





From student to researcher

Bridging academic and research integrity

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- Started as an Erasmus+ Strategic Partnership project with 12 institutions
- Today: 46 institutions... and counting.

https://www.academicintegrity.eu/





higher education institutions to work together in the field of academic integrity



Web portal with resources

- Educational materials: http://www.academicintegrity.eu/wp/wg-materials/
- Guidelines

Raising awareness

- Regular newsletter (every 2 months)
- Facebook, twitter

Annual conferences

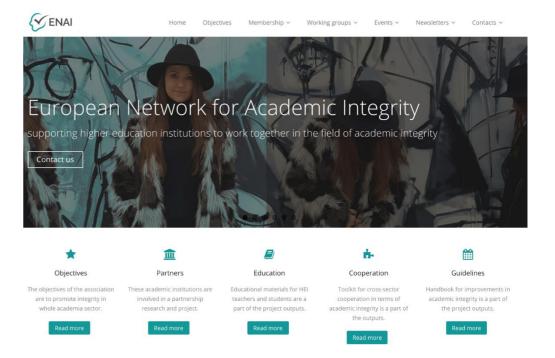
Training events and workshops

Research

Working groups

http://www.academicintegrity.eu/wp/working-groups/

http://www.academicintegrity.eu



Supported by the Erasmus+ Strategic Partnerships project

2016-1-CZ01-KA203-023949.

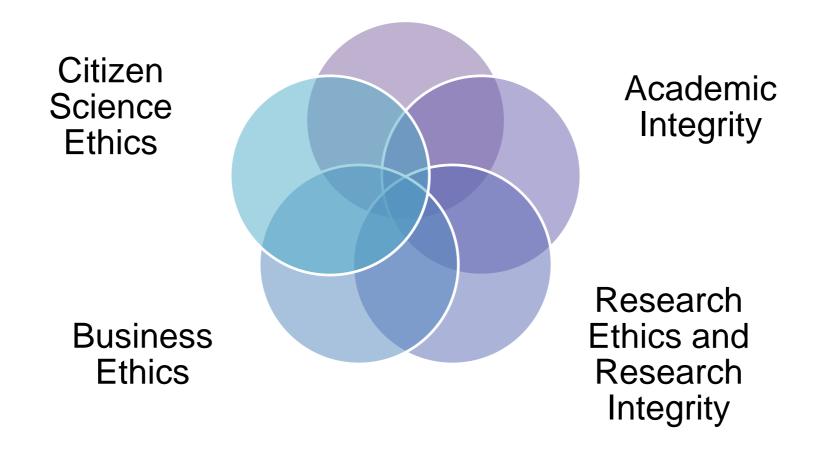




https://academicintegrity.eu/conference/



Personal Ethics





ETHICS

- a moral compass that helps us make informed decisions in complex situations
- acceptable ←→ unacceptable behavior

LAW

- although laws can be used to enforce ethical standards, it is not the same!
 - ethical behaviour that is illegal
 - unethical behaviour that is legal



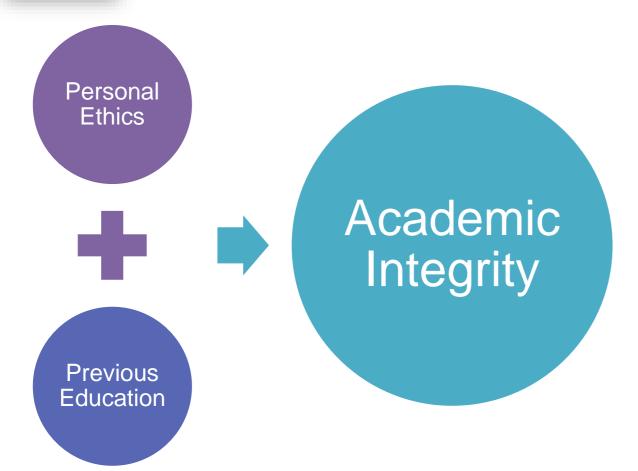


Shaped by the family, culture, philosophical and religious beliefs

Often the fist step towards understanding the difference between personal and professional ethics

Shaped by professional standards and codes





We expect students to be well-equipped to handle academic integrity by relying on their personal values and the ethical knowledge they have acquired through their previous education.



WHAT IS ACADEMIC INTEGRITY?

No exam cheating

No plagiarism

No collusion

No falsification

No fabrication

No contract cheating

No AI (ChatGPT...)



How do we teach academic integrity?

No exam cheating

No plagiarism

No collusion

No falsification

No fabrication

No contract cheating

No AI (ChatGPT...)



How do we teach academic integrity?

No exam cheating No plagiar collusion No falsification No fabrication Vo contract cheating No AI (ChatGPT...)



As we expect students to already have the knowledge, we tend to just tell them what not to do – not to cheat, not to plagiarise etc.

We focus on prohibition and correction of students' behaviour.

We focus on detection, and punishment.

BUT WE NEVER TEACH THEM WHAT TO DO INSTEAD!













Master and PhD students?

How do we teach academic integrity?

How do we teach research ethics?

Business ethics?

Citizen science ethics?

A SIMPLE SOULTIO N IS NOT ENOUGH

• A policy?

- An honor code?
- A lecture on academic integrity?
- A short course?

- A policy?
- A lecture for PhD students?
- A course for early career researchers?

Do only business students need to know something about business ethics?

Is there even any information on that?



AVOID EDUCATIONAL GAPS CONNECT
ACADEMIC
INTEGRITY WITH
OTHER ETHICS
TRAINING

TRANSFERABLE ETHICAL SKILLS



Master students



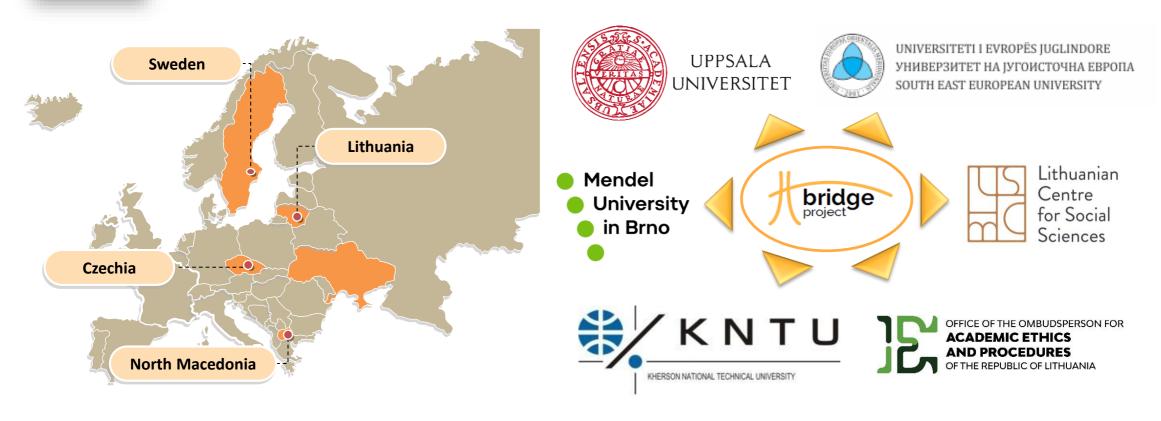
Doctoral students



Supervisors



BRIDGING INTEGRITY IN HIGHER EDUCATION, BUSINESS, AND SOCIETY (BRIDGE)











We seek to create a bridge between academic sphere, business and society in order to reach a broader understanding of interrelated aspects of integrity between these fields.







A HOLISTIC PERSPECTIVE

Three bridges

1: Academic Integrity and Research Integrity

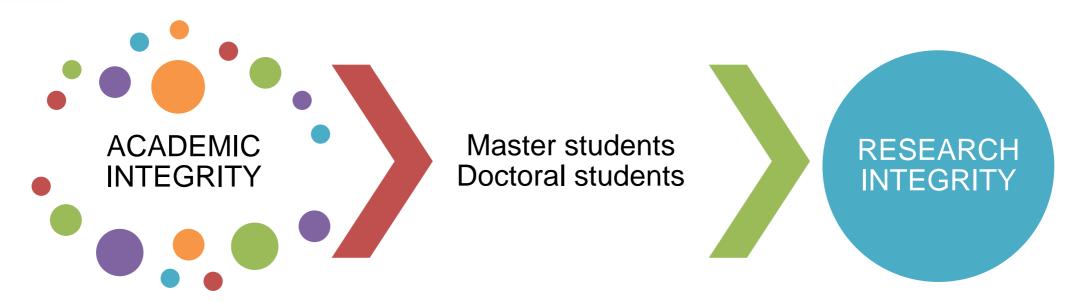
2: Academic Integrity and Business Ethics

3: Academic Integrity and Citizen Science Ethics



















"Compliance with ethical and professional principles, standards and practices by individuals or institutions in education, research and scholarship."





WHAT IS ACADEMIC INTEGRITY?

→ It is not only about students!

ACADEMIC INTEGRITY IS INTEGRITY IN ACADEMIA

- Education
- Research
- Scholarship

ightarrow BUILDING A CULTURE OF INTEGRITY MEANS CONNECTING EDUCATION AND RESEARCH IN ACADEMIC INTEGRITY AND IN RESEARCH ETHICS

"Compliance with ethical and professional principles, standards and practices by individuals or institutions in education, research and scholarship."



We need to focus on the preventive and pedagogical promotion of academic integrity.

WE HAVE TO TEACH
STUDENTS WHAT TO DO
BEFORE THEY ENGAGE IN MISCONDUCT



If we want our students to have knowledge on academic integrity BEFORE they come to the university

- We need to start teaching preservice teachers not only academic integrity
- But HOW to teach academic integrity in the secondary education



WHAT IS ACADEMIC INTEGRITY?

"The International Center for Academic Integrity defines academic integrity as a commitment, even in the face of adversity, to six fundamental values: honesty, trust, fairness, respect, responsibility, and courage."

Source:

https://academicintegrity.org/fundamental-values/



THE EUROPEAN CODE OF CONDUCT FOR RESEARCH INTEGRITY (ECCRI)

- REALIBILITY
- HONESTY
- RESPECT
- ACCOUNTABILITY

PRINCIPLES

CONTEXTS

- RESEARCH ENVIRONMENT
- TRAINING, SUPERVISION, & MENTORING
- RESEARCH PROCEDURES
- SAFEGUARDS
- DATA PRACTICES & MANAGEMENT
- COLLABORATIVE WORKING
- PUBLICATION & DISSEMINATION
- REVIEWING, EVALUATING & EDITING



Fundamental principles of good research practice

- that one can be assured that research is of high quality
- that research is conducted and reported in a truthful way and with respect to important societal values
- that researchers take responsibility for their research and its consequences.

Source: https://www.uu.se/en/research/ethics/



Ethical values and knowledge of the law and regulations

Skills:

- Referencing, citation, paraphrasing
- Reading skills
- Digital literacy
- Analytícal skills
- Critical thinking
- Research skills
- Al literacy
- Academic writing





Why do we write in academia?







WHY DO WE WRITE IN ACADEMIA?

It is an important learning strategy

- writing helps us think and reflect: academic language helps us conduct cognitive operations
- visualizes learning

It promotes the creation and the development of knowledge

Communication: the scientific knowledge may and should be reviewed







We write a lot in the academia

Papers for courses

Journal papers

Books

Grant proposals

Peer-reviews

Administrative documents

Feedback to students or peers

Adopting identity as a writer is crucial!





Reflection

Types of writing



- Informal writing that you do for yourself, to explore and generate ideas and to recognize and clarify connections
- Not only description, the compilation of information or argumentation, but a way to make a meaning and to understand what you study





Reflection

Types of writing



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- Not only description, the compilation of information or argumentation, but a way to make a meaning and to understand what you study

ASSIGNEMENT: 5 minutes reflective writing

- What does it take it to get me to write?
- What keeps me away from writing?
- What aspects of writing do I really enjoy?
- What aspects of writing do I especially dislike?

second edition.....



50 Exercises for Paced, Productive, and Powerful Writing



2020-1-SE01-KA203-077973



Reflection

Types of writing



- Informal writing that you do for yourself, to explore and generate ideas and to recognize and clarify connections
- Not only description, the compilation of information or argumentation, but a way to make a meaning and to understand what you study





Genres:

- Anything you write in the academia
- Conference papers
- Reports
- Articles
- Essays







- Reading
- Data collection
- Experiments

Prewriting

Writing

- Outline
- First draft

- Second draft...
- Feedback
- Kill your darlings
- Proofreading

Editing

Publishing

- Co-authorship
- Predatory journals
- Peer review















- Reading
- Data collection
- Experiments

Prewriting

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PREWRITING

Wit g is like Data and cooking: results You need most of the ingredients (and it is good to have a store

(Some) relevant literature







PREWRITING



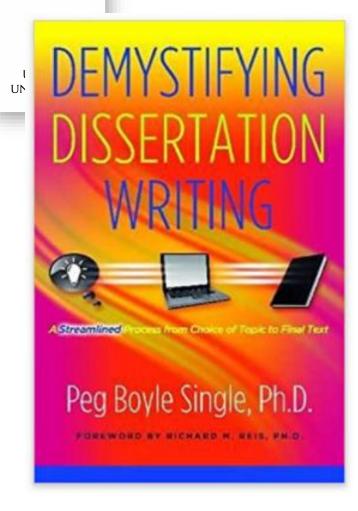
You have to work with the material: it doesn't suffice to bookmark websites or just read and annotate papers and books



ALWAYS WRITE THE WHOLE BIBLIOGRAPHICAL INFORMATION (author, year, title...)!







Notetaking: Chapter 3 & 4 in Single (2009)

KEYWORDS ABSTRACT NOTES

- THE BIG PICTURE, THE BIG POINT
- THE PREMISE OR HYPOTHESIS
- DATA, SOURCES, OR ARGUMENTS
- THEORIES OR CONCEPTUAL APPROACHES
- ANALYTICAL OR RESEARCH METHODS
- RESULTS OR ANALYSIS
- QUOTATIONS
- HOW THE RESEARCH INFLUENCES YOUR RESEARCH

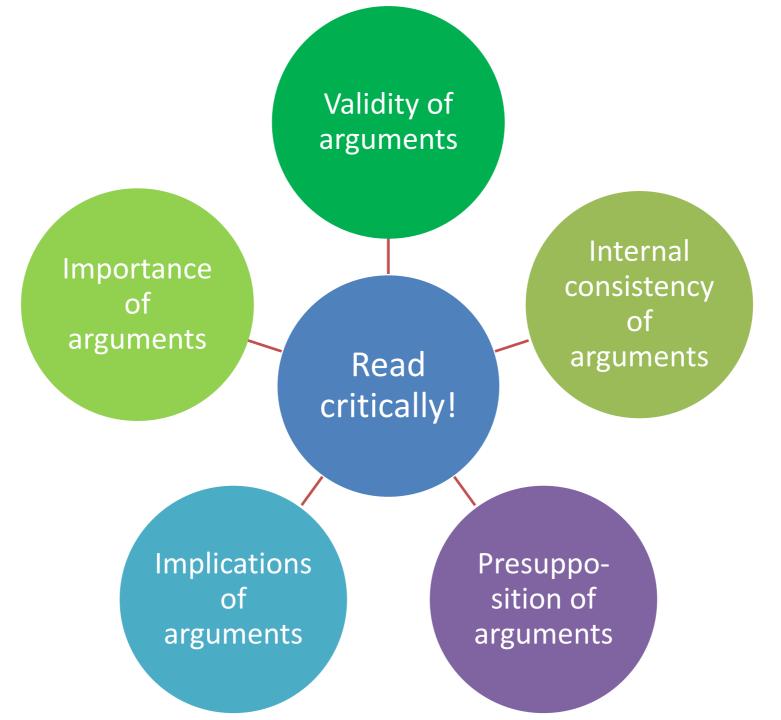
CITEABLE NOTES

- Single (2009) stresses the importance of prewriting.
- Citeable notes is a useful concept discussed in Single (2009).







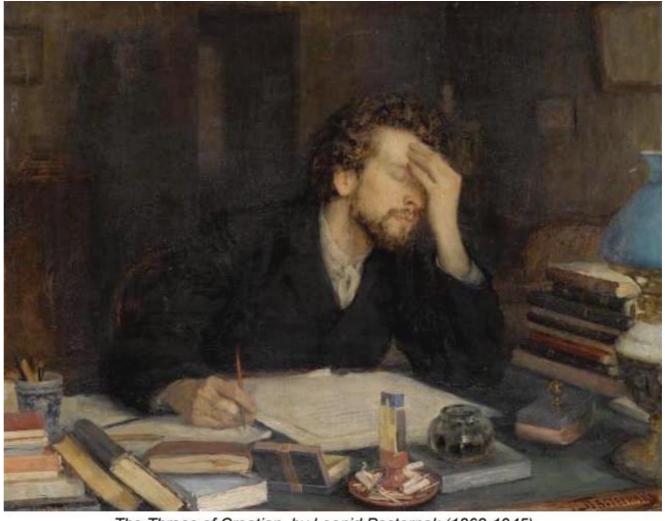








WRITING



The Throes of Creation, by Leonid Pasternak (1862-1945)









Papers as stories

Fictional stories: a "story" sets up and then resolves an interesting question in the reader's mind.

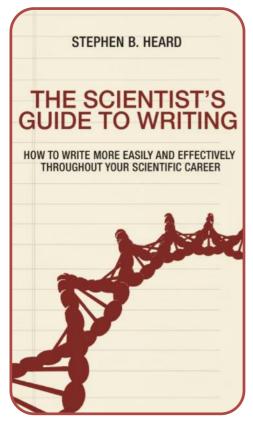
How? By exposing characters to a plot.

A paper does the same thing.

- Question: what is the aim of your paper?
- Characters: your data, methods
- **Plot**: experiments, data analysis, etc.

You do not write a paper for yourself – you write it for your readers

Stephen B. Heard. (2016). *The Scientist's Guide to Writing: How to Write More Easily and Effectively Throughout Your Scientific Career.* Princeton University Press. Chapter 7



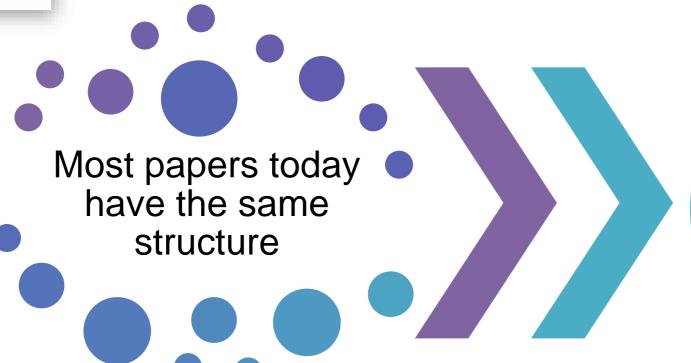
Outline

- What is your central question?
- Why is this question important?
- What data do you need to answer the question?
- What methods are you going to use to get that data?
- What analysis must be applied for the data to answer the question?
- What data were obtained?
- What were the results of the analysis?
- How did those results answer the central question?
- What does this answer tell us about the broader field?









This makes the job easier for the rewiers, editors, and readers







INTRODUCTION



- WHAT? WHY?
- Background information_ the problem, the importance
- The purpose of the study: research questions and hypothesis
- Do not include data and your conclusions!

METHODS



- HOW did you do it?
- Describe, define, illustrate material, procedures
- The justification of your methods
 discuss!

RESULTS



- What did you found out?
- Point out only relevant data
- Summarize by using figures – but no discussion!

(AND) DISCUSSION

- What do your findings mean? Explain your results!
- New aspects? Implications for future research
- CONCLUSION

 may be
 written as a
 separate part,
 do not repeat
 what has been
 said in
 Discussion!





Non-canonical structures



Thesis

Several papers
(Kappa =
General
introduction –
Paper 1, 2, 3, 4
– General
discussion)

Monography (usually devided into chapters)

"Results AND discussion"

Easier to write, but harder to read

Can work for theory papers

Review papers

Can be organized thematically, temporally, methodologically

Notes and Comments

Very short papers







Subhead outline

Start with the subhead outline (IMRAD or other)

Fill in the citable notes that are relevant for that section

Are there sections where you need to do more reading? Go back and do that!







P

Group similar points together

1 paragraph per main point/theme

Present a theme (a topic sentence) clearly within a paragraph (in the beginning or at the end)

Discuss a theme within the paragraph

Link your paragraphs







Be clear

- Explain what you intend to do
- Define your key concepts
- Link the ideas in a logical manner
- Support your claims by evidence
- Make your position clear
- Be objective
- If you are not certain: indicate caution (probably, may...)







What characterizes academic writing?



What characterizes academic writing?

Analytical

Critical

Objective (often the third person: "This research shows that...")

Logical structure: beginning, middle, end

Interpret and use sources

References to sources

A central problem

Well-founded and developed argument

Drew conclusions

Appropriate language



Referencing

QUOTATIONS

- Exactly identical to the source word by word
- Marked with the quotation marks and the in-text reference or a footnote
- Any changes: indicate with [...] or [word] – but make sure that the meaning is the same!
- Mistakes in the source [SIC!]
- Use reference markers

BLOCK QUOTATIONS

- Long quotation (block quotation): constitutes of 40 or more words.
- Introduce it with a full sentence.
- Do not place long quotations in quotation marks.
- Indent all lines from both sides.







Referencing

PARAPHRASING

- Restructure and reword
- •Changing to a synonym is not sufficient
- •Refer to the source by mentioning the surname of the author and date of publication
- Provide a reference

SUMMARIZING

- Identifying the main ideas in the source
- Restructure and reword
- The summarized version is much shorter than the original only main points and most fundamental ideas are included.
- Refer to the source by mentioning the surname of the author and date of publication
- Provide a reference

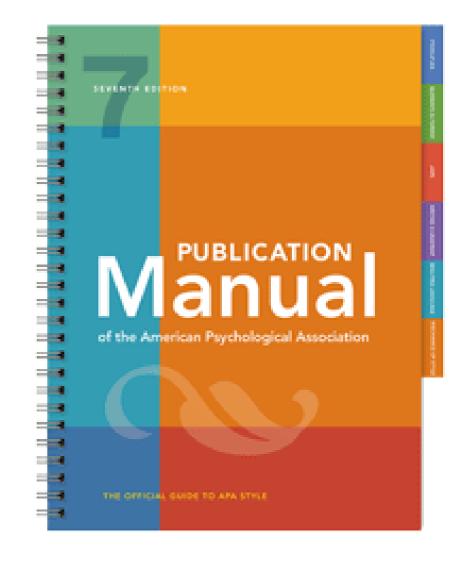






Referencing styles

- Apa
- Harvard
- Vancouver
- Oxford
- ... and many more









zotero

EndNote[™]





Reference management software









WHY do we need references, what is their function?







The function of the references

Standing on the shoulders of giants

Use references to support your idea

References give credibility to your own work

Transparency

To avoid plagiarism









What is plagiarism?

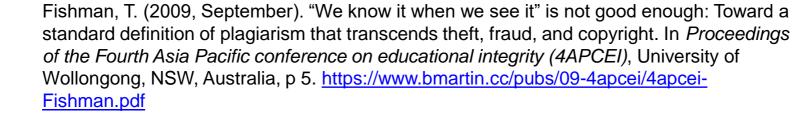






Plagiarism occurs when someone

- 1. Uses words, ideas, or work products
- 2. Attributable to another identifiable person or source
- 3. Without attributing the work to the source from which it was obtained
- 4. In a situation in which there is a legitimate expectation of original authorship
- 5. In order to obtain some benefit, credit, or gain which need not be monetary









What does NOT need citation:

- General knowledge = claim that's widely accepted ("all life on Earth has a single origin")
- Factual claim, easily checked ("dolphins are mammals")
- Suggestion: If you yourself have been forced to check up on it, it is probably not general knowledge.

What DOES need citation:

- Claims readers might question
- Showing controversy
- Unfamiliar methods
- Value in offering readers more information







Someone else's contribution that does not influence the content

- Proofreading
- Formating
- Typographic corrections







PLAGIARISM ←→ ORIGINALITY DEPENDS ON THE CONTEXT





Self-plagiarism?



REMBRANDT VAN RIJN, KUNSTHISTORISCHES MUSEUM, VIENNA



Self-plagiarism?

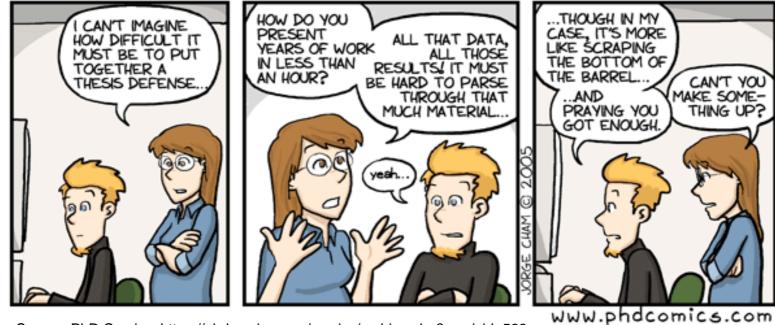
Bjelobaba, S. (2019): Self-plagiarism in Academic Writing, *Best Higher Education Ever*, p. 110-120

Bjelobaba, S. (2019): Självplagiering i akademiskt skrivande, *Akademisk integritet är bäst*, p. 20-30

Bjelobaba, S. (2019): Auto-plagiarism in Scientific Writing, *Very Famous Academic Integrity Journal*, p. 44-55

(note: these are not real papers!)



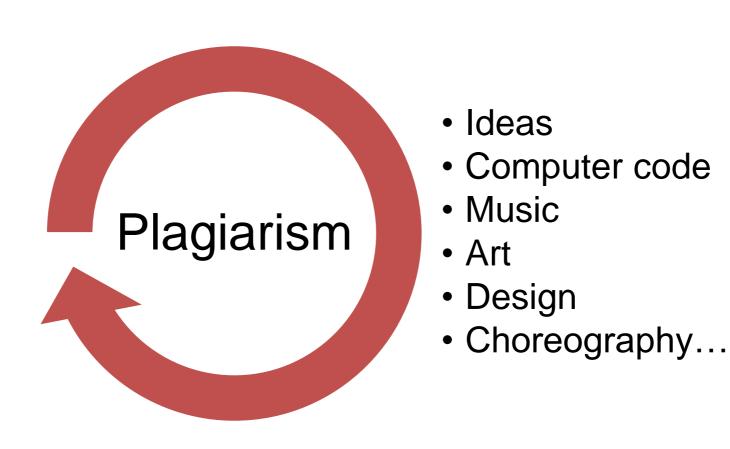


Source: PhD Comics, https://phdcomics.com/comics/archive.php?comicid=568

PLAGIARISM ←→ ORIGINALITY DEPENDS ON THE TIME PERIOD



PLAGIARISM ←→ ORIGINALITY IS NOT ONLY ABOUT TEXTS



treatment which could explain the discrepant results. The differences in associations we found in subgroup analyses would be in agreement with the spectrum theory in which breast cancer is viewed as a heterogeneous disease; from tumors that remain localized throughout their entire life spans to those that already are disseminated at onset. 35 The theory states that many breast cancers fall in between these two extremities, being localized at first, but, if left untreated, at some time point acquiring the potential to spread. 35

Lymph node status is the single most significant prognostic factor of distant recurrence and death in women with breast cancer. 36 Women with lymph node metastases thus reflect the

36. Carter CL, Allen C, Henson DE. Relation of tumor size, lymph node status, and survival in 24,740 breast cancer cases. *Cancer* 1989;**63**:181–7.

Wiley Online Library | CAS | PubMed | Web of Science® | Google Scholar |

37. OECD. OECD Reviews of Health Care Quality: Sweden: OECD Publishing.

Eriksson, L., Bergh, J., Humphreys, K., Wärnberg, F., Törnberg, S., Czene, K.. (2018). Time from breast cancer diagnosis to therapeutic surgery and breast cancer prognosis: A population-based cohort study. International Journal of Cancer, 143(5), 1093-1104. https://doi.org/10.1002/ijc.31411

HOW CAN WE CITE A SECONDARY SOURCE?

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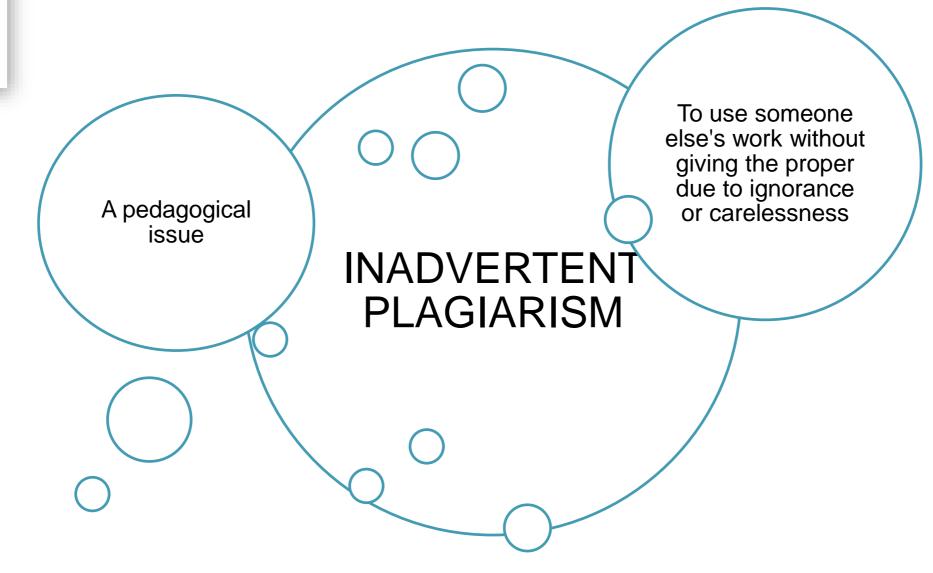
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HOW CAN WE CITE A SECONDARY SOURCE?

- A. Eriksson et al (2018) states that the single most sigificant prognostic factor of... is the status of the lymph node
- B. Carter et al. (in Eriksson et al. (2018)) states that...
- C. I have to find Carter et al.
- D. Carter et al. (1989) states that the single most significant...







Mosaic plagiarism = patchwriting

Changing a few words to synonyms and changing the word order (Howard 1995)

Howard, R. M. (1995). Plagiarisms, Authorships, and the Academic Death Penalty. *College English*, *57*(7), 788–806. doi:10.2307/378403





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Reasons

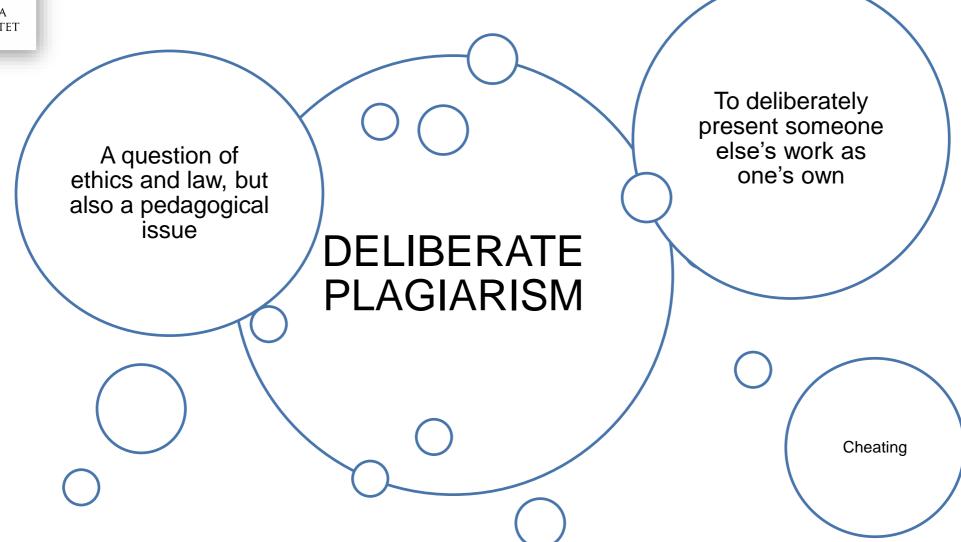
- Ideas that it is not good to quote too much and that one cannot formulate it better oneself
- An early step in learning academic writing – education is needed
- Sometimes a mistake (caused by copying a text into one's own text with the intention of changing later, but then forgetting about it)



Gray area: Students' perspective

- "I always indicate references, but sometimes I take a lot from a certain article. Now when I think about it, I do not know the exact rules. How much can you reproduce (but of course, in your own words), how often do you have to refer to a specific source in the text if a longer piece is from the same article? There are things that I'm not sure of, that's why I do not know if I have plagiarized accidentally."
- a student answer, GU survey 2014







Text matchning software

- Teacher training is important
- Forget the percentage, it says nothing
- Increase the database by regularly using TMS (Ouriginal, Turnitin)
- Use it pedagogically (at lower levels) have students submit their texts and then discuss their reference management





Modes:

Paraphraser

Expand





























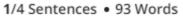
 \bowtie





Creative













Standard Fluency Formal Simple

We have shown that even a few weeks delay from breast cancer

diagnosis to therapeutic surgery is associated with an impaired

prognosis. There may, however, be certain subgroups, such as

women with lymph node metastases, for whom time to surgery

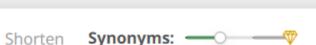
may be particularly crucial to keep this interval at a minimum. In

conclusion, the time interval between diagnosis and therapeutic

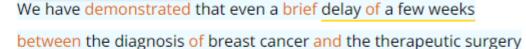
surgery should be kept as short as possible without hampering

diagnostic work-up and preoperative, patient optimization

might be of less importance. For women with large tumors it







results in a worse prognosis. However, for some subgroups, such as

women with lymph node metastases, the wait time before surgery may not be as critical. It can be especially important for women with

big tumors to keep this interval to a minimum. In conclusion, the

period between a diagnosis and a corrective procedure should be as

short as feasible while yet allowing for adequate diagnostic testing

and preoperative patient preparation.

Tortured phrases found in computer-science papers

| Scientific term | Tortured phrase |
|-------------------------|------------------------------|
| Big data | Colossal information |
| Artificial intelligence | Counterfeit consciousness |
| Deep neural network | Profound neural organization |
| Remaining energy | Leftover vitality |
| Cloud computing | Haze figuring |
| Signal to noise | Flag to commotion |
| Random value | Irregular esteem |

nature

Explore content > About the journal > Publish with us > Subscribe

nature > news > article

NEWS | 05 August 2021 | Correction 10 August 2021

'Tortured phrases' give away fabricated research papers

Analysis reveals that strange turns of phrase may indicate foul play in science.

Holly Else







"Bosom peril" is not "breast cancer": How weird computer-generated phrases help researchers find scientific publishing fraud

By Guillaume Cabanac, Cyril Labbé, Alexander Magazinov | January 13, 2022









- CONTRACT CHEATING (Lancaster, T. & Clarke, R. 2006)
- ESSAY MILLS
- GHOST WRITING
- ACADEMIC OUTSOURCING

Clarke, R., Lancaster, T. (2006). Eliminating the successor to plagiarism? Identifying the usage of contract cheating sites. *Proceedings of the Second International Plagiarism Conference*. United Kingdom, Gateshead, http://www.plagiarismadvice.org/research-papers/item/eliminating-the-successor-to-plagiarism-identifying-the-usage-of-contact-cheating-sites

→ Students get others to complete their coursework for them by outsourcing it



How many students use essay mills?

- 3.5% from 5 studies
- 62.5%
 several times

Curtis, G. and Clare, J. (2017) 'How Prevalent is Contract Cheating and to What Extent are Students Repeat Offenders', *Journal of Academic Ethics* (Vol 15, Issue 2) pp 115-124



3.52% from65 studies

Newton, P (2018): How Common Is Commercial Contract Cheating in Higher Education and Is It Increasing? A Systematic Review, *Frontiers in Education*,

https://doi.org/10.3389/feduc.2018.00067





Examples

Capabilities

<u>(ì</u>

Limitations

"Explain quantum computing in simple terms" →

Remembers what user said earlier in the conversation

May occasionally generate incorrect information

"Got any creative ideas for a 10 year old's birthday?" →

Allows user to provide follow-up corrections

May occasionally produce harmful instructions or biased content

"How do I make an HTTP request in Javascript?" →

Trained to decline inappropriate requests

Limited knowledge of world and events after 2021



What are the limitations of ChatGPT in writing academic texts? Write 100 words



While ChatGPT has the ability to generate coherent and grammatically correct text, there are several limitations to its use for writing academic texts. Firstly, ChatGPT lacks the domain-specific knowledge and expertise required to produce content that is accurate and well-researched. It may also struggle with properly citing sources and following established academic writing conventions. Additionally, it may not be able to understand the specific context or audience for a given piece of writing, which can lead to inappropriate or irrelevant content. Therefore, while ChatGPT can be a useful tool for generating initial ideas or drafts, it is not a substitute for the critical thinking and research skills required for academic writing.

Characteristics:

- Quality of the text: general texts without examples and references to the current context
- No, overly general, or fake references
- Data until 2021

What are the limitations of using large language models in academic writing?

■ PERPLEXITY

■ View Detailed

Large language models have some limitations when it comes to academic writing. For example, they may miss domain-specific knowledge that is required for a particular field of study^[1]. Additionally, they are not good at planning and reasoning tasks^[2]. Furthermore, their training data is limited to a specific time period and may not reflect the current state of the world^[3]. Finally, while language models can scale to superintelligence in theory, this is still a long way off in practice^[4].



[] 4 SOURCES

Ξ View List

1 towardsdatascience

2 n bdtechtalks

moveworks

4 🛮 🌞 lesswrong





Welcome to the new Bing

Your AI-powered copilot for the web

What are the limitations of using large language models for writing academic texts? Wrate a 100 words text and include 3 references to scientific peer-reviewed papers.

- Searching for: limitations of using large language models for writing academic texts
- Generating answers for you...

Large language models have several limitations when it comes to writing academic texts. They may lack accuracy, enterprise context, controllability, and their training data may become stale 1. They should not be relied upon for complex reasoning or crucial information ². However, they could be used to gain a deeper understanding of a text's content and context ². Here are some references to scientific peer-reviewed papers that discuss the limitations of large language models: 2 3 4.

Learn more: 1. moveworks.com 2. papers.ssrn.com 3. deepai.org

1 of 8



GPTGO: ChatGPT combined with Google search

GPTGO Language *

Results for "how can teachers use chat gpt in a positive way"

Bild

Ungefär 2,230,000 resultat (0.29 sekunder)

Sortera efter:

Relevance *

50 Ways Teachers can use Chat GPT to Save Time - YouTube

YouTube > watch

11 apr. 2023 ... 50 Genius Tips for Teachers to Save Time with ChatGPT Text to Audio Chat GPT ⊳ https://youtu.be/2PXZmFEnnVk Patreon ...

How teachers can use Chat GPT? - YouTube

YouTube > watch

21 feb. 2023 ... Mr Long Teacher TIPS: What is Chat GPT? A new Artificial Intelligence technology that uses a chatbot to answers responses, create content.

How Can Teachers use it #chatgptforteachers #chatgpt #aiforteachers

YouTube > watch

för 5 dagar sedan ... Chat GPT is an example of a creative tool that has gained popularity among teachers. This video explains different ways teachers can use ...

20 Ways Teachers Can Use ChatGPT to Make Their Lives Easier

We Are Teachers > chatopt-for-teachers

13 mars 2023 ... Examples of ways teachers can use ChatGPT, including a child writing with writing prompts created. By now, you've probably heard all the hubbub .

6 Ways ChatGPT Can Save Teachers Time | Edutopia

Edutopia > article > 6-ways-chatgpt-save-teachers-time

administrators via Al-composed welcome-to-class letters,

ChatGPT in the classroom. Step-by-step guide for educators

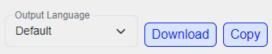
www.kinderpedia.co > English > Resources > Blog > Connected Education

6 feb. 2023 ... By using Chat GPT in the classroom, teachers can provide students with instant feedback and help them expand their knowledge on various subjects ...

ChatGPT

Teachers can use ChatGPT in a positive way in the following ways:

- As an educational tool: Teachers can use ChatGPT to help students find answers to their questions on a wide variety of topics related to their coursework. This can help students learn faster and more efficiently.
- To answer questions beyond the classroom: ChatGPT can be used by teachers to answer questions related to the subject matter but outside of what's being taught in the classroom. This will help students broaden their knowledge about the subject and develop a deeper understanding.
- 3. For personalized learning: ChatGPT can help teachers provide personalized learning to their students by answering their questions in real-time. This approach will help teachers deliver personalized education to the students and help them understand the subject conceptually.
- 4. To save time: ChatGPT can also help teachers save time by allowing them to focus on other aspects of teaching such as lesson planning and grading papers. This is because ChatGPT will be readily available to answer student questions.

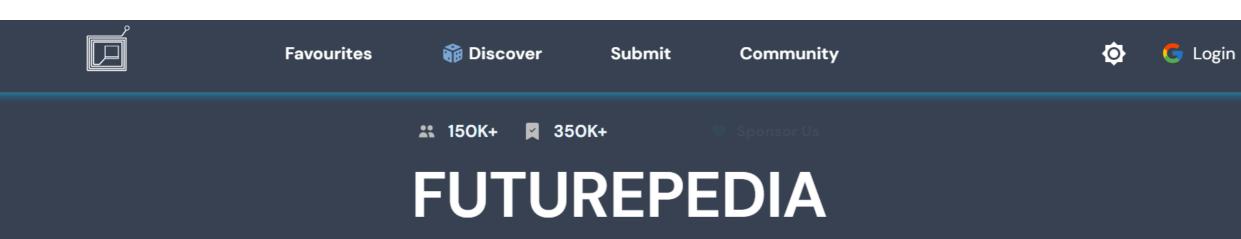




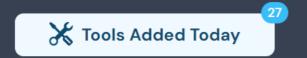
GPT

- "Generative Pre-training Transformer"
- GPT-1: 2018
- GPT-2: 2019
- GPT-3: 2020
- GPT-4: March 2023





THE LARGEST AI TOOLS DIRECTORY, UPDATED DAILY





Search 3992 Al tools and 54 categories



ChatGPT and LLMs

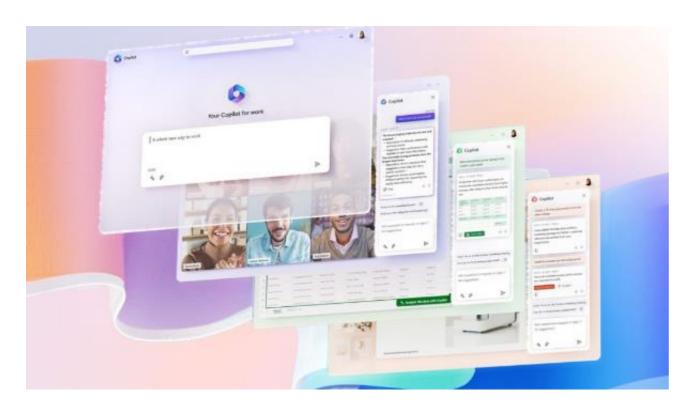
Google's Bard + Google Scholar

Microsoft: Co-Pilot

Presentations Text + visuals

Text to video and audio





Source: https://www.microsoft.com/en-us/microsoft-365/blog/2023/03/16/introducing-microsoft-365-copilot-a-whole-new-way-to-work/



Source: https://ai.google/



Al-based tools can be used to transform, produce or generate any kind of content, such as text, images, art, music, or programming code.

Authorised and declared usage of Al tools.

Undeclared and/or unauthorised usage of Al tools may be considered a form of academic misconduct.



Authorised content generation

- The use of AI in education is not automatically unethical. There can be differences between academic disciplines, education institutions, courses, types of assessment, cultures, regions, and countries as to what is considered acceptable use of AI and what is not.
- Authorised and declared usage of Al tools is usually acceptable



Unauthorised content generation (UCG)

 The production of academic work, in whole or part, for academic credit, progression or award, whether or not a payment or other favour is involved, using unapproved or undeclared human or technological assistance.



Large Language Models

- System trained to statistically predict word, character or sentence sequences in a given context
- Have been around since the 1980s (Rosenfeld, 2000)
- Used in machine translation, automatic speech recognition, for document classification...
- Datasets have become larger and larger

Limited multilingualism

- 7% trained in languages other than English (Brown et al., 2020)
- but: 90% of all languages used by a billion people have no language technology support

 will widen technological inequality (Joshi et al., 2020)

Bias

 The technology is based on data from the internet that perpetuates dominant views, encodes bias and can harm marginalized groups (Bender et al., 2021).

Bender, E. M., Gebru, T., McMillan-Major, A., & Shmitchell, S. (2021). On the Dangers of Stochastic Parrots: Can Language Models Be Too Big?. *Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency*, 610–623. https://doi.org/10.1145/3442188.3445922

Brown, T. B., Mann, B., Ryder, N., Subbiah, M., Kaplan, J., Dhariwal, P., Neelakantan, A., Shyam, P., Sastry, G., Askell, A., Agarwal, S., Herbert-Voss, A., Krueger, G., Henighan, T., Child, R., Ramesh, A., Ziegler, D. M., Wu, J., Winter, C., ... Amodei, D. (2020). *Language Models are Few-Shot Learners* (arXiv:2005.14165). arXiv. http://arxiv.org/abs/2005.14165
Joshi, P., Santy, S., Budhiraja, A., Bali, K., & Choudhury, M. (2020). The State and Fate of Linguistic Diversity and Inclusion in the NLP World. *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics*, 6282–6293. https://doi.org/10.18653/v1/2020.acl-main.560



Sustainability

 Bad for the environment: LLM require a lot of energy, contribute to climate change (which affects more those who do not benefit from LLMs!)

(Bender et al., 2021)

Ethical training

 400 words were filtered out - but this in itself may further marginalize LGBTQ

(Bender et al., 2021)

Other issues

- Transparency
- Security
- User privacy

(Borji, 2023)



Is it possible to detect AI written texts with technical solutions

- Don't ask ChatGPT!
- Text-matching software (Ouriginal, Turitin) does not detect Al-written texts
- Watermark (will probably be able to be washed away via paraphrasing services or other AI programs)
- Stylometry
- New applications are launched (e.g. Crossplag, OpenAI, Turnitin), but they
 do not work very well. The pre-print has been published on ArXiv:
 https://arxiv.org/abs/2306.15666
- False positives and false negatives



Al will not go away – the solution is not to ban

Using AI is not automatically cheating – it can be used ethically

Al can help students to learn

Individual exercises

Help for the teacher

Discuss the benefits and limitations of AI with students

Al will affect the job market – we need to prepare our students

Generic competencies are even more important:

- Academic literacy
- Critical thinking
- Argumentation analysis
- Reference management

Discuss with your students when AI can be used and how to state that it has been used



Foltynek, T., Bjelobaba, S., Glendinning, I. et al. ENAI Recommendations on the ethical use of Artificial Intelligence in Education. *International Journal of Educational Integrity* 19, 12 (2023). https://doi.org/10.1007/s40979-023-00133-4

"If students do not have the opportunity to learn about the ethical use of AI, they will be more susceptible to engaging in inappropriate use of AI, which may constitute academic misconduct."





ACKNOWLEDGEMENT OF AI

Al tools should be acknowledged when used to influence ideas or generate content.

MISLEADING INFORMATION

Users should be aware that the outputs of AI tools can include biased, inaccurate, or incorrect content.





STUDENTS' LEARNING

Students should learn the purpose of the learning activities and assessment, and how to develop their skills.

TEACHERS' TRAINING IN AI

Teachers should receive training on ethical teaching and learning practices using Al.





NATIONAL GUIDANCE

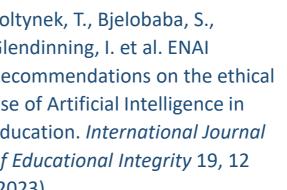
National guidance should provide overarching advice on what institutions should include in their policies on Al.

INSTITUTIONAL POLICIES

Institutional policies should define when and how the use of AI is allowed and how it should be acknowledged.



Foltynek, T., Bjelobaba, S., Glendinning, I. et al. ENAI Recommendations on the ethical use of Artificial Intelligence in Education. International Journal of Educational Integrity 19, 12 (2023).











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What should be acknowledged?



- All persons, sources, and tools that influence the ideas or generate the content should be properly acknowledged → when an Al tool is used, it should be acknowledged.
- Form of acknowledgement may differ
- If possible, prompt should be provided

Form

- Appropriate use of services, sources, and tools that only influence the form is generally acceptable
- e.g. proofreaders, proofreading tools, spelling checkers, thesaurus





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Responsibility

Bias

 The outputs of AI tools can include biased, inaccurate, or incorrect content that users should be aware of

Responsibility

- Neither the AI tool, nor the provider of the AI tool take responsibility for the generated content
- Human (user) is always responsible!

Co-authorship

- An Al tool cannot be listed as a co-author in a publication
- Al cannot take responsibility for the content and findings reported.
- The person (human being or legal entity) is always accountable for the content, whether or not it was generated by AI (see COPE guidelines)





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Education

Students

- The purpose of all activities related to learning and assessment and why they should develop (e.g. write) their individual/group work assignments.
- How to develop their ethical writing and content production skills.

Teachers

- Teachers should receive training on ethical use of AI
- development of relevant learning outcomes, learning activities, and assessment strategies.





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Guidelines and policies

National guidelines

 National guidance should provide overarching advice on what institutions should include in their policies



- ·Should define default rules on allowed use of AI
- •There should be space for specific rules at course level
- •The policy and the rules should be clearly communicated to all stakeholders
- •Should guide the users on how to correctly and transparently acknowledge the use of AI tools in an assignment, dissertation, thesis, paper, article, book chapter, computer program, graphic, artwork and other types of artefact





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Authors: Tomáš Foltýnek, Sonja Bjelobaba, Irene Glendinning, Zeenath Reza Khan, Rita Santos, Pegi Pavletić, Július Kravjar

SUMMARY STATEMENT

There is no doubt that AI brings significant change to education

As with any other technology, it extends and enhances human abilities and may be used both in a positive and a negative way

ENAI urges national policymakers, institutions, and all individual members of the academic community to seek ways on the ethical use of AI and share best practices in order to benefit from the opportunities that AI brings to education and science.



Al = multiplier of users' abilities

Both in good and in bad ways.



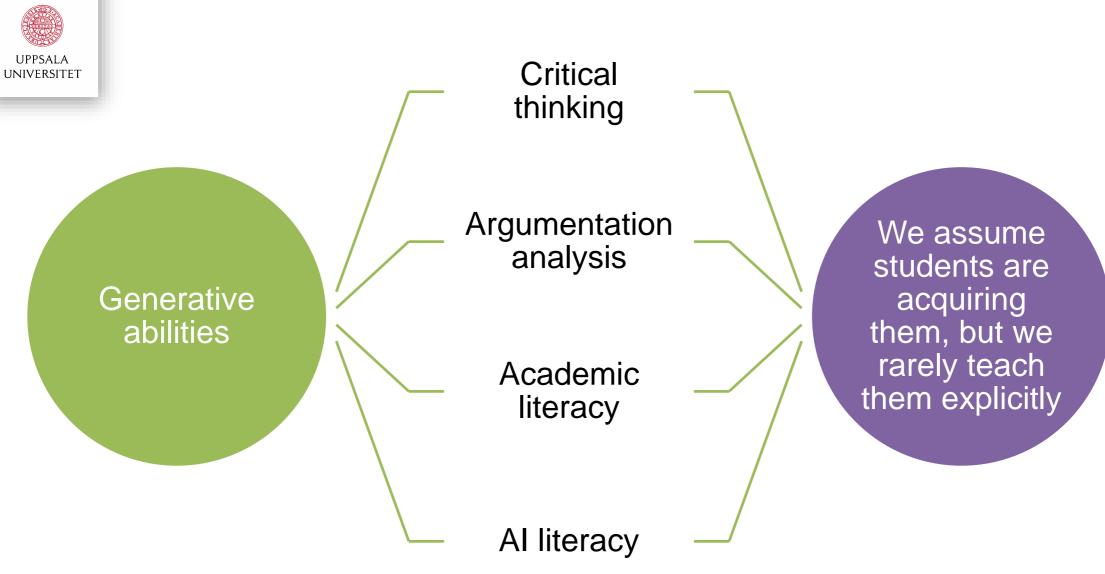
You need to be able to distinguish the right answer from the wrong answer

If you can do that, you will know what to parts are usable and what not to use

Your content will be improved

How do we know when LLM is hallucinating?







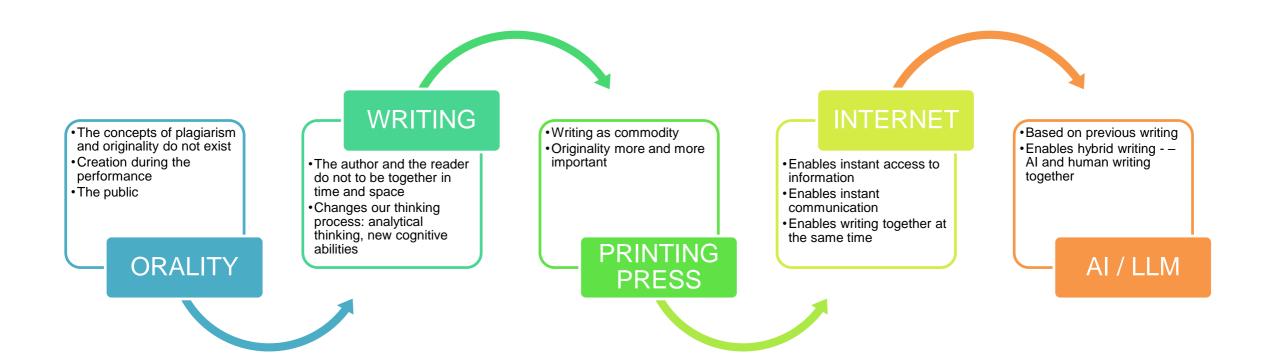
We have been here before:

- Radio, TV...
- Internet, Wikipedia...
- MOOCs, social media...
- ... will revolutionize the education
- But instead they got integrated in education

Is Al the same?



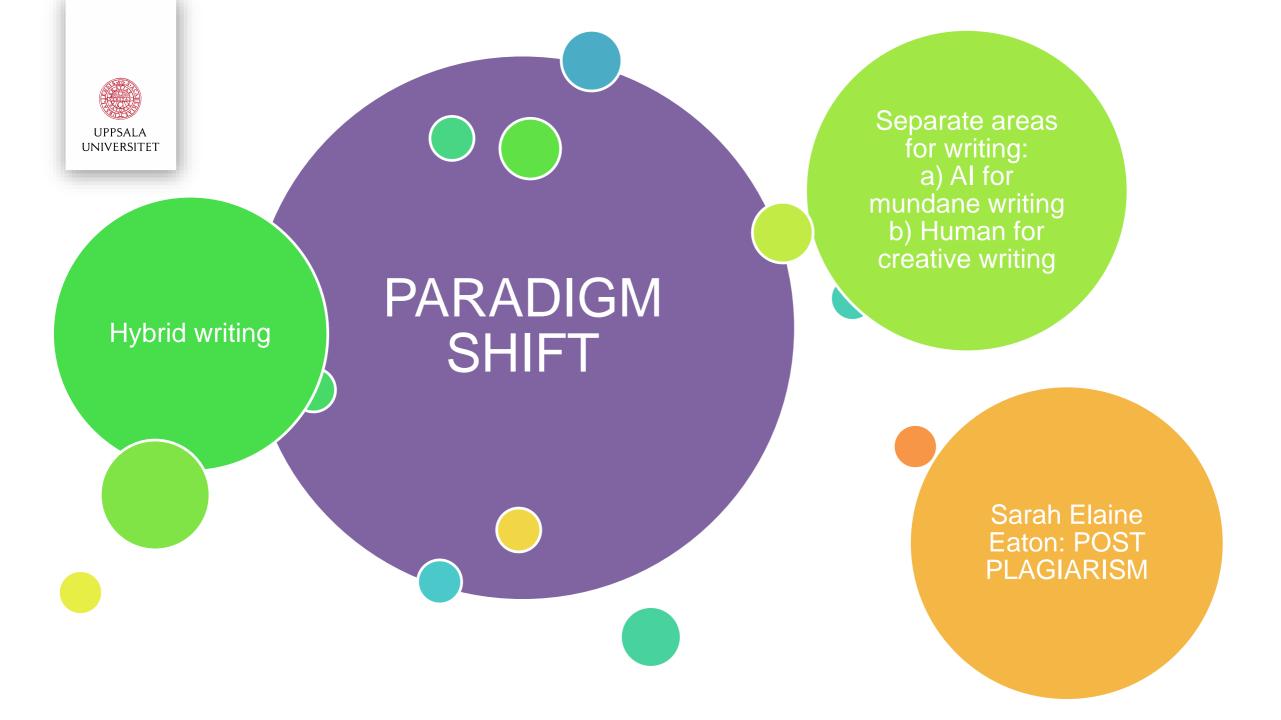
PLAGIARISM ←→ ORIGINALITY DEPENDS ON THE TIME PERIOD AND THE DEVELOPMENT OF TECHNOLOGY





PLAGIARISM ←→ ORIGINALITY DEPENDS ON THE CONTEXT







TIPS

Be honest if you use Al

 Make screen shots, describe what you have done

Do not write texts that are too tied to different sources

sources should be used to help you in your argumentation

It can be difficult to reference correctly.

- One solution could be to insert information about the source itself or other information and divide the sentence into two or more: "As Al-Wer writes, the difference between sociolinguistics and other parts of linguistics... (Al-Wer, 2013)"
- Use two sources and compare them! (While Al-Wer claims Berg Bergs means that...)







Always write down all the bibliographic information you need for the reference list as soon as you find the source.

Indicate the source not only of the text you use, but of everything that is not yours: tables, figures, diagrams and pictures.

Do not forget to mark quotes graphically.

If you translate something, you still need a reference!

If you are cutting and pasting something into your text, paste it in red so as not to forget that it is a quote from a source and that you are going to turn it into a summary.

Make double notes: quotes in one column, your comments in the other







- Reading
- Data collection
- Experiments

Prewriting

Writing

- Outline
- First draft

- Second draft...
- Feedback
- Kill your darlings
- Proofreading

Editing

Publishing

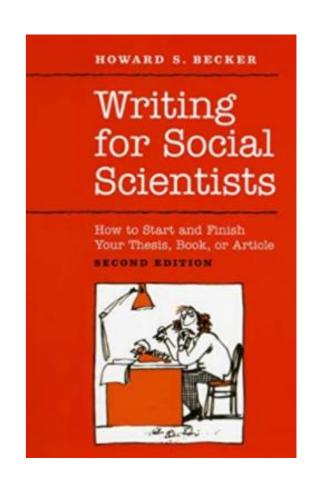
- Co-authorship
- Predatory journals
- Peer review

















| E | WHEN NOT TO DO IT | While you're writing your first draft |
|---|-----------------------------|---|
| | | Right after you finish your first draft |
| T | | → You need a distance: become a reader, not a writer |
| ı | BE BOLD! | Be open to major changes |
| N | | Was it hard to write? Doesn't matter. Delete (or change) it anyway! |
| G | | |



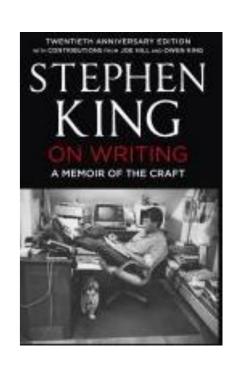




EDITING

"Kill your darlings, kill your darlings, even when it breaks your egocentric little scribbler's heart, kill your darlings."

Stephen King (2012) On Writing: A Memoir of the Craft









REVISION

Do it several times – focus on different aspects each time

- Content: what is needed? What is missing?
- Style
- Citations and references
- Proofreading spelling, consistency







Reverse outlining

Outline: write in a margin or in a separate document all the paragraphs themes (topic sentences) to see if the structure is clear

Makes you distill complex arguments and ideas into simple statements and see the logic of the paper







EDITING

Double space, page numbers

Supervisor peers

Feedback

Paper or a digital copy?

Formal peer-review

Prepare
the draft –
or ask
them to
ignore
some parts



2020-1-SE01-KA203-077973

Erasmus+



PUBLISHING

What does it take to be a co-author?









menti.com

code: 2992 9868



PRL 114, 191803 (2015)



week ending 15 MAY 2015



Combined Measurement of the Higgs Boson Mass in pp Collisions at $\sqrt{s} = 7$ and 8 TeV with the ATLAS and CMS Experiments

G. Aad et al.*

(ATLAS Collaboration)[†]
(CMS Collaboration)[‡]
(Received 25 March 2015; published 14 May 2015)

A measurement of the Higgs boson mass is presented based on the combined data samples of the ATLAS and CMS experiments at the CERN LHC in the $H \rightarrow \gamma\gamma$ and $H \rightarrow ZZ \rightarrow 4\ell$ decay channels. The results are obtained from a simultaneous fit to the reconstructed invariant mass peaks in the two channels and for the two experiments. The measured masses from the individual channels and the two experiments are found to be consistent among themselves. The combined measured mass of the Higgs boson is $m_H = 125.09 \pm 0.21$ (stat) ± 0.11 (syst) GeV.

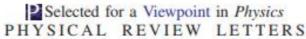
DOI: 10.1103/PhysRevLett.114.191803 PACS numbers: 14.80.Bn, 13.85.Qk







PRL 114, 191803 (2015)



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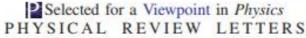
The paper is on 9 pages, while the list of co-authors takes 24 pages:







PRL 114, 191803 (2015)



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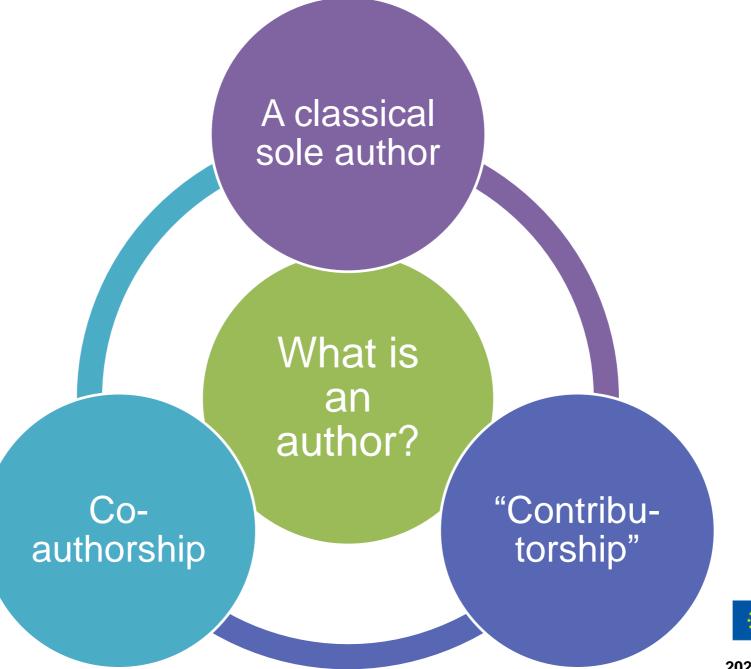
The paper is on 9 pages, while the list of co-authors takes 24 pages:

5154 co-authors















Co-authorship

1. Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND

All authors should meet all four criteria and everyone meeting all criteria should be included as author.

2. Drafting the work or revising it critically for important intellectual content; AND

To lead a research group is not enough for co-authorship!

3. Final approval of the version to be published; AND

Supervision: different traditions in different fields!

4. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.







"Only 3.8% of the journals directly listed authorship definitions in the instructions for authors section [...] The current version of the ICMJE authorship criteria was abided by 32.9% of the journals."





Contributorship

Contributorship statement

- Providing details of who did what in planning, conducting, and reporting the work, commonly stated in the end of a research paper.
- Includes those contributing as authors as well as other contributors!

CRediT



| # | Role | Definition |
|----|----------------------------|---|
| 1 | Conceptualization | Ideas; formulation or evolution of overarching research goals and aims. |
| 2 | Data curation | Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later re- use. |
| 3 | Formal analysis | Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data. |
| 4 | Funding acquisition | Acquisition of the financial support for the project leading to this publication. |
| 5 | Investigation | Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection. |
| 6 | Methodology | Development or design of methodology; creation of models. |
| 7 | Project administration | Management and coordination responsibility for the research activity planning and execution. |
| 8 | Resources | Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools. |
| 9 | Software | Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components. |
| 10 | Supervision | Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team. |
| 11 | Validation | Verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs. |
| 12 | Visualization | Preparation, creation and/or presentation of the published work, specifically visualization/data presentation. |
| 13 | Writing – original draft | Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation). |
| 14 | Writing – review & editing | Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision – including pre- or post-publication stages. |











RESEARCH ARTICLE

(wileyonlinelibrary.com) doi: 10.1002/leap.1191

Received: 30 May 2018 | Accepted: 1 August 2018

Authorship order

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Abstract

Considering the fact that authorship order plays such a significant role as a basis for scientific merit, this paper looks into the practices of authorship order from a research ethical perspective. We conclude that there is a wide variety of practices and no common understanding of what the different authorship positions signify. Authorship guidelines do not provide much help. We recognize that, regardless of what system for valuing authorship positions is used, it will be misleading and unfair in most applications because relative contributions vary in ways that are not captured by fixed value assignments to authorship positions. In theory, assigning percentage figures reflecting the relative contributions of the authors would solve that problem, but we argue that such a scheme is not likely to work in practice. It can also be questioned whether relative, rather than absolute, contributions should be the basis for scientific merit. Contributorship is discussed as an alternative, but is recognized to be insufficient both in communicating absolute and relative contributions, as standardly used. However, there may be a way forward with contributorship, but then, the level of detail needs to increase considerably and its application be standardized.







Publish or perish

Bibliometric data steer the funding:

- Pressure for an individual researcher
- Pressure for a department







John P. A. Ioannidis, Richard Klavans & Kevin W. Boyack (2018): "Thousands of scientists publish a paper every five days"

https://www.nature.com/articles/d41586-018-06185-8?code=c6004b62-a952-4148-9f89-f73d157f8939

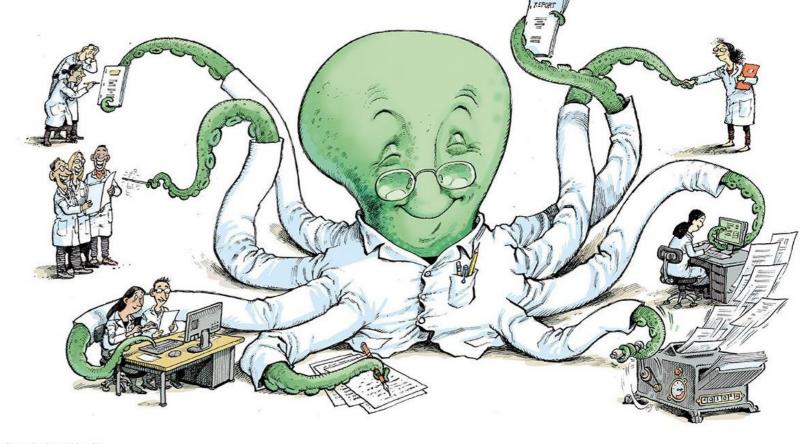


Illustration by David Parkins







Cutting corners

Salami slicing – duplicