.org/wiki/List_of_academic_databases_and_search_engines#Metadata_services

The "Size" column indicates the number of metadata records. The database should be the main source for statistics, or if unavailable, independent journal estimates should be used. Notably, Google Scholar doesn't provide this detail, but the database's size has been calculated.

Free Multidisciplinary Academic Databases with metadata services

Article Count - Scholarly data provider



* unofficial estimate

* https://en.wikipedia.org/wiki/List_of_academic_databases_and_search_engines#Metadata_services

The "Size" column indicates the number of metadata records. The database should be the main source for statistics, or if unavailable, independent journal estimates should be used. Notably, Google Scholar doesn't provide this detail, but the database's size has been calculated.

AI tools demo



Google Scholar

Stand on the shoulders of giants

scholar.google.com



Google Scholar

เมนู Google Scholar

Metrics

Advanced Search

เมนูช่วย Literature Review

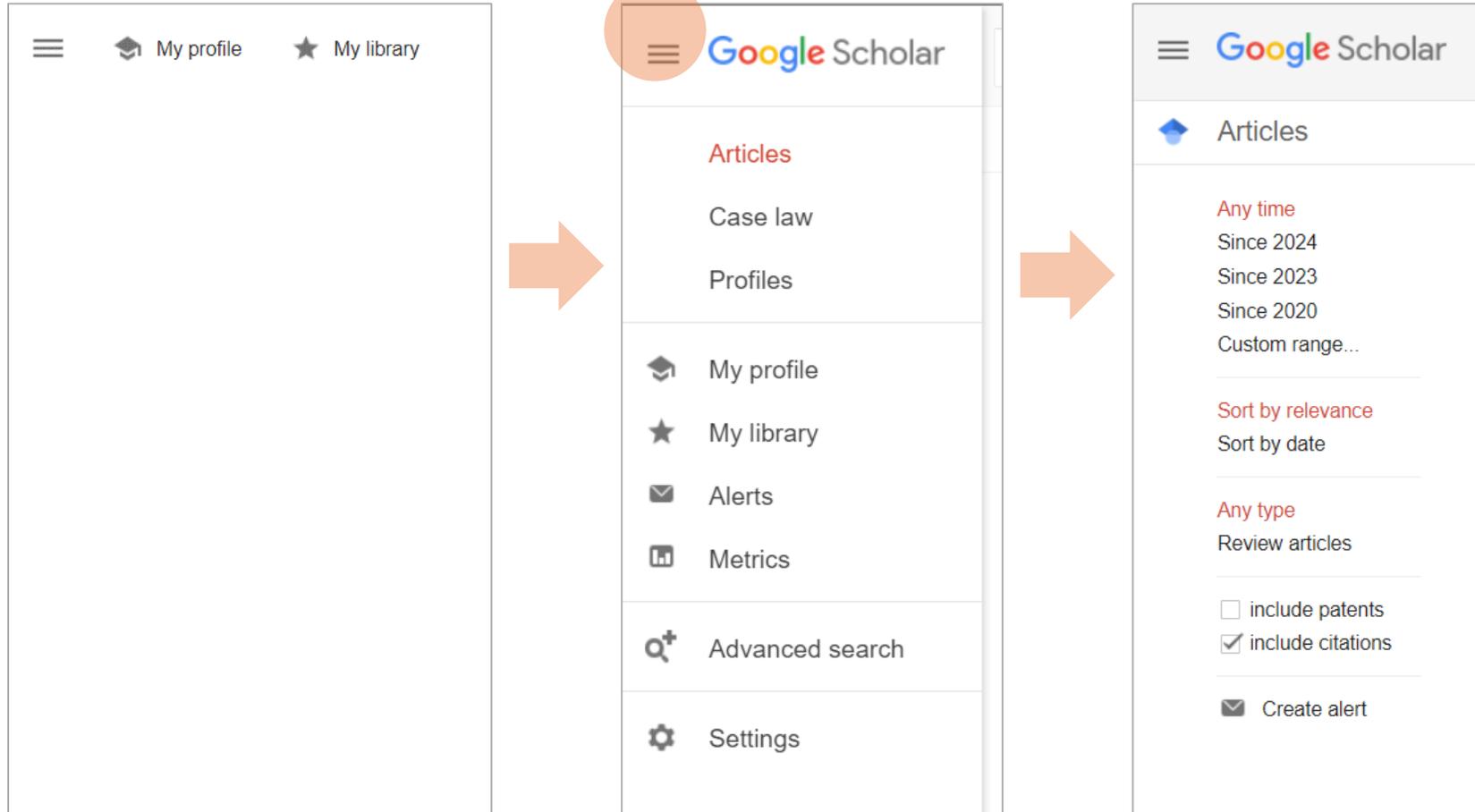
เมนูดู profile นักวิจัย

Extensions

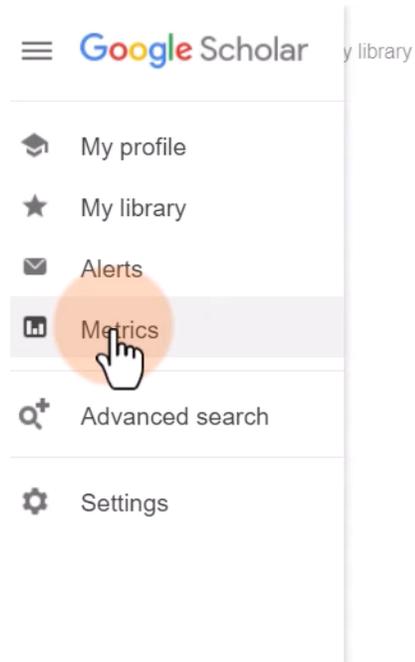
YouTube https://youtu.be/XQy5_32Y0Dw



Google Scholar - ۱۵۷

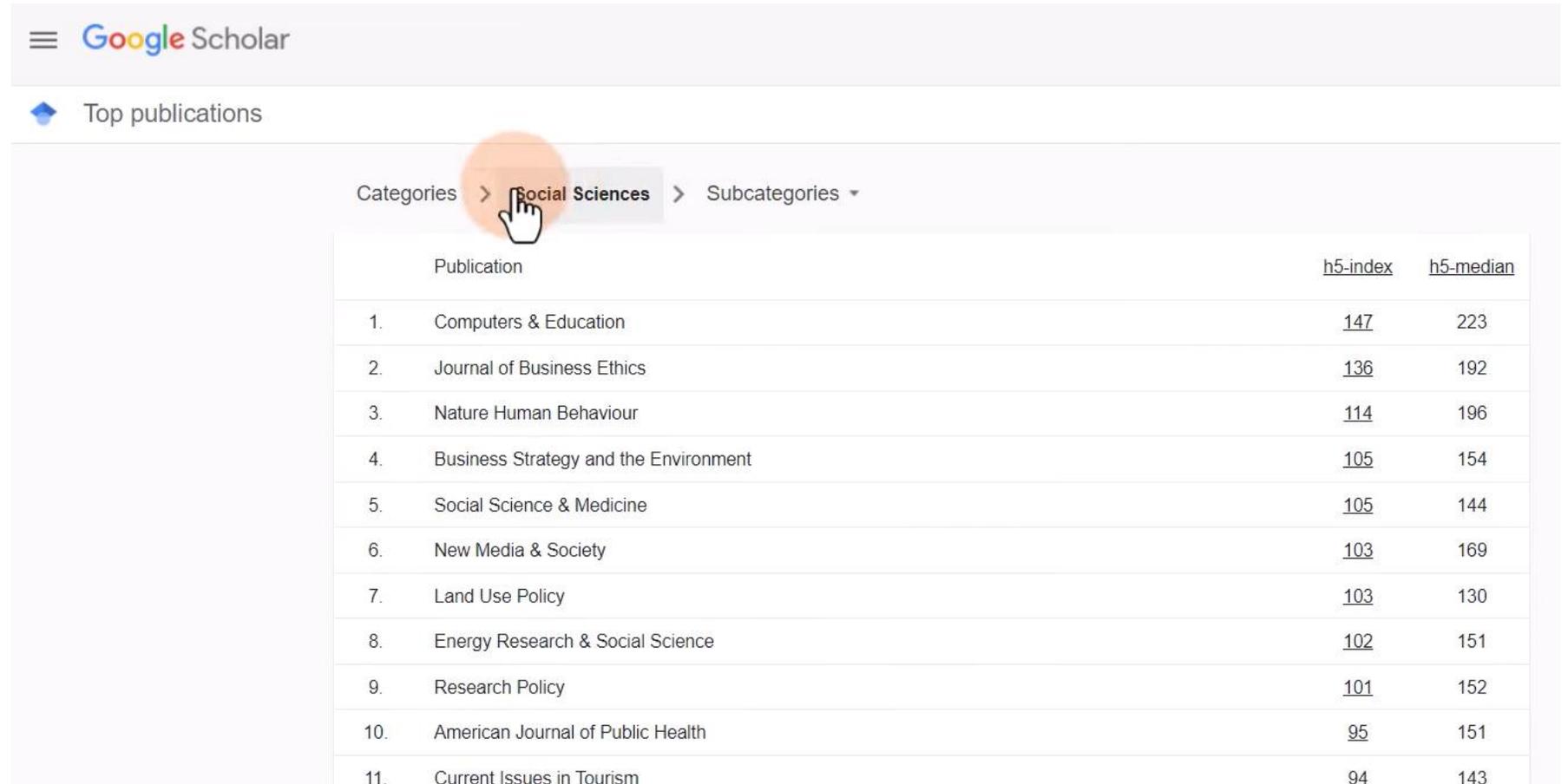


Google Scholar - Metrics



Google Scholar My library

- My profile
- My library
- Alerts
- Metrics**
- Advanced search
- Settings



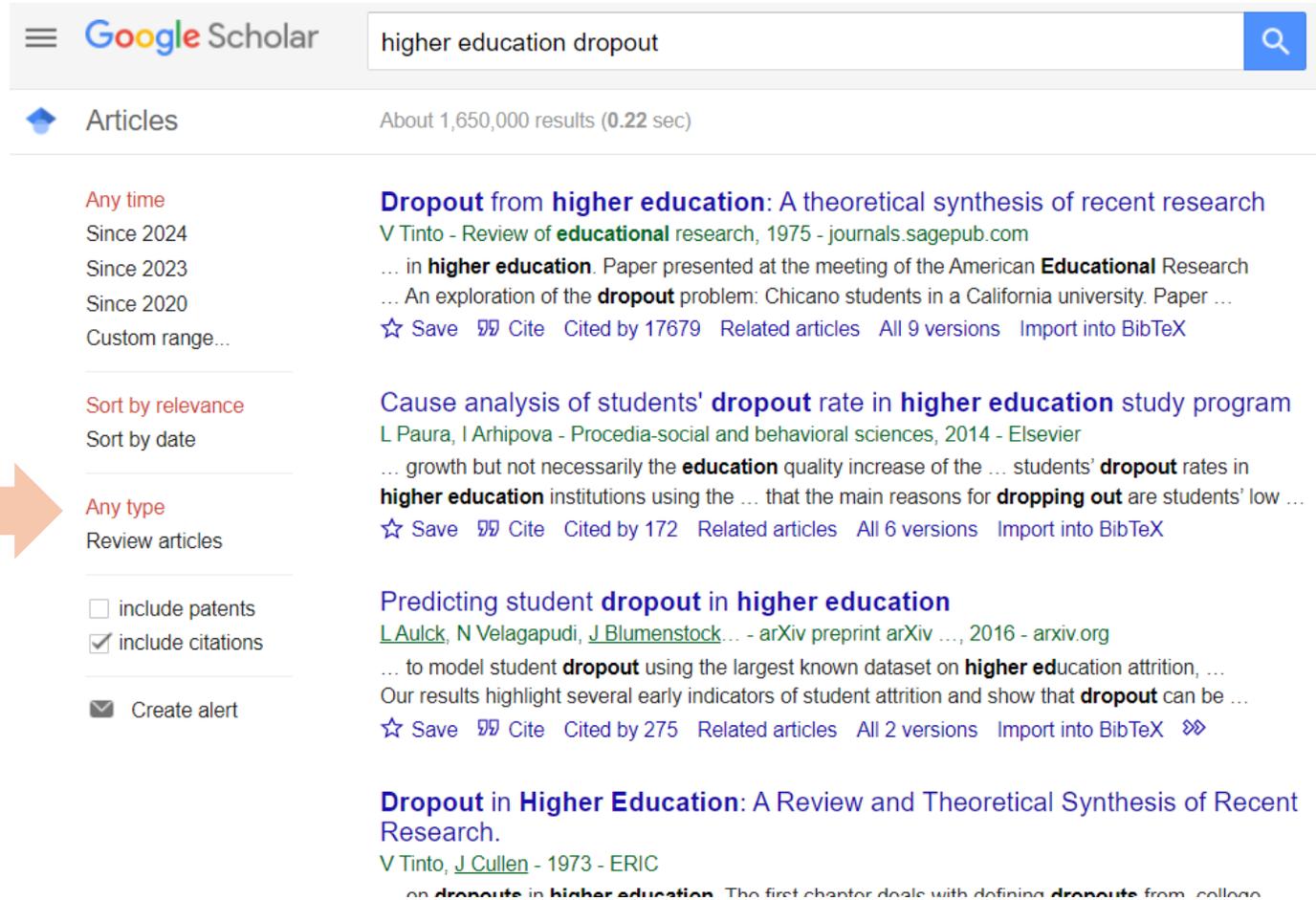
Google Scholar

Top publications

Categories > **Social Sciences** > Subcategories ▾

Publication	h5-index	h5-median
1. Computers & Education	147	223
2. Journal of Business Ethics	136	192
3. Nature Human Behaviour	114	196
4. Business Strategy and the Environment	105	154
5. Social Science & Medicine	105	144
6. New Media & Society	103	169
7. Land Use Policy	103	130
8. Energy Research & Social Science	102	151
9. Research Policy	101	152
10. American Journal of Public Health	95	151
11. Current Issues in Tourism	94	143

Google Scholar - မြေပုံအညွှန်း Literature Review



The screenshot shows the Google Scholar interface. At the top, the search bar contains the text "higher education dropout" and a magnifying glass icon. Below the search bar, the results are categorized as "Articles" with approximately 1,650,000 results found in 0.22 seconds. On the left side, there are filters for "Any time" (with sub-options: Since 2024, Since 2023, Since 2020, Custom range...), "Sort by relevance" (with sub-option: Sort by date), "Any type" (with sub-option: Review articles), and checkboxes for "include patents" (unchecked) and "include citations" (checked). There is also a "Create alert" checkbox (checked). An orange arrow points to the "Review articles" option under "Any type". The main search results list three articles:

- Dropout from higher education: A theoretical synthesis of recent research**
V Tinto - Review of **educational** research, 1975 - journals.sagepub.com
... in **higher education**. Paper presented at the meeting of the American **Educational** Research ... An exploration of the **dropout** problem: Chicano students in a California university. Paper ...
☆ Save 📄 Cite Cited by 17679 Related articles All 9 versions Import into BibTeX
- Cause analysis of students' dropout rate in higher education study program**
L Paura, I Arhipova - Procedia-social and behavioral sciences, 2014 - Elsevier
... growth but not necessarily the **education** quality increase of the ... students' **dropout** rates in **higher education** institutions using the ... that the main reasons for **dropping out** are students' low ...
☆ Save 📄 Cite Cited by 172 Related articles All 6 versions Import into BibTeX
- Predicting student dropout in higher education**
L Aulck, N Velagapudi, J Blumenstock... - arXiv preprint arXiv ..., 2016 - arxiv.org
... to model student **dropout** using the largest known dataset on **higher education** attrition, ... Our results highlight several early indicators of student attrition and show that **dropout** can be ...
☆ Save 📄 Cite Cited by 275 Related articles All 2 versions Import into BibTeX 📄

The fourth article is partially visible:

- Dropout in Higher Education: A Review and Theoretical Synthesis of Recent Research.**
V Tinto, J Cullen - 1973 - ERIC
... on **dropouts** in **higher education**. The first chapter deals with defining **dropouts** from colleges

Google Scholar - เมษายนช่วย Literature Review

Google Scholar higher education dropout

Articles About 94,500 results (0.08 sec)

Any time
Since 2024
Since 2023
Since 2020
Custom range...

Sort by relevance
Sort by date

Any type
Review articles

Create alert

A theoretical synthesis
Dropout from higher education: A theoretical synthesis of recent research [PDF] psu.edu
V Tinto - Review of **educational** research, 1975 - journals.sagepub.com
... in **higher education**. Paper presented at the meeting of the American **Educational** Research ...
... An exploration of the **dropout** problem: Chicano students in a California university. Paper ...
☆ Save Cite Cited by 17679 Related articles All 9 versions Import into BibTeX

A review and theoretical synthesis
Dropout in Higher Education: A Review and Theoretical Synthesis of Recent Research. [PDF] ed.gov
V Tinto, J Cullen - 1973 - ERIC
... on **dropouts** in **higher education**. The first chapter deals with defining **dropouts** from college,
... In dealing with the short-term historical changes in **dropout** from **higher education**, we will ...
☆ Save Cite Cited by 291 Related articles All 2 versions Import into BibTeX

A literature review
Dropout factors in higher education: a literature review
PCF Barroso, ÍM Oliveira, D Noronha-Sousa... - Psicologia Escolar e ..., 2022 - SciELO Brasil
... **Dropping out** of **Higher Education** is an international concern with an impact on **Higher Education**
... , it is urgent to identify evasion factors in **higher education**. A review made in published ...
☆ Save Cite Cited by 11 Related articles All 7 versions Import into BibTeX

A systematic review
Dropout in rural higher education: A systematic review [PDF] frontiersin.org
A Guzmán, S Barragán, F Cala Vitery - Frontiers in **Education**, 2021 - frontiersin.org
... Student **dropout** in **higher education** has been of great interest to the academic ... , **higher education** institutions, and the state itself. It is recognised that **dropout** at this level of **education** is ...
☆ Save Cite Cited by 35 Related articles All 2 versions Import into BibTeX

* ไม่ควรสร้าง lit review จากงาน review articles เพียงอย่างเดียว กลับไปดูงานต้นทางด้วย

Google Scholar – Related articles

Google Scholar higher education dropout

Articles About 94,500 results (0.08 sec)

Any time
Since 2024
Since 2023
Since 2020
Custom range...

Sort by relevance
Sort by date

Any type
Review articles

Create alert

Dropout from higher education: A theoretical synthesis of recent research [PDF] psu.edu
V Tinto - Review of **educational** research, 1975 - journals.sagepub.com
... in **higher education**. Paper presented at the meeting of the American **Educational** Research ... An exploration of the **dropout** problem: Chicano students in a California university. Paper ...
☆ Save Cite Cited by 17679 Related articles All 9 versions Import into BibTeX

Dropout in Higher Education: A Review and Theoretical Synthesis of Recent Research. [PDF] ed.gov
V Tinto, J Cullen - 1973 - ERIC
... on **dropouts** in **higher education**. The first chapter deals with defining **dropouts** from_college, ... In dealing with the short-term historical changes in **dropout** from **higher education**, we will ...
☆ Save Cite Cited by 291 Related articles All 2 versions Import into BibTeX

Dropout factors in higher education: a literature review
PCF Barroso, ÍM Oliveira, D Noronha-Sousa... - Psicologia Escolar e ..., 2022 - SciELO Brasil
... **Dropping out** of **Higher Education** is an international concern with an impact on **Higher Education** ... , it is urgent to identify evasion factors in **higher education**. A review made in published ...
☆ Save Cite Cited by 11 Related articles All 7 versions Import into BibTeX

Dropout in rural higher education: A systematic review [PDF] frontiersin.org
A Guzmán, S Barragán, F Cala Vitery - Frontiers in **Education**, 2021 - frontiersin.org
... Student **dropout** in **higher education** has been of great interest to the academic ... , **higher education** institutions, and the state itself. It is recognised that **dropout** at this level of **education** is ...
☆ Save Cite Cited by 35 Related articles All 2 versions Import into BibTeX

หาเปเปอร์ที่เกี่ยวข้อง

Google Scholar - Extensions



Featured 4.4 ★ (35 ratings)

Extension Education 30,000 users

แสดง ranking และ h-index

<https://chromewebstore.google.com/>

The screenshot shows a Google Scholar search for "platformization of brands". The search results are filtered to "Artikel" (Articles) and show approximately 18,800 results. A blue tooltip displays journal metrics: "Journal of Marketing; H-Index: 253; SJR: Q1; VIB: A+; CCF: NA". The first result is "The platformization of brands" by JRK Wichmann and N Wiegand, published in the Journal of Marketing in 2022. It has a Q1 ranking and an A+ journal rating. The abstract snippet reads: "... the brand can foster or restrict to shape platform interactions. ... practices in order for brands to master the platform transition. ... on the brand flagship platform increases the risk of platform ...". Other results include "Platform leaders" by A Gawer and MA Cusumano (Q2, C), "The elements of platform leadership" by MA Cusumano and A Gawer (Q2, C), and "The platformization of Chinese society: Infrastructure, governance, and practice" by J De Kloet and T Poell (Q1).

Google Scholar - Extensions

 **ExCITATION journal ranking in Google Scholar™**

[excitation.tech](#)  **Featured** 4.6 ★ (27 ratings)

Extension Education 8,000 users

เพิ่ม sort menu
แสดง SJR ranking และสัญชาติ
แสดง SJR ranking ใน research profile

<https://chromewebstore.google.com/>

Articles About 2,040,000 results (0.05 sec)

ExCITATION 10 results loaded

Sort by:
Cites
SJR

Blended learning systems
CR Graham - The handbook of **blended learning**: Global ..., 2006 - books.google.com
... **blended learning** different from other terms in our vernacular, such as distributed **learning**, e-**learning**, open and flexible **learning**... to find any **learning** system that was not **blended** (Masie, ...
☆ Save  Cite Cited by 5241 Related articles All 10 versions Import into BibTeX

What do we mean by blended learning?
SJR Q1, 0.801 S Hrastinski - TechTrends, 2019 - Springer 
... of **blended learning** since no two **blended learning** designs are identical. They suggested that the term **blended learning** should be used when face-to-face and online **learning** are ...
☆ Save  Cite Cited by 986 Related articles All 10 versions Import into BibTeX

 **Charles R. Graham** 
[Brigham Young University](#)
Verified email at byu.edu - [Homepage](#)
blended learning online learning digital learning learner engagement educational technology

Journals' rankings BETA  Report a bug

Q1 46%	Q3 2%	N/A 52%
-----------	----------	------------

— based on 39 most cited papers in the last 10 years 

TITLE	CITED BY	YEAR
Blended learning systems CR Graham	5287	2006
N/A CJ Bonk & CR Graham, The handbook of blended learning: Global perspectives ...		

-  Google Scholar
-  My profile
-  My library
-  Alerts
-  Metrics
-  Labs
-  Settings



Ask a detailed research question to find relevant papers

Example questions

Has anyone used single molecule footprinting to examine transcription factor binding in human cells?

Are hydrogen powered cars, compared to electric / internal combustion engine cars, really better for the environment?

What is the standard of care for intraductal papilloma without atypia? When is surgical excision recommended, and when can it be managed conservatively?

Find papers from the past 2 years about how to determine whether an abstractive summary generated by an LLM is grounded.

Ask Scholar



Typical Google Scholar Search

```
("cognitive learning" AND "constructive learning") AND  
(compar* OR contrast* OR "relative effectiveness" OR  
outperform* OR advantage* OR impact)
```

Scholar Labs Search

```
"In what ways are cognitive learning approaches more  
effective than constructive learning approaches, and  
under what conditions does constructive learning  
outperform cognitive learning?"
```

Current session

In what ways are cognitive learning approaches more...

🔄 Evaluated 8 top results

In what ways are cognitive learning approaches more effective than constructive learning approaches, and under what conditions does constructive learning outperform cognitive learning?

Cognitive load theory vs. constructivist approaches: which best leads to efficient, deep learning?

[PDF] wiley.com

JJ Vogel-Walcutt, JB Gebrim, C Bowers... - Journal of Computer ..., 2011 - Wiley Online Library

Suggests that Cognitive Load Theory (CLT) based instruction led to slightly better retention of integrated knowledge compared to constructivist instruction when teaching complex military command and control skills.

- **CLT Improves Efficiency:** Finds that instructional efficiency was improved when CLT-supported instruction was used compared with the constructivist approach, both immediately and one week later.
- **Equivalent Knowledge Acquisition:** Reports that the acquisition of procedural, declarative, and conceptual knowledge, as well as decision-making skills, did not differ significantly between the CLT and constructivist instructional approaches in the tested domain.

☆ Save 📄 Cite Cited by 196 Related articles All 9 versions

🔄 Found early results. Searching deeper...

- แสดงผลการค้นหาตามบริบทของคำถาม
- มีข้อมูล cite, cited by ... ตามสไลด์ Google Scholar
- ถามต่อเนื่องได้

Semantic Scholar

AI-Powered Research Tool
www.semanticscholar.org



Semantic Scholar

Semantic (adj.) เกี่ยวกับความหมายทางภาษาศาสตร์

AI search engine

Google Scholar = page rank algorithm, with NLP actually...

Semantic Scholar = natural language processing (NLP) algorithm

YouTube <https://youtu.be/nBBcuiyC-xc> 

Semantic Scholar - การค้นหา



The screenshot shows the Semantic Scholar search interface. At the top left is the Semantic Scholar logo. A search bar contains the text 'dropout' and a yellow 'Search' button. To the right of the search bar is a user profile icon for 'vasa buraphadeja'. Below the search bar, a notification states 'About 58,800 results for "dropout"'. A filter bar contains several dropdown menus: 'Fields of Study', 'Date Range', 'Has PDF', 'Author', and 'Journals & Conferences'. To the right of these filters is a 'Sort by Relevance' dropdown and two menu icons. The first search result is titled 'Dropout as a Bayesian Approximation: Representing Model Uncertainty in Deep Learning' by Y. Gal and Zoubin Ghahramani, published in the 'International Conference on Machine Learning' on June 6, 2015. The TLDR text reads: 'A new theoretical framework is developed casting dropout training in deep neural networks (NNs) as approximate Bayesian inference in deep Gaussian processes, which mitigate the problem of representing uncertainty in deep learning without sacrificing either computational complexity or test accuracy. Expand'. Below the title and authors are buttons for citation count (7,758), PDF download, arXiv link, Save, and Cite.

เลือกสาขาได้ (Field of study)

Date range ละเอียดกว่า

เลือกแต่ PDF ได้

เลือกผู้แต่ง + วารสารได้

Semantic Scholar - การค้นหา

The screenshot shows the Semantic Scholar search results page for the term "dropout". At the top, there is a search bar with "dropout" entered and a yellow "Search" button. To the right of the search bar is a user profile icon for "vasa buraphadeja". Below the search bar, it says "About 58,800 results for 'dropout'". There are several filter buttons: "Fields of Study", "Date Range", "Has PDF", "Author", and "Journals & Conferences". A dropdown menu is open, showing sorting options: "Sort by Relevance", "Sort by Citation Count", "Sort by Most Influential Papers", and "Sort by Recency". The first result is titled "Dropout as a Bayesian Approximation: Representing Model Uncertainty in Deep Learning" by Y. Gal and Zoubin Ghahramani, published in the International Conference on Machine Learning on June 6, 2015. A TLDR summary is provided: "A new theoretical framework is developed casting dropout training in deep neural networks (NNs) as approximate Bayesian inference in deep Gaussian processes, which mitigate the problem of representing uncertainty in deep learning without sacrificing either computational complexity or test accuracy." A blue "Expand" link is at the end of the TLDR.

เรียงการแสดงผลได้ 4 แบบ

- Relevance = semantic
- Citation count
- Most Influential Papers = งานที่คนอ้างอิงแบบมีนัยสำคัญ เช่น อ้างวิธีการ อ้างที่ส่วนไหนของงาน ฯลฯ
- Recency

Semantic Scholar – การแสดงผล citation งาน

SEMANTIC SCHOLAR

dropout

Search

vasa buraphadeja

DOI: 10.3102/00346543045001089 • Corpus ID: 146347604

Dropout from Higher Education: A Theoretical Synthesis of Recent Research

Vincent Tinto • Published 1 March 1975 • Education • Review of Educational Research

Despite the very extensive literature on dropout from higher education, much remains unknown about the nature of the dropout process. In large measure, the failure of past research to delineate more clearly the multiple characteristics of dropout can be traced to two major shortcomings; namely, inadequate attention given to questions of definition and to the development of theoretical models that seek to explain, not simply to describe, the processes that bring individuals to leave institutions... [Expand](#)

[View on SAGE](#) [citeseerx.ist.psu.edu](#) [Save to Library](#) [Create Alert](#) [Cite](#)

7,658 Citations

- Highly Influential Citations: 1,361
- Background Citations: 3,962
- Methods Citations: 935
- Results Citations: 279

[View All](#)

Figures 7,658 Citations 110 References **Related Papers**

ดูได้ว่าถูกอ้างอิงที่ส่วนไหน
ของงาน

ดู related papers ได้*

พยายามหาคำอธิบาย
แต่ไม่เจอจริงๆ

Semantic Scholar – การแสดง profile



SEMANTIC SCHOLAR

Search 219,049,421 papers from all fields of science

Search

vasa buraphadeja


Vincent Tinto
Publications 81
h-index 39
Citations 32,585
Highly Influential Citations 4,950

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Author pages are created from data sourced from our academic... [show more](#)

Publications Citing Authors Referenced Authors **Co-Authors**

Search authors, publica  Has PDF More Filters Sort by Most Influe...  

Leaving College: Rethinking the Causes and Cures of Student Attrition

S. Schwartz Vincent Tinto Education, Sociology · 1987

As enrollments continue to decline, student retention is increasingly vital to the survival of most colleges and universities. In the second edition of this text, Tinto synthesizes far-ranging... [Expand](#)

 10,058  1,687  Publisher  Save  Alert  Cite

Dropout from Higher Education: A Theoretical Synthesis of Recent Research

Vincent Tinto Education · 1 March 1975

Despite the very extensive literature on dropout from higher education, much remains unknown about the nature of the dropout process. In large measure, the failure of past research to delineate more... [Expand](#)

 7,658  1,361  SAGE  Save  Alert  Cite

Research and Practice of Student Retention: What Next?

Vincent Tinto Education · 1 May 2006

After reviewing the state of student retention research and practice, past and present, the

Co-Authors

 **C. Engstrom**
18 Publications · 950 Citations

 **F. Cullen**

ไม่ต้องรอนักวิจัยมาเคลม profile

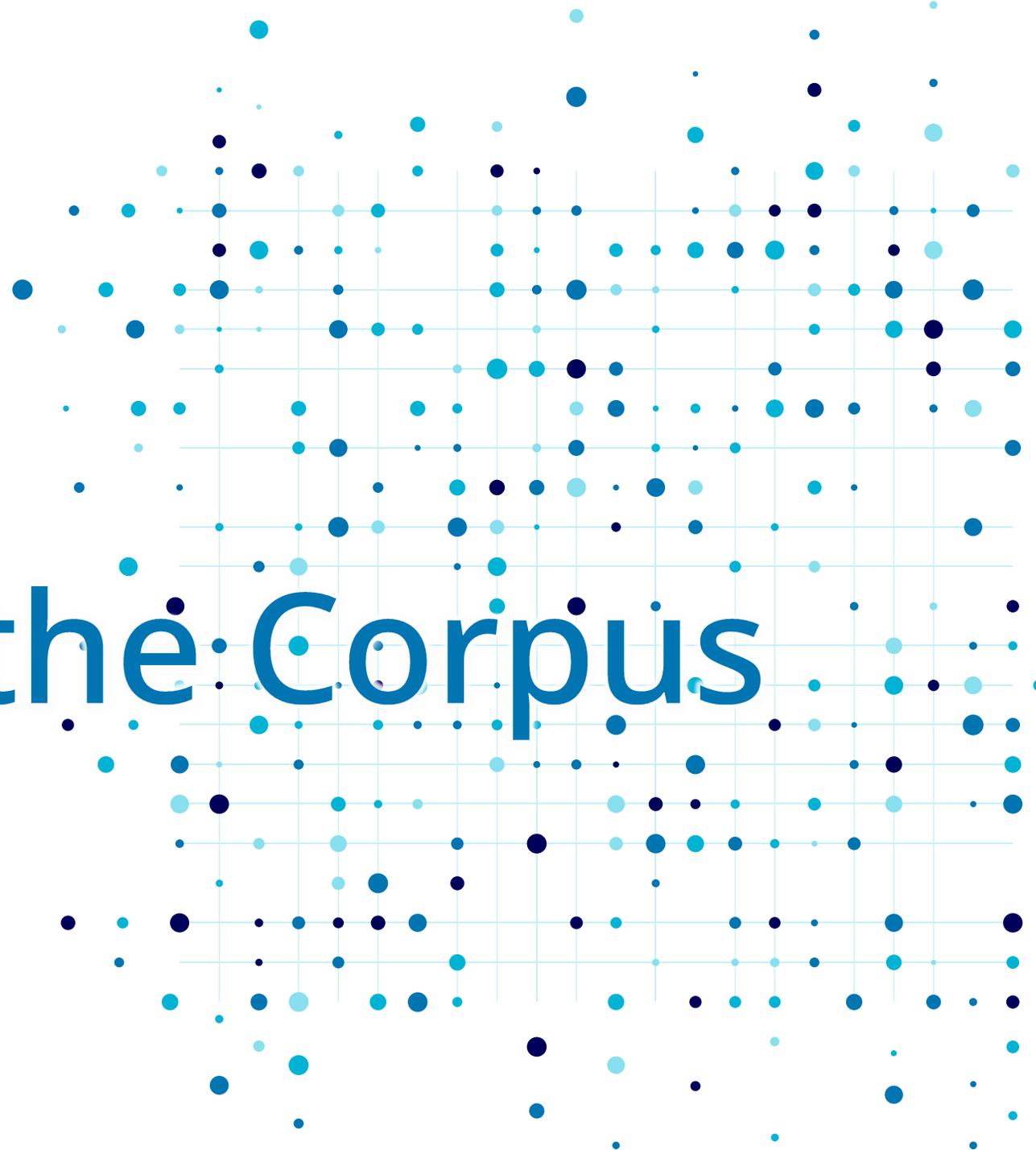
ดู influence ได้เลย

ดูรายชื่อ co-authors ได้ละเอียด

Google Scholar vs. Semantic Scholar

- More article count estimate
 - Highlight:
 - Metrics
 - Review articles
 - Useful extensions
 - Related articles ดีกว่า
- NLP search algorithm
 - Highlights:
 - Powerful filters (e.g., influential papers, citation type: background, methods, results)

Expanding the Corpus





Discover the world of Scientific Literature

www.litmaps.com

Litmaps features

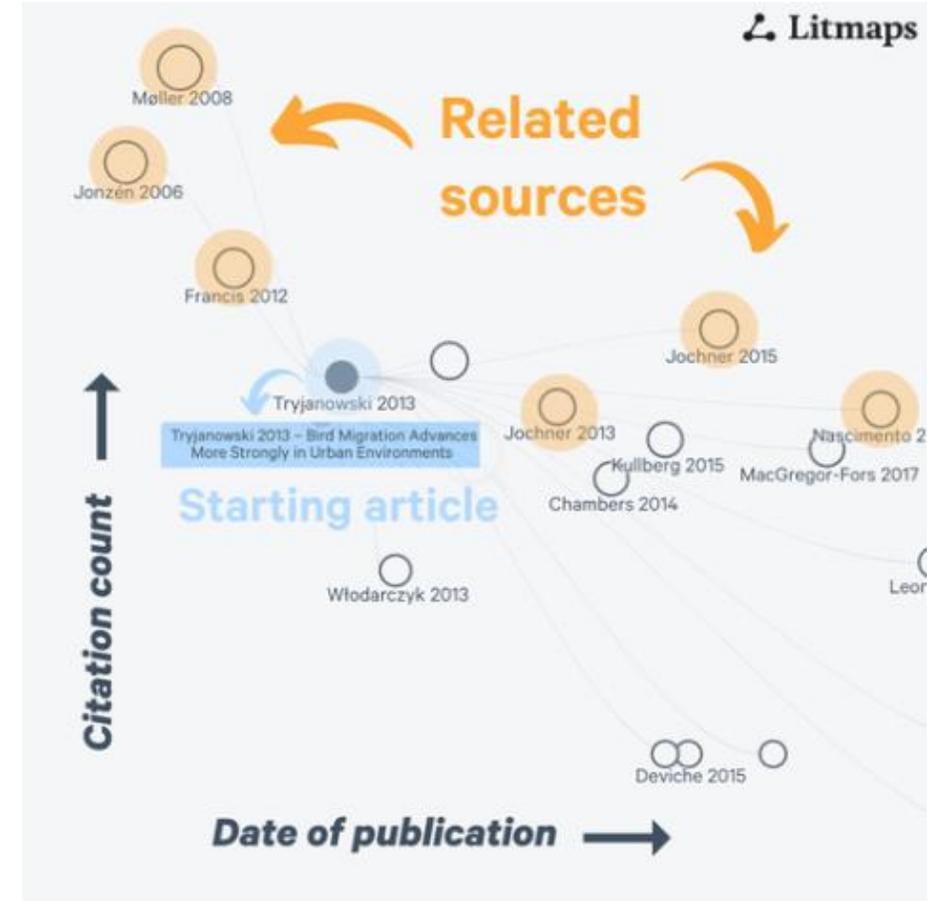
Database: Semantic Scholar, Google Scholar, Litmaps

ต้องเริ่มจาก seed paper
อ่าน network

- ความสูง (Y) = จำนวน citation
- แนวยาว (X) = ปีที่ตีพิมพ์
- เส้น = อ้างอิง
- ขนาดวง = จำนวนอ้างอิง

Search algorithm 3 แบบ:

- Top shared citations & ref (co-citation and inter-connected articles) for relevant articles;
- Common authorship patterns;
- Similar abstract & title content for articles with fewer citations



YouTube <https://youtu.be/oHAeJ3IEdvk>



Litmaps features

เลือกวงกลมงาน + More Like This

Tag, Timeline

Export: BibTeX, CSV, RIS

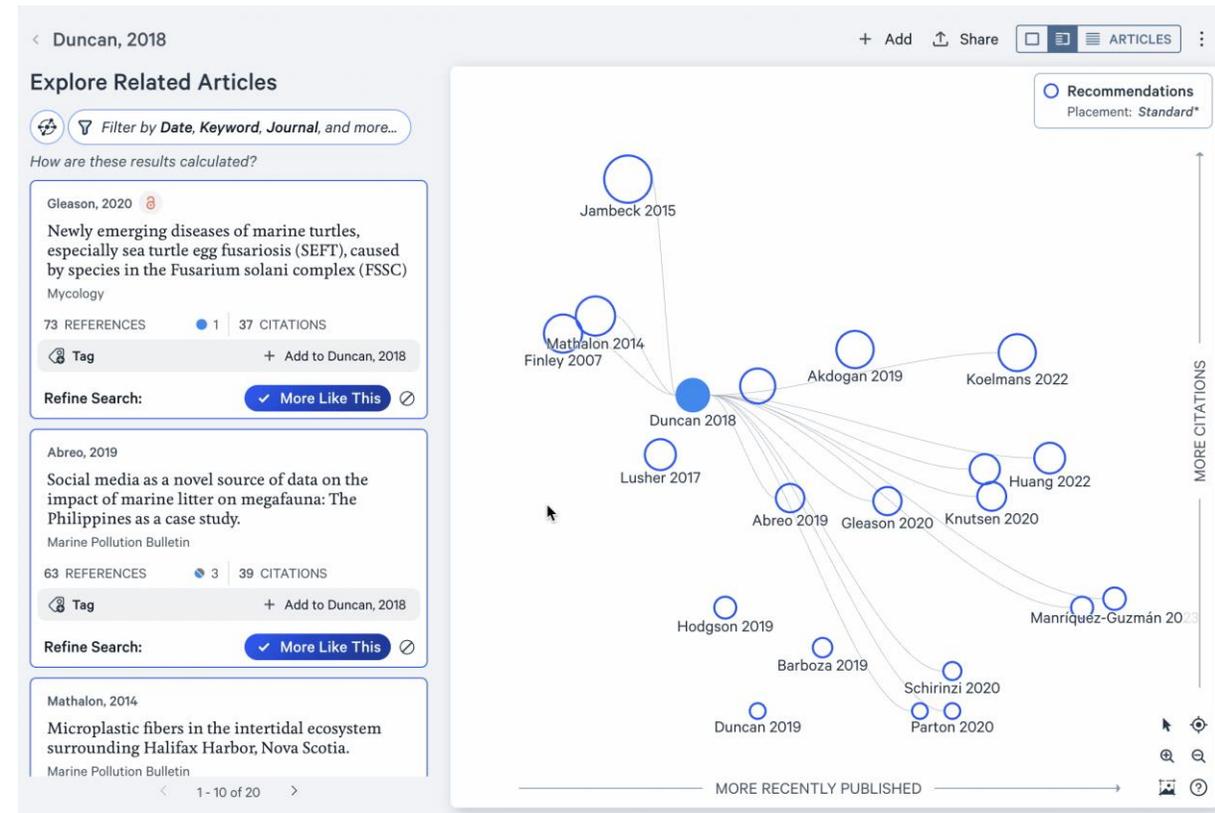
Sync to Zotero

The screenshot displays the Litmaps interface. On the left, a sidebar titled 'More Like This' shows a recommended article by Decuypere (2021) titled 'Governing by visual shapes: university rankings, digital education platforms and cosmologies of higher education'. The article is by Mathias Decuypere and Paolo Landri, published in Critical Studies in Education. The sidebar also shows 'Overview', 'References 50', and 'Citations 41'. On the right, a network graph shows various research articles as nodes connected by lines. A red circle highlights the Decuypere 2021 article in the graph. A 'More like this' button is visible in the top right of the graph area. The top of the interface shows 'View Recommendations: Standard' and a search bar.

This screenshot highlights the search and recommendation features of Litmaps. A central box titled 'Recommended Article' displays a paper by Moore (2020) titled 'Microplastics in beluga whales (Delphinapterus leucas) from the Eastern Beaufort Sea.' Below the article title is a 'More like this' button with a star icon. To the right, a network graph shows various research articles as nodes. A red circle highlights a node labeled 'New article suggestions' and another node labeled 'New input'. A black arrow points from the 'More like this' button to the 'New input' node. The top right corner features the Litmaps logo and the text 'The fastest and most comprehensive search'.

Litmaps' Magic

Find	X-axis (horizontal)	Y-axis (vertical)	Where to look มองหาบทความ
Review papers	Date	Reference Count	Top left ทางซ้ายมือด้านบน
High-impact work	Date	Citation Count	Top ทางด้านบน
Cutting-edge papers	Momentum	Map Connectivity	Top right ทางขวามือด้านบน
Papers most relevant to your topic	Date	Map Connectivity	Top ทางด้านบน





Research Rabbit

Jump from what you know, to what you need to know
researchrabbitapp.com



Research Rabbit

Steps

- Add seed paper(s)
- Search similar/refs/cited by
- Manage collection/subcollection
- Export

Research Rabbit

Jump right in

light pollution effects on bird migration Search

Import Sync | Resume Search →

1

Search Title, DOI, or Keywords

light pollution effects on bird migration Search

3 articles selected Clear + Save

La Sorte, 2017 Seasonal associations with urban light pollution for nocturnally migrating bird populations <i>Global change biology</i>	<input type="radio"/>
Cabrera-Cruz, 2018 Light pollution is greatest within migration passage areas for nocturnally-migrating birds around the world <i>Scientific Reports</i>	<input checked="" type="checkbox"/>
Burt, 2023 The effects of light pollution on migratory animal behavior. <i>Trends in Ecology & Evolution</i>	<input checked="" type="checkbox"/>
La Sorte, 2022 Seasonal associations with light pollution trends for nocturnally migrating bird populations <i>Ecosphere</i>	<input checked="" type="checkbox"/>
Korner, 2022 Birds and the 'Post Tower' in Bonn: a case study of light pollution <i>Journal of Ornithology</i>	<input type="radio"/>
La Sorte, 2022 Assessing the combined threats of artificial light at night and air pollution for the world's nocturnally migrating birds <i>Global Ecology and Biogeography</i>	<input type="radio"/>
Cabrera-Cruz, 2021 Nocturnal light pollution and land bird migration	<input type="radio"/>

Advanced Search

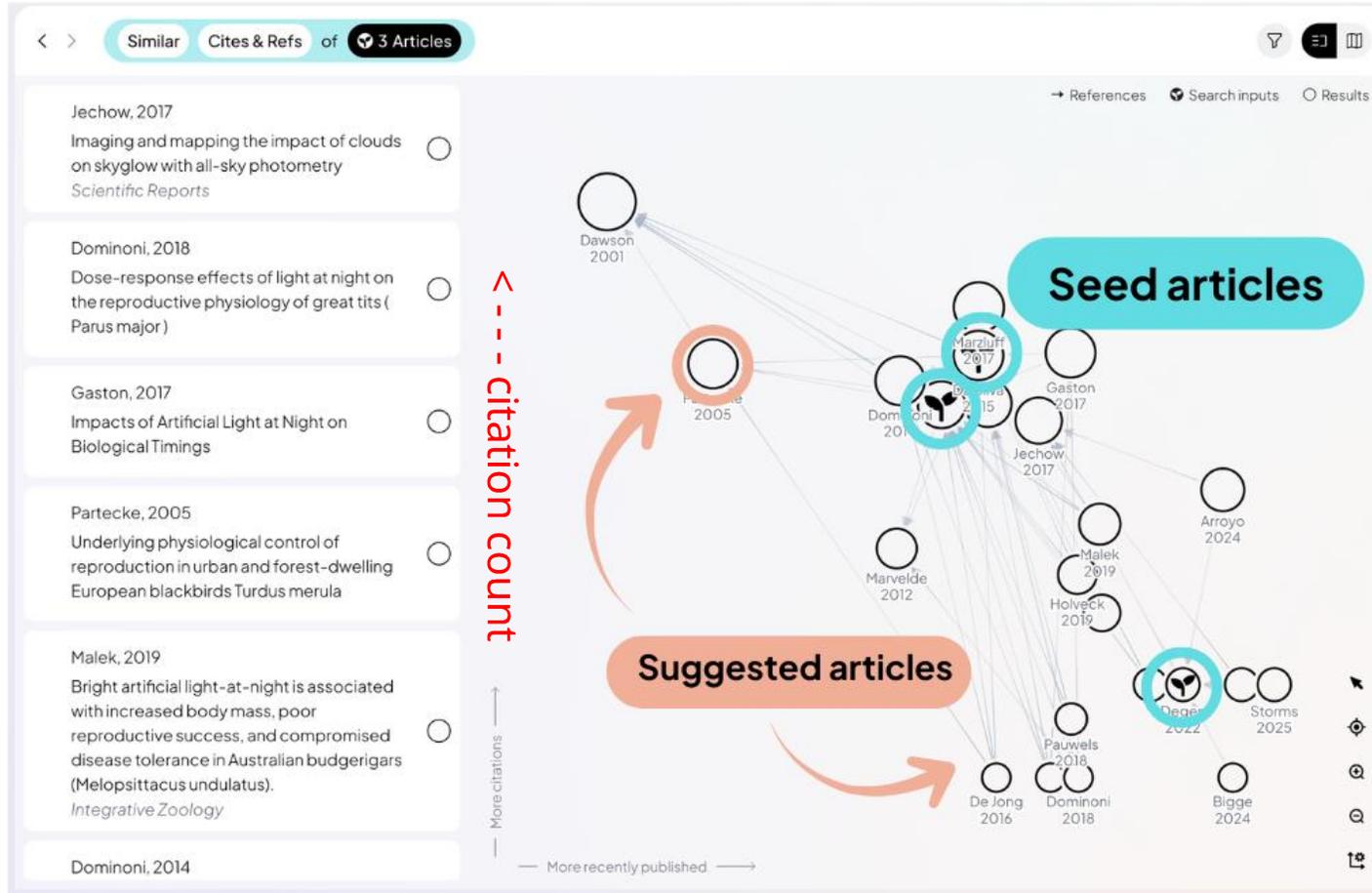
Find more articles

1 - 20 of 128,000

2

Find "Related" articles

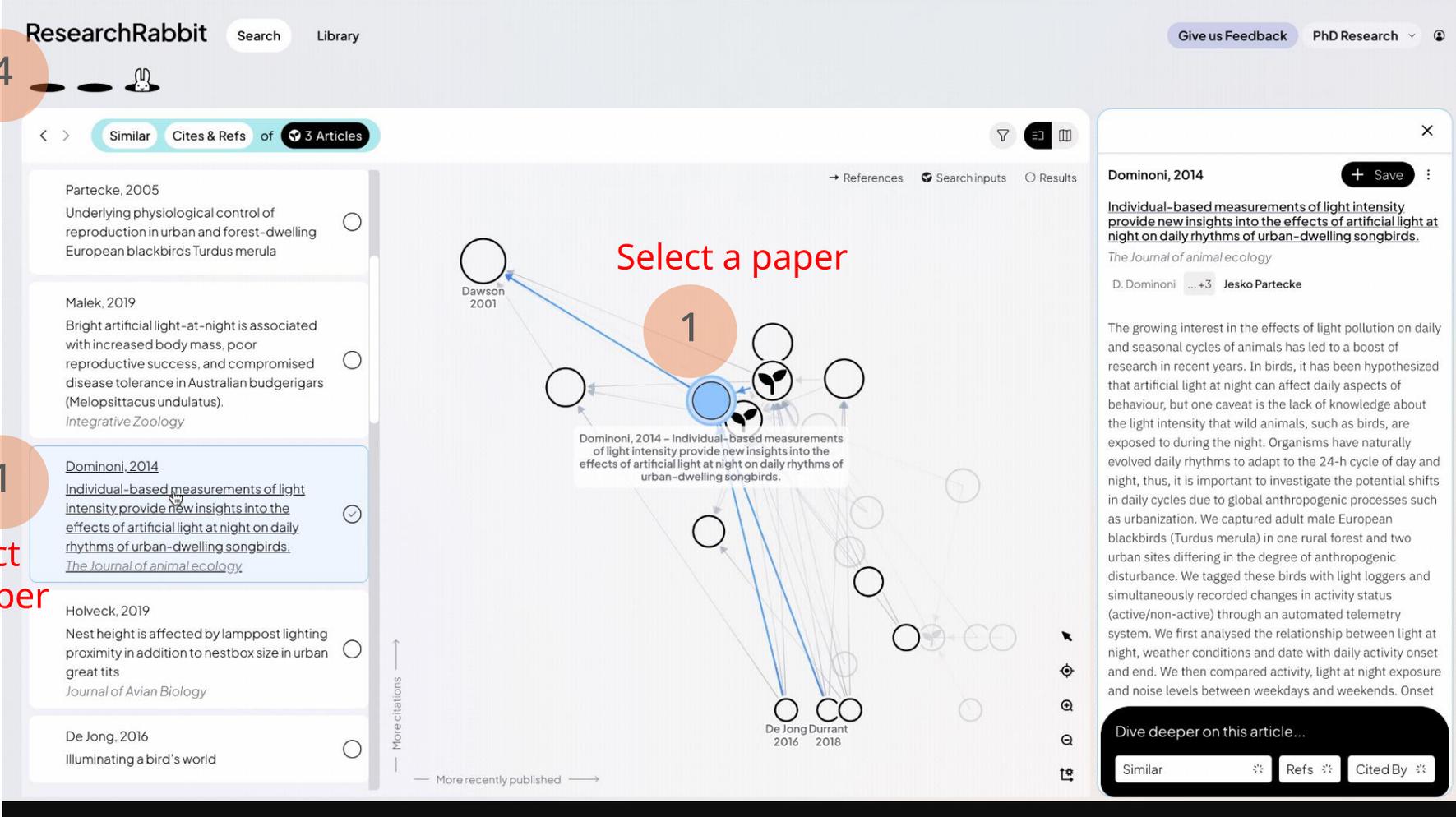
Research Rabbit



Old <-----> New

Research Rabbit

Jump path



The screenshot shows the ResearchRabbit interface. On the left, a list of articles is displayed. The article by Dominoni, 2014 is highlighted with a blue border and a checkmark. A red circle with the number '1' is placed over this article, with the text 'Select a paper' next to it. In the center, a citation network is shown with nodes representing papers and lines representing citations. A red circle with the number '1' is placed over the node for Dominoni, 2014, with the text 'Select a paper' next to it. On the right, a detailed view of the selected paper is shown. A red circle with the number '2' is placed over the title and authors, with the text 'Go to the source' next to it. At the bottom of the detailed view, there is a section titled 'Dive deeper on this article...' with buttons for 'Similar', 'Refs', and 'Cited By'. A red circle with the number '3' is placed over these buttons, with the text 'Another Jump' next to it. A red circle with the number '4' is placed over the top navigation bar, with the text 'Jump path' next to it.

4

1

2

3

Select a paper

Select a paper

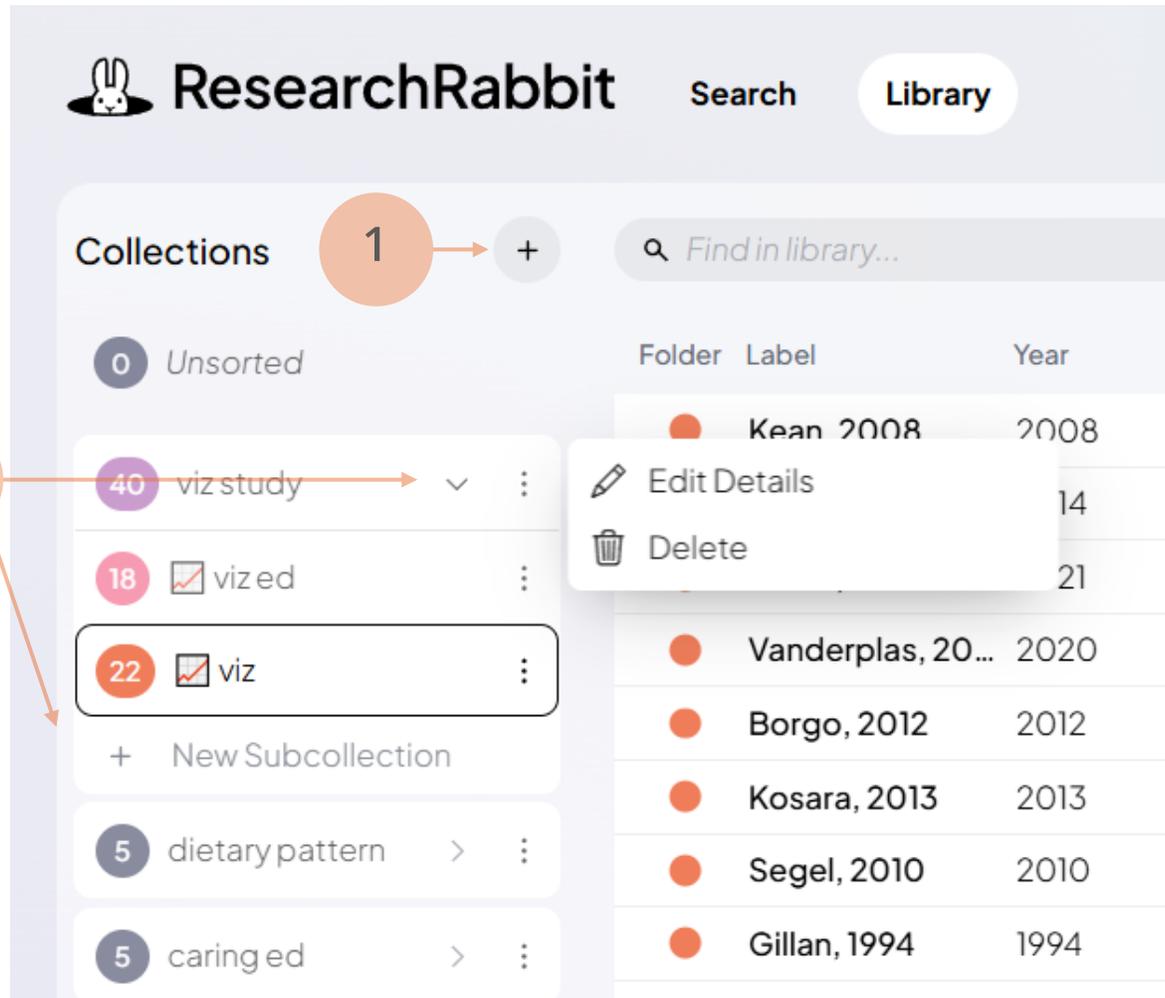
Another Jump

- Similar
- Refs
- Cited by

Research Rabbit

Manage Categories/Sub

1. Add new **Collection**
2. Drop down to add new **Subcollection**



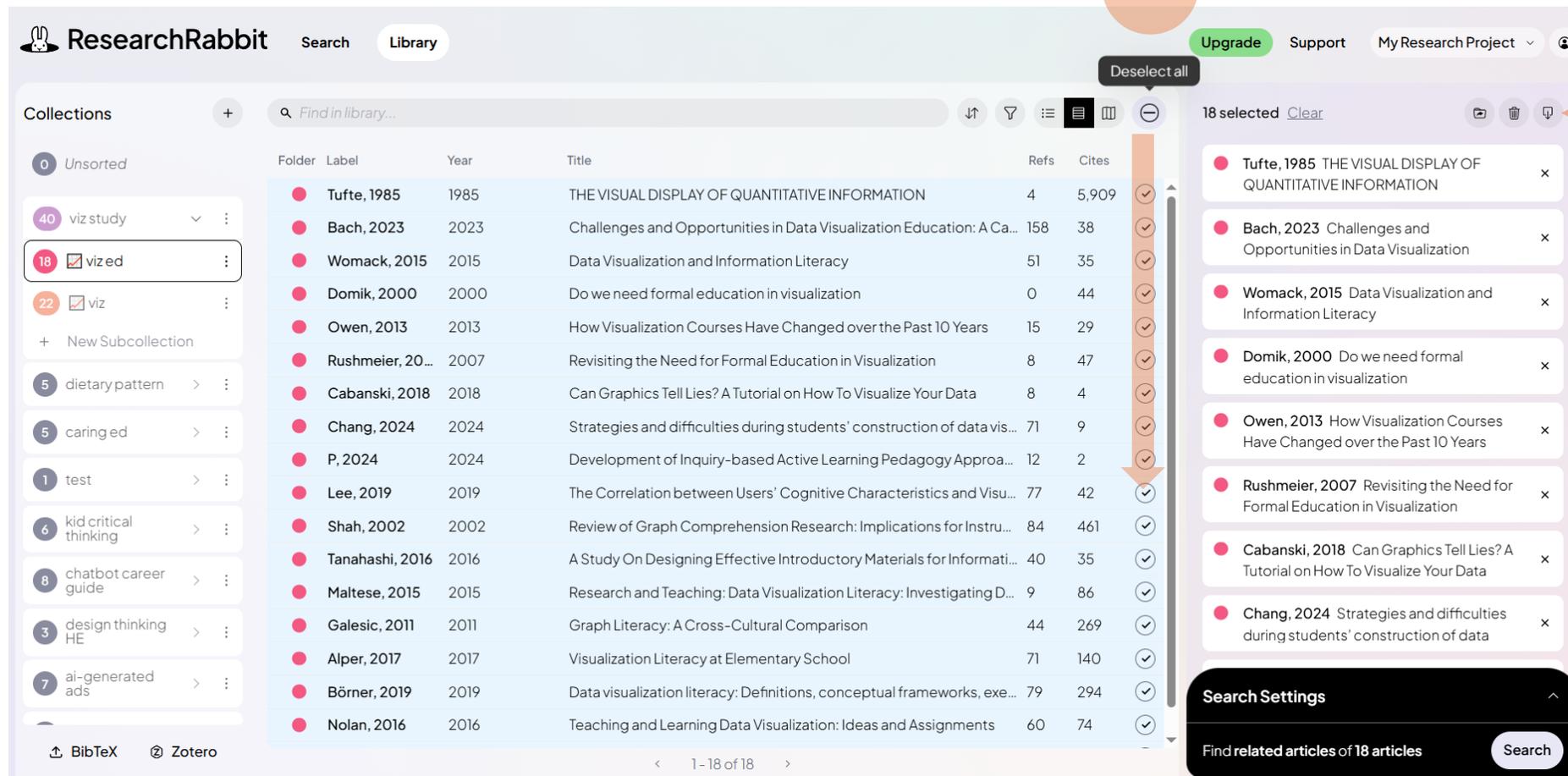
The screenshot shows the Research Rabbit interface. At the top, there is a search bar and a 'Library' button. Below this is a 'Collections' section with a '+' button (circled with '1') and a search bar. A list of collections is shown, including 'Unsorted', 'viz study', 'vized', 'viz', 'dietary pattern', and 'caring ed'. The 'viz study' collection is highlighted with a dropdown menu (circled with '2') showing options for 'Edit Details' and 'Delete'. Below the collections list is a 'New Subcollection' button. To the right, a table displays items with columns for 'Folder', 'Label', and 'Year'.

Folder	Label	Year
Kean	2008	2008
		14
		21
Vanderplas, 20...		2020
Borgo, 2012		2012
Kosara, 2013		2013
Segel, 2010		2010
Gillan, 1994		1994

Research Rabbit

Export:

1. Select papers
2. Choose Export type: BibTeX, CSV, RIS



The screenshot shows the Research Rabbit interface with a library of papers. The 'vized' collection is selected, containing 18 papers. The table below shows the details of these papers, with the 'Refs' and 'Cites' columns highlighted. The '1' in a circle points to the selection checkboxes in the table. The '2' in a circle points to the export icon in the top right of the selected items panel.

Folder	Label	Year	Title	Refs	Cites
●	Tufte, 1985	1985	THE VISUAL DISPLAY OF QUANTITATIVE INFORMATION	4	5,909
●	Bach, 2023	2023	Challenges and Opportunities in Data Visualization Education: A Ca...	158	38
●	Womack, 2015	2015	Data Visualization and Information Literacy	51	35
●	Domik, 2000	2000	Do we need formal education in visualization	0	44
●	Owen, 2013	2013	How Visualization Courses Have Changed over the Past 10 Years	15	29
●	Rushmeier, 20...	2007	Revisiting the Need for Formal Education in Visualization	8	47
●	Cabanski, 2018	2018	Can Graphics Tell Lies? A Tutorial on How To Visualize Your Data	8	4
●	Chang, 2024	2024	Strategies and difficulties during students' construction of data vis...	71	9
●	P, 2024	2024	Development of Inquiry-based Active Learning Pedagogy Approa...	12	2
●	Lee, 2019	2019	The Correlation between Users' Cognitive Characteristics and Visu...	77	42
●	Shah, 2002	2002	Review of Graph Comprehension Research: Implications for Instru...	84	461
●	Tanahashi, 2016	2016	A Study On Designing Effective Introductory Materials for Informati...	40	35
●	Maltese, 2015	2015	Research and Teaching: Data Visualization Literacy: Investigating D...	9	86
●	Galesic, 2011	2011	Graph Literacy: A Cross-Cultural Comparison	44	269
●	Alper, 2017	2017	Visualization Literacy at Elementary School	71	140
●	Börner, 2019	2019	Data visualization literacy: Definitions, conceptual frameworks, exe...	79	294
●	Nolan, 2016	2016	Teaching and Learning Data Visualization: Ideas and Assignments	60	74

Keyword search comparison

Platform	Relevant	Sort of (too recent)	Not really Duplicate	Note
google scholar	10			
elicit	9	1		
semantic scholar*	9	1		by most influential papers
inciteful	7	3		
consensus	7	3		
semantic scholar*	3	6	1	by relevance
research rabbit	3	6	1	
connected paper	1	1	8	
scispace	1	9		
scite.ai				not free, masked results
litmaps				cannot start from keywords, need seed paper

YouTube <https://youtu.be/2JIp-X CC9c> 

AI tools for literature review

IEEE Access
Multidisciplinary | Rapid Review | Open Access Journal

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Digital Object Identifier 10.1109/ACCESS.2025.3554504

RESEARCH ARTICLE

Comparing Generative AI Literature Reviews Versus Human-Led Systematic Literature Reviews: A Case Study on Big Data Research

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ABSTRACT Generative Artificial Intelligence (GenAI) and Large Language Models (LLMs) are transforming research methodologies, including Systematic Literature Reviews (SLRs). While traditional, human-led SLRs are labor-intensive, AI-driven approaches promise efficiency and scalability. However, the reliability and accuracy of AI-generated literature reviews remain uncertain. This study investigates the performance of GPT-4-powered Consensus in conducting an SLR on Big Data research, comparing its results with a manually conducted SLR. To evaluate Consensus, we analyzed its ability to detect relevant studies, extract key insights, and synthesize findings. Our human-led SLR identified 32 primary studies (PSs) and 207 related works, whereas Consensus detected 22 PSs, with 16 overlapping with the manual selection and 5 false positives. The AI-selected studies had an average citation count of 202 per study, significantly higher than the 64.4 citations per study in the manual SLR, indicating a possible bias toward highly cited papers. However, none of the 32 PSs selected manually were included in the AI-generated results, highlighting recall and selection accuracy limitations. **Key findings reveal that Consensus accelerates literature retrieval but suffers from hallucinations, reference inaccuracies, and limited critical analysis.** Specifically, it failed to capture nuanced research challenges and missed important application domains. Precision, recall, and F1 scores of the AI-selected studies were 76.2%, 38.1%, and 50.6%, respectively, demonstrating that while AI retrieves relevant papers with high precision, it lacks comprehensiveness. To mitigate these limitations, we propose a hybrid AI-human SLR framework, where AI enhances search efficiency while human reviewers ensure rigor and validity. While AI can support literature reviews, human oversight remains essential for ensuring accuracy and depth. Future research should assess AI-assisted SLRs across multiple disciplines to validate generalizability and explore domain-specific LLMs for improved performance.

Consensus accelerates literature retrieval but exhibits

- hallucinations,
- reference errors,
- shallow analysis,
- missing research nuances and key application domains.

D. Tosi, "Comparing Generative AI Literature Reviews Versus Human-Led Systematic Literature Reviews: A Case Study on Big Data Research," in *IEEE Access*, vol. 13, pp. 56210-56219, 2025, doi: 10.1109/ACCESS.2025.3554504

Bottom line?

Combine established databases like Google Scholar, Semantic Scholar, Scopus, and Elsevier with AI tools to unlock valuable insights.

Ultimately, your expertise will guide the final decision.

Composing the Review



Structure the review by themes or issues, not by summarizing each study one by one.

1. Indicate what problems limited face-to-face communication creates for learners.

2. In online learning, learners have fewer opportunities to interact with each other compared to traditional classroom settings.

Well-known names in the field do not necessarily require citation with publication years.

This further grounds the concept of online community within the work of Vygotsky and Spiro.

It is clear that community is an essential part of successful online education. Limited face-to-face communication can lead to feelings of isolation which, in turn, can lead to dissatisfaction, poor performance and course non-completion (Cereijo, Young, & Wilhelm, 2001; Curry, 2000; Rovai & Wighting, 2005). Research by Haythornthwaite, Kazmer, Robins, and Shoemaker (2000) relates feelings of isolation to a low sense of community. Findings by Eastmond (1995) indicate that isolation can be alleviated when learners support one another. Additionally, Rovai (2002b) has demonstrated that encouraging a sense of community will effect student satisfaction, learning and retention.

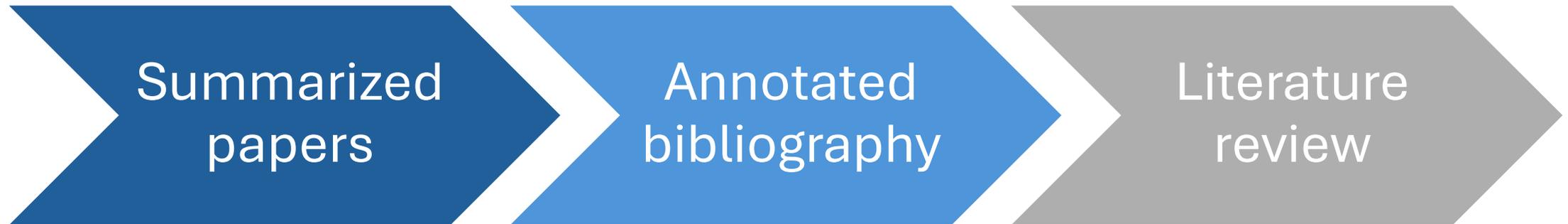
Given this well-established importance of community in online learning, instructors and administrators are typically keen to foster a sense of community in online learning students (Mazzolini & Maddison, 2007). However, the nature of online learning often makes this troublesome. Specifically, the lack of face-to-face interactions in the online environment makes it very difficult to appraise online classroom community (Vrasidas, 2004; Mazza & Milani, 2005; Mazzolini & Maddison, 2007). Lacking access to the same breadth of social indicators as their classroom counterparts,

Parentetical citations are appropriate when referring to general ideas or when discussing the overall topic rather than specific aspects of a particular study.

Narrative citations are used when the focus is on the researcher or when referencing specific elements of a study, such as the methods or findings.

Parentetical citations

Literature Review Process



Summarize Papers > Annotated Bibliography

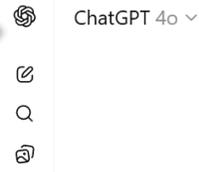
As an experienced researcher, create a concise summary of this paper *in table format* by including its file name, year, background, population, methodology (*e.g., methods, variables, instruments, analysis, etc.*), findings, and implications *as column headers. Prepare the table in [...].*

Passible formats: CSV, Excel, markdown, format that is easily copied and pasted into Excel (internal UI table component)

ChatGPT



ChatGPT 40o



1. Drop your PDF



2. Prompt

As an experienced researcher, create a concise summary of this paper in table format by including its file name, year, background, population, methodology (e.g., methods, variables, instruments, analysis, etc.), findings, and implications as column headers. Prepare the table in format that is easily copied and pasted into Excel (internal UI table component).

3. Output table

Here is a concise summary of the study presented in "Alexa, Can I Program You?": *Student Perceptions of Conversational Artificial Intelligence Before and After Programming Alexa* by Brummelen et al. (2021), organized in a table format for direct copying into Excel:

File Name	Year	Background	Population
brummelen 2021 alexa, can I program you - student perceptions of conversational ai before and after programming alexa.pdf	2021	Examines how programming Alexa affects students' perceptions of conversational AI (CA), considering constructs like intelligence, friendliness, and trustworthiness.	47 middle and high school students (aged 11-18, Mean = 14.78, SD = 1.91), from Title I schools in the U.S.; recruited via Amazon Future Engineer call.



ChatGPT can make mistakes. Check important info.

ChatGPT

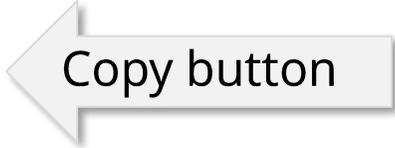


in table format by including its file name, year, background, population, methodology (e.g., methods, variables, instruments, analysis, etc.), findings, and implications as column headers. Prepare the table in format that is easily copied and pasted into Excel (internal UI table component).

Share ... VA PLUS

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Let me know if you'd like this exported as an Excel file or in a different format.



Ask anything

+ Tools



ChatGPT can make mistakes. Check important info.



- Verify accuracy
- Add one's own observations
- Connect the relevance of various research content

Available AI tools to help summarize papers

- ChatGPT**
- NotebookLM
- aistudio.google.com***
- gemini.google.com**
- claude.ai

Tips

Ask for that specific part to be summarized separately and then combine it yourself. For example: "Please summarize this research in the section on [background/methodology/findings] in approximately 500 words."

Summarize Papers > Annotated Bibliography

Background

Population

Methodology

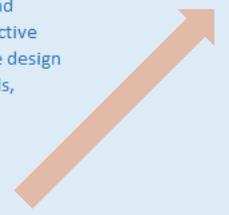
Findings

Implications

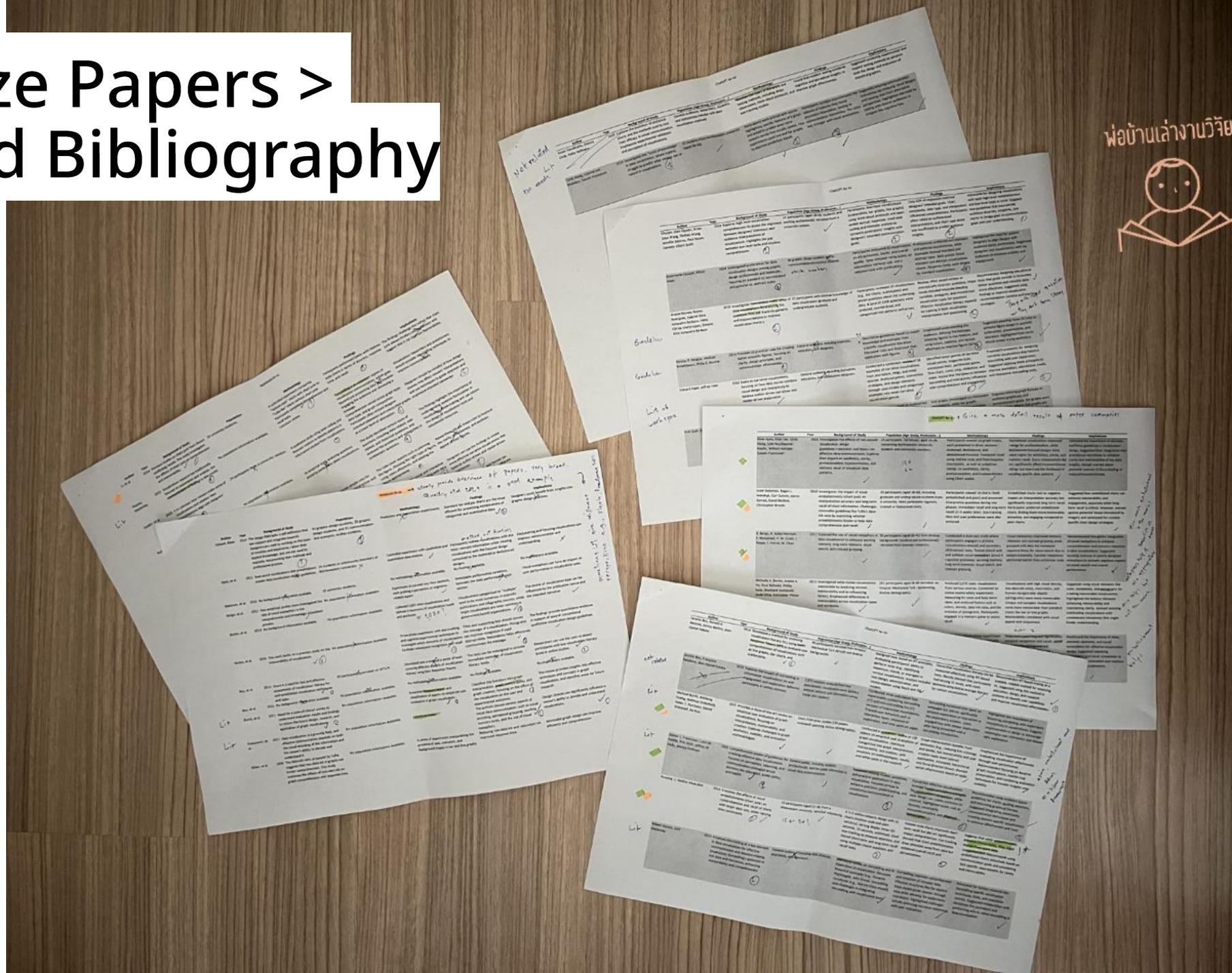
Thoughts

Paper	Background	Population	Methodology	Findings	Implications	Thoughts
borkin 2016	This study investigates the cognitive processes involved in the recognition and recall of data visualizations, extending beyond the concept of memorability. Previous research has demonstrated that visualizations have inherent memorability, which is consistent across different groups of observers. However, this study seeks to explore what elements of visualizations contribute to recognition and recall, providing quantitative support for qualitative design guidelines.	The study involved 33 participants (17 females, 16 males) with an average age of 22.9 years, recruited from the local communities of Cambridge and Boston. All participants had normal color vision.	The experiment consisted of three phases: encoding, recognition, and recall. In the encoding phase, participants viewed 100 visualizations for 10 seconds each while their eye movements were tracked. In the recognition phase, participants viewed a mix of 100 target visualizations and 100 filler visualizations for 2 seconds each and indicated whether they recognized them. In the recall phase, participants described as many of the correctly recognized visualizations as possible, which were blurred to prevent reading of text. The study used a labeled dataset of 393 visualizations, and eye-tracking data was collected to analyze fixation locations and durations.	<p>Recognition:</p> <ol style="list-style-type: none"> 1. Central Focus: The most recognizable visualizations had a central focus that facilitated quick recognition, indicating that a single fixation near the center was often sufficient for recognition. 2. Titles and Supporting Text: Titles and supporting text significantly contribute to recognition, as participants frequently fixated on these elements during the recognition phase. 3. Pictograms: When used appropriately, pictograms do not interfere with comprehension and can enhance recognition, serving as visual associations. 4. Semantic Associations: Visualizations with strong semantic associations were recognized more easily, especially when the visual appearance alone was not distinct enough. 5. Redundancy: Visualizations with multiple representations of the same information were more easily recognized, suggesting that multiple representations of the same information enhance recognition. <p>Recall:</p> <ol style="list-style-type: none"> 1. Titles: Titles were the most frequently mentioned element during recall, indicating their importance in helping participants remember the content and message of the visualization. 2. Supporting Text: Participants often described 	The study provides quantitative evidence supporting several conventional design guidelines. It highlights the importance of titles and text in enhancing visualization comprehension and recall. The findings suggest that visual elements like pictograms and redundancy strategies play crucial roles in effective data presentation. This research can inform the design of more effective visualizations in various fields, including education, journalism, and scientific communication.	Findings say "redundancy" is important in recall, is this a conflict with "declutter"?
Alper et al 2017	Aim to improve viz literacy in early education. Viz literacy overlaps cognitive psychology and education.	The study population comprised students and teachers from a private French immersion school in an upper-class district in Seattle, adhering to both Washington state and French teaching standards. Participants included students from grades K	Design interactive teaching material touch-enabled tablets, deployed in classroom. Study observe class activity: The study's observations focused on touch interactivity, verbal activity, and class dynamics. In grade 2, all 15 students interacted with the app for the full 30-minute session, occasionally skipping activities but typically returning to complete them. In grade K, the 6 students engaged for 20 minutes but struggled	The discussion section highlights the use of concreteness fading in teaching bar charts at early grades, contrasting it with approaches relying solely on abstract representations. It references studies showing that concrete examples can hinder generalizability, while recent research suggests they may enhance knowledge transfer. The literature supports using multiple representations in children's		In early education, this is the first to explore possibility to explain abstract concept. Findings support teaching method that use multiple representations. Probably too early for our study?

Note: Always read the summary and insert your own thoughts and observations.



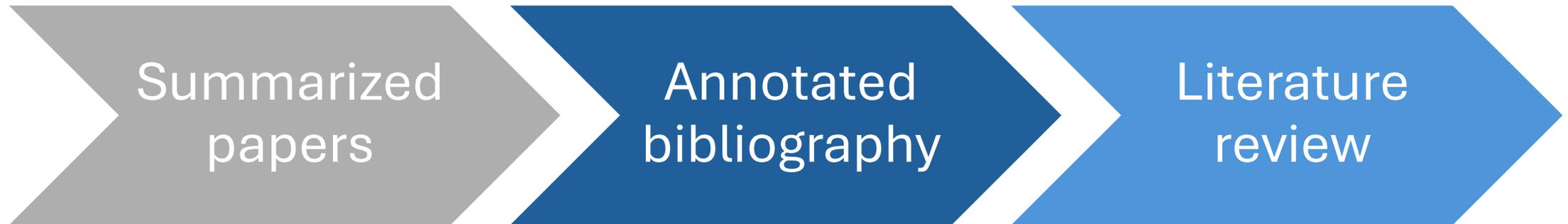
Summarize Papers > Annotated Bibliography



พ่อบ้านเล่างานวิจัย



Literature Review Process



Annotated Bibliography > Lit Review

Find themes from the following papers, add the symbol of paper reference with this format:

[paper 1] and [paper 2] mention that, while [paper 3]... or [paper 2] argue that ...

Note: You may choose to work on one section at a time, such as methodology, findings, or implications, and always remember to review your work.

Paper Outlines

You are an **experienced researcher**. Your task is to assist users in **structuring their scholarly papers efficiently**. Create an outline for a peer-reviewed paper on [.....].

[bonus: specify methods, populations, and context for better response]

Prompts for Design and Analysis

Qual & Quant



Qualitative Data Analysis

Thematic Analysis

(Braun & Clark, 2020)

- Data familiarization
- Systematic data coding
- Generating initial themes
- Developing and reviewing themes
- Refining, defining and naming themes
- Writing the report

Content Analysis

(Berelson, 1952)

- A quantitative, systematic, and objective description of the media content.

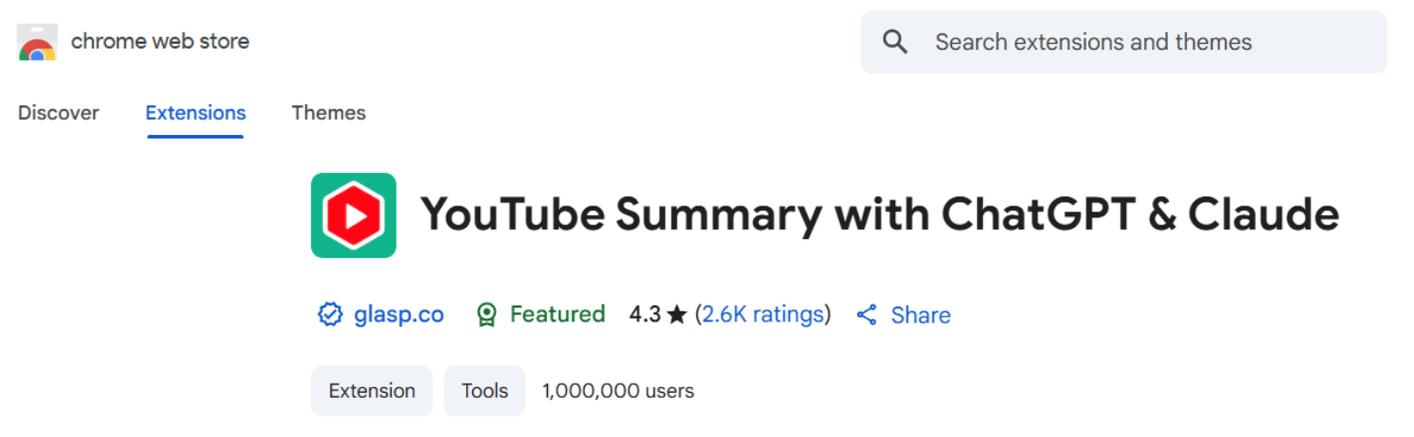
Scenario

The screenshot shows the YouTube channel page for 'The Startup Podcast'. At the top, there is a search bar with 'startup podcast' entered. Below the search bar is a large red banner with the text 'The unique mindset that drives Silicon Valley style disruption.' The channel name 'The Startup Podcast' is displayed, along with the handle '@startup-podcast', 6.24K subscribers, and 726 videos. A bio states 'Build product, raise money, and scale your startup like they do in Silicon Valley. TSP hosts ...more' and a link 'link.chtbl.com/TSP-PE?sid=yt'. A 'Subscribe' button is visible. The navigation menu includes Home, Videos, Shorts, Live, Podcasts, Playlists, and Posts. The video list shows four videos: 'BE LIKE BEZOS' (1:00:15), 'TECH GOES TO WAR' (27:21), 'CHEAT GPT' (11:33), and 'OpenAI's Partnership With Jony Ive Positions Them As the Next Apple (Clip)' (13:23).

1. Better understand how to survive startups
2. Decide to analyze The Startup Podcast

Steps

1. Decide what clips to choose (set criteria)
2. Transcribe (AI - [YouTube Summary with ChatGPT](#))



3. Prepare your PDF for AI initial analysis

Step: Load Video/MP3

Download Video

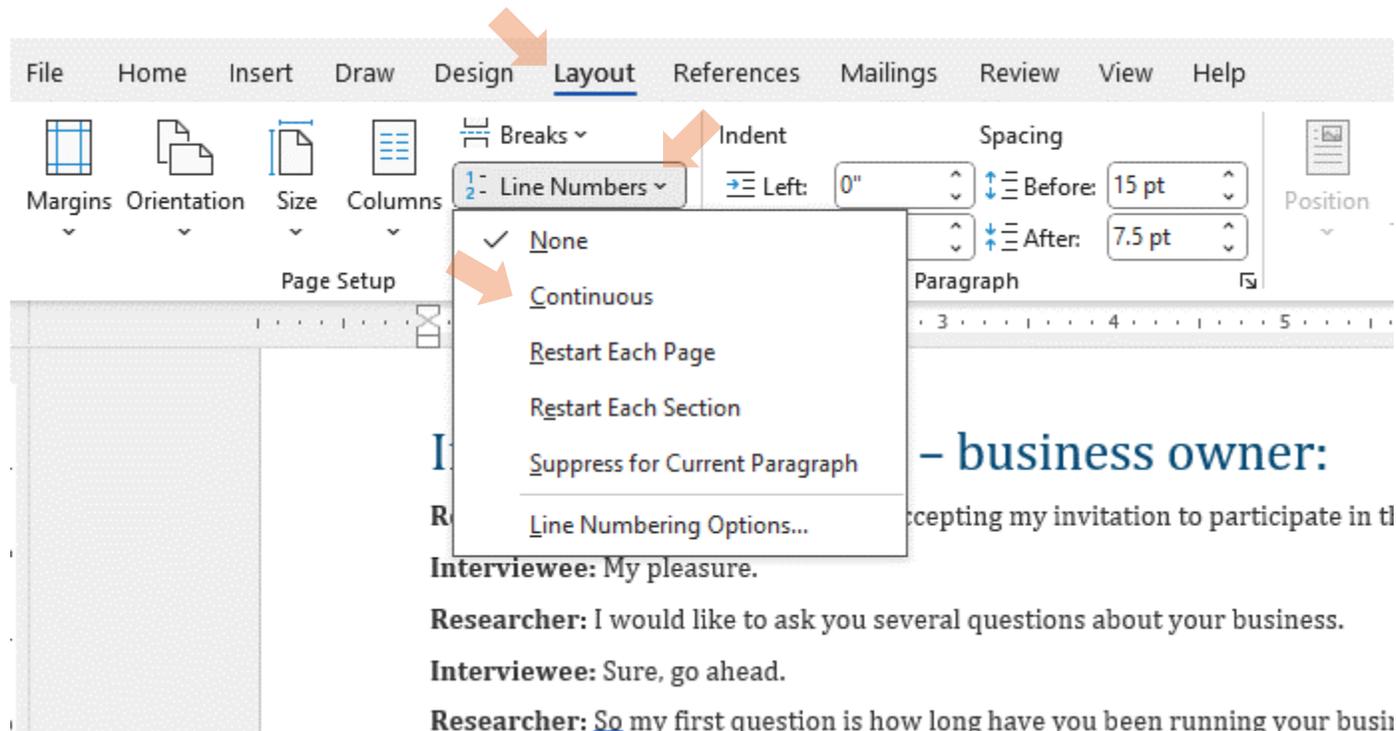
- Use Firefox > <https://addons.mozilla.org/en-US/firefox/addon/video-downloadhelper/>
- Launch your plugin and download
- Your downloaded file will be in C:\Users\User\dwhelper

Download MP3

- Change youtube > yout

Steps – Prepare your PDF

1. On the Layout tab, in the Page Setup group, click Line Numbers.
2. Save as PDF (AI works better with PDFs)

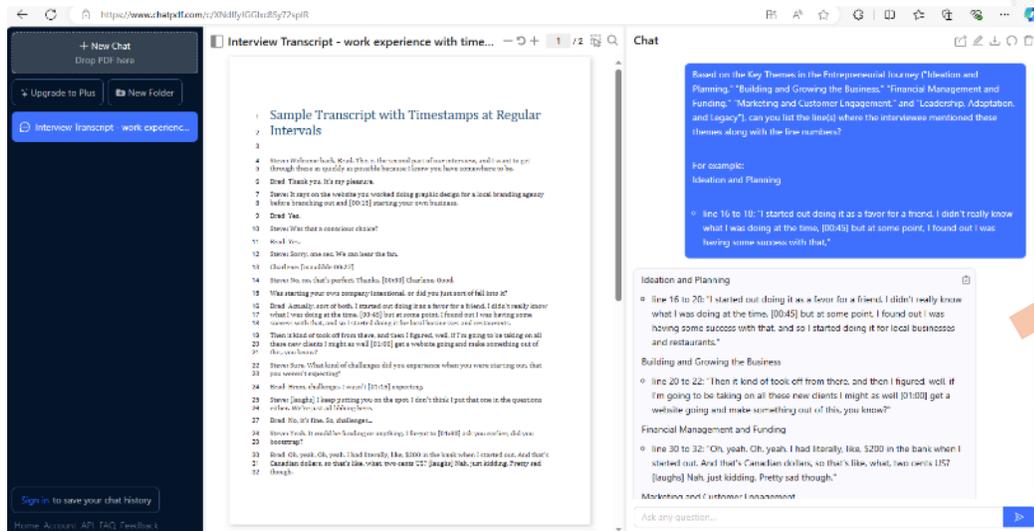


Steps – Initial codes and themes

1. Conduct a first-round thematic analysis based on Braun and Clarke's guidelines.
2. (do the actual thematic analysis)
3. Developing and refining candidate themes from the previously recommended codes.
4. (do the actual thematic analysis)

Thematic Analysis

chatpdf.com (upload PDF)



Ideation and Planning

- line 16 to 20: "I started out doing it as a favor for a friend. I didn't really know what I was doing at the time, [00:45] but at some point, I found out I was having some success with that, and so I started doing it for local businesses and restaurants."

Building and Growing the Business

- line 20 to 22: "Then it kind of took off from there, and then I figured, well, if I'm going to be taking on all these new clients I might as well [01:00] get a website going and make something out of this, you know?"

Financial Management and Funding

- line 30 to 32: "Oh, yeah. Oh, yeah. I had literally, like, \$200 in the bank when I started out. And that's Canadian dollars, so that's like, what, two cents US? [laughs] Nah, just kidding. Pretty sad though."

Marketing and Customer Engagement

Thematic Analysis

claude.ai (upload PDF)

Claude  Entrepreneurial Journey: From Favor to Thriving Business 

Interview Transcript - work experience... PDF

VB Based on the Key Themes in the Entrepreneurial Journey ("Ideation and Planning," "Building and Growing the Business," "Financial Management and Funding," "Marketing and Customer Engagement," and "Leadership, Adaptation, and Legacy"), can you list the line(s) where the interviewee mentioned these themes along with the line numbers?

For example:
Ideation and Planning
- line 16 to 18: "I started out doing it as a favor for a friend. I didn't really know what I was doing at the time, [00:45] but at some point, I found out I was having some success with that,"

Certainly, I'll analyze the transcript and categorize the relevant parts according to the Key Themes you mentioned. Here's the breakdown:

1. Ideation and Planning
 - Lines 16-21: "I started out doing it as a favor for a friend. I didn't really know what I was doing at the time, [00:45] but at some point, I found out I was having some success with that, and so I started doing it for local businesses and restaurants. Then it kind of took off from there, and then I figured, well, if I'm going to be taking on all these new clients I might as well [01:00] get a website going and make something out of this, you know?"

Claude  Entrepreneurial Journey: From Favor to Thriving Business 

Certainly, I'll analyze the transcript and categorize the relevant parts according to the Key Themes you mentioned. Here's the breakdown:

1. Ideation and Planning
 - Lines 16-21: "I started out doing it as a favor for a friend. I didn't really know what I was doing at the time, [00:45] but at some point, I found out I was having some success with that, and so I started doing it for local businesses and restaurants. Then it kind of took off from there, and then I figured, well, if I'm going to be taking on all these new clients I might as well [01:00] get a website going and make something out of this, you know?"
2. Building and Growing the Business
 - Lines 19-21: "Then it kind of took off from there, and then I figured, well, if I'm going to be taking on all these new clients I might as well [01:00] get a website going and make something out of this, you know?"
 - Lines 43-44: "I got a few leads out of the deal that I still do work for sometimes, and one of them is my biggest client, so yeah."
3. Financial Management and Funding
 - Lines 30-32: "Oh, yeah. Oh, yeah. I had literally, like, \$200 in the bank when I started out. And that's Canadian dollars, so that's like, what, two cents US? [laughs] Nah, just kidding. Pretty sad though."
 - Lines 33-35: "Yeah. Well, and an AdWords credit, maybe \$50 or \$100 or something like that. but I had no idea what I was doing at the time."

VB Reply to Claude... 112 

Thematic Analysis - Theme Extraction **Process**

- Iterative Extraction: Run theme extraction multiple times to cover all key aspects.
- Consistency Check: Compare results to identify consistent patterns.
- Use Multiple Tools:
 - chatpdf.com *
 - claude.ai **
 - chatgpt.com (cut and paste)

Initial Codes

Conduct a first-round thematic analysis based on Braun and Clarke's guidelines. This stage focuses on generating initial codes — basic labels that capture meaningful features of the data.

Instructions:

1. Identify and label as many relevant codes as you can.
2. A code should be a short word or phrase that tags a basic topic or issue (e.g., [school support], [parking], [tech issue], etc.).
3. For each code, provide:
 - The code name in brackets.
 - A brief description of what it captures.
 - 3-4 examples of excerpts that illustrate the code, with line numbers.
4. Use [speaker X and initials] to refer to the speaker. Do not use real names.
5. Do not group or interpret into themes yet. For now, just identify and label recurring topics.

Example:

Ideation and Planning : concerns about exploring ideas, and planning the steps, resources, and timeline

- [speaker 1] noted (line 30–38)
- [speaker 2

Develop and Refine Candidate Themes

Proceed to the second step of Braun and Clarke's thematic analysis: developing and refining candidate themes from the previously coded data.

Instructions:

1. Review all first-round codes and begin grouping them into potential themes that reflect broader patterns or concepts.
2. Each theme should:
 - Have a name that captures its essence (e.g., Navigating Uncertainty, Support and Frustration).
 - Include a short description of what unites the codes under that theme.
 - Reference the codes included under the theme (e.g., time pressure, changing expectations).
 - Provide 2–3 illustrative excerpts, each with [speaker X] and line numbers.
3. Do not discard codes at this stage — if a code doesn't yet fit a theme, list it as unassigned or tentative.
4. Aim for distinct, non-overlapping themes. You may cluster closely related codes together into subthemes if needed.

For example:

Theme: Adapting to Constraints - describes how participants adjust to time, platform, or resource limitations.

Includes codes: time pressure, resource limits, instructional shift

Sample excerpt:

- [speaker 3] said, "We had to rework the whole thing because we only had 100 minutes." (line 42–44)

Data Analysis (Quantitative research)

Clean your data

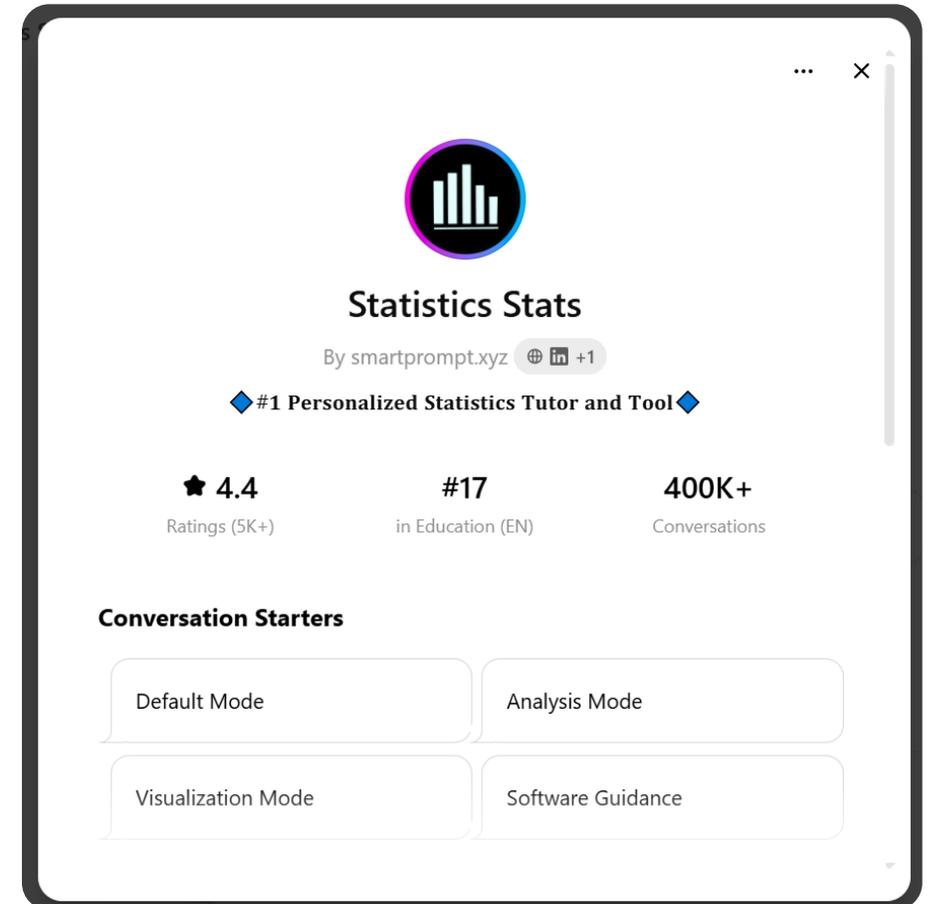
I have raw text data from a survey, but the responses may include misspellings and inconsistent formats. For example, "Bangkok" might appear as "BKK", or "กนุ". Could you help identify and group similar variations under the correct form, and provide a count for each?

Here is the dataset:

Statistics Stats GPT

Purpose of the GPT

- Clarify statistical concepts
- Perform Statistical Analysis
- Guide on Data Visualization
- Support Software Use
- Enhance Statistical Literacy



<https://smartprompt.xyz/>

Statistics Stats GPT

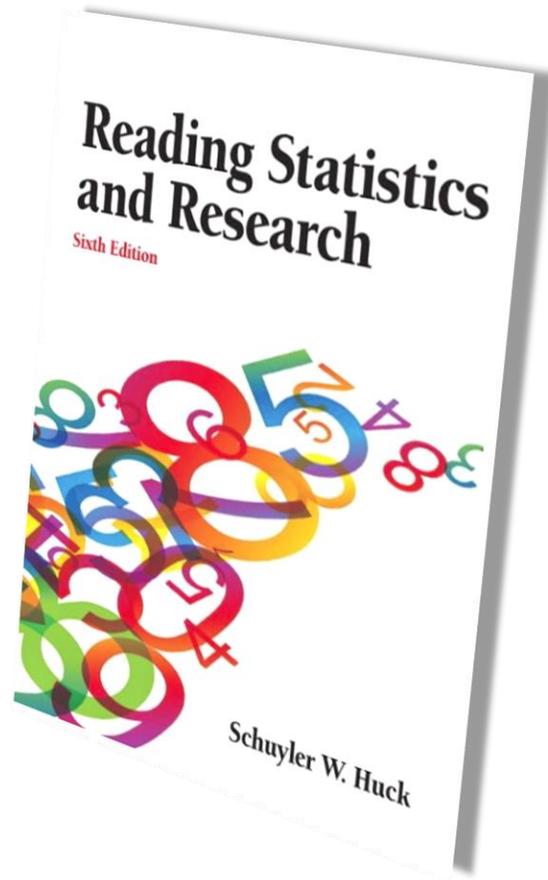
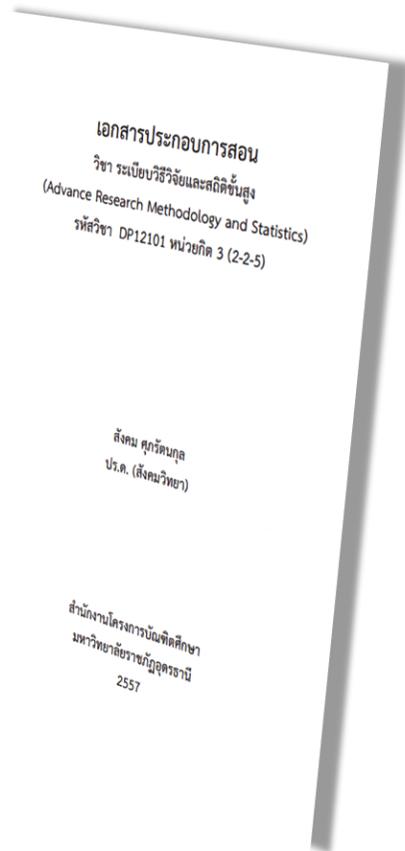
Clarify statistical concepts – i.e., the tools

- Goal: Help you understand statistical terms and methods clearly.
- Use: Makes learning easier and ensures you apply the right techniques correctly.

Enhance statistical literacy – i.e., using the tools wisely and skeptically

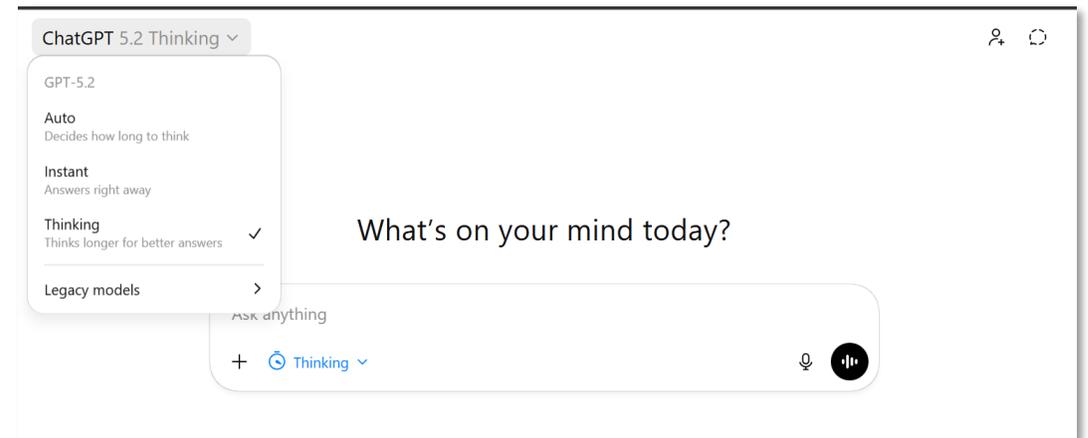
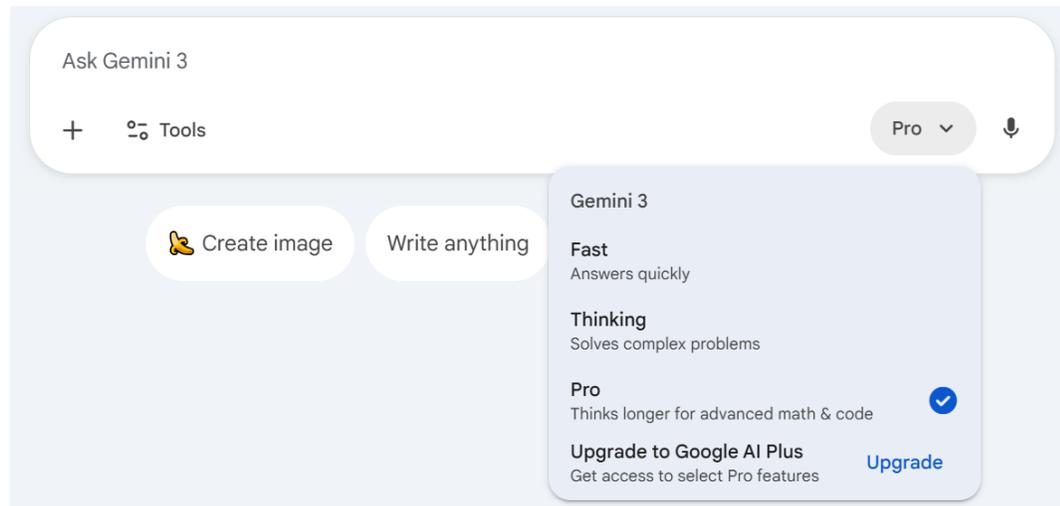
- Goal: Build your ability to think critically about data and statistical claims.
- Use: Helps you interpret results wisely and avoid being misled by bad stats.

Make **your own** stat companion



Data Analysis – Trigger Python for statistics

- Gemini 3 Pro (Thinks longer for advanced math & code)
- GPT-5.2 Thinking



Data Analysis – Gemini 3 Pro

1. Input data and command

Run multiple regression y = satisfaction

2. check code

Python

```
import pandas as pd

# Load the dataframe
df = pd.read_csv('ch6_clinic.csv')

# Inspect the dataframe
print(df.head())
print(df.info())
```

Code output

	PatientID	TreatmentCost	LengthOfStay	Age	DiagnosisScore	Satisfaction
0	1	11175.512901	5.083445	29	7.520237	8.954590
1	2	6558.867527	10.125055	33	8.108824	6.908226
2	3	1000.000000	7.425642	31	5.809381	8.765831

4. CHECK JOURNAL AI POLICY!!!

Gemini

Regression ...

Based on the data provided, here are the results of the multiple regression analysis with **Satisfaction** as the dependent variable (y).

Regression Model Results

Satisfaction = 7.0881 + 0.000007(TreatmentCost) - 0.0105(LengthOfStay) + 0.0012(Age)

Model Summary

- R^2 (R-squared): 0.008
 - This indicates that the model explains only about **0.8%** of the variance in patient satisfaction. This is a very low value, suggesting that the independent variables (Cost, Length of Stay, Age, Diagnosis Score) are not good predictors of Satisfaction in this dataset.
- **F-statistic:** 0.9377 (Prob: 0.442)
 - The high p-value for the F-statistic suggests the overall model is not statistically significant.

Coefficients & Significance

Variable	Coefficient	P-Value ($P > t $)	Significance (at 0.05)
Intercept	7.0881	0.000	Significant
TreatmentCost	6.780e-06	0.704	Not Significant
LengthOfStay	-0.0105	0.698	Not Significant
Age	0.0012	0.650	Not Significant
DiagnosisScore	0.0510	0.074	Not Significant (borderline)

Interpretation: None of the independent variables appear to have a statistically significant

3. table is weird

Ask Gemini 3

Pro

Prompts for Academic Writing Assistance



Revision and Editing

Flow and Cohesion:

"Can you rewrite this transition sentence to create a smoother flow between paragraphs?" (Improves readability and connection of ideas)

"Is there any information in this paragraph that could be better placed elsewhere in the text?" (Enhances logical flow and organization)

Variety and Sentence Structure:

"Can you vary the sentence structure in this paragraph to avoid monotony?" (Improves rhythm and reader engagement)

"Are there any opportunities to use stronger verbs or more evocative language in this section?" (Enhances writing style and impact)

Revision and Editing

Writing impact:

"Who is the intended audience for this piece? What do you want them to know, feel, or do after reading it?" (Helps tailor the writing for maximum impact)

"Does this section effectively support the overall argument or message of the writing?" (Ensures coherence and focus)

Finishing touches - Title

Give me three title options for each title type: descriptive, declarative, interrogative titles, and SPICED titles.

Descriptive title has the essential elements of the research theme, that is, the patients/subjects, design, interventions, comparisons/control, and outcome, but does not reveal the main result or the conclusion.

Declarative title states the main finding of the study in the title itself.

Interrogative title has a query or the research question in the title, which has the ability to sensationalize the topic, and has more downloads.

Creative title

SPICED title includes Setting, Population, Intervention, Condition, Endpoint, and Design. Important terms/keywords should be placed in the beginning of the title

Finishing touches – Abstract

Typical Abstract prompt

Prepare an abstract for this manuscript with IMRAD format:
Introduction/Background, Methods, Results, and the Conclusion

Finishing touches – AI assisted, not written

Percent Change in Usage of Key Phrases in Academic Papers from 2020 to 2023
from Google Scholar

Common Phrases*	2020	2021	2022**	2023
<i>"Embark on a journey"</i>	100.0%	133.3%	130.2%	877.8%
<i>"A treasure trove of"</i>	100.0%	113.0%	130.4%	315.5%
<i>"A tapestry of"</i>	100.0%	123.1%	119.7%	194.9%
<i>"In the dynamic world of"</i>	100.0%	108.4%	111.2%	158.7%
<i>"Delve into"</i>	100.0%	109.0%	113.7%	143.9%
<i>"A testament to"</i>	100.0%	106.5%	102.9%	116.7%
<i>"In the realm of"</i>	100.0%	95.5%	91.6%	89.5%

*Selected academic phrases from: The 15 Most Common ChatGPT Phrases

<https://aiphrasefinder.com/common-chatgpt-phrases/>

**ChatGPT was launched on November 30, 2022

Results as of April 23, 2024

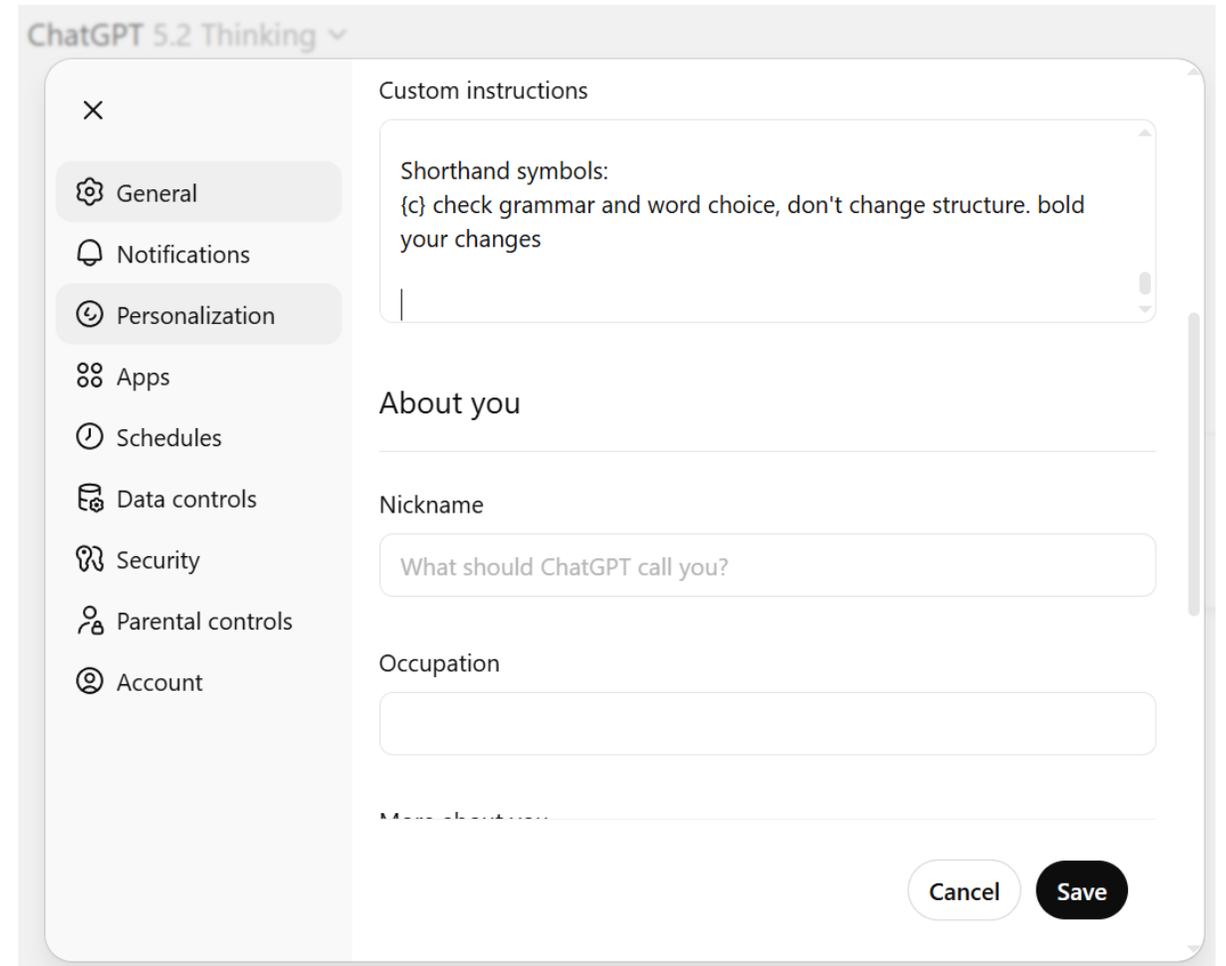
Final thoughts

You write first, AI refines.

AI writes alone? That crosses lines.

See if you can add custom instructions:

{c} Check grammar and word choice, don't change structure. **Bold** changes.



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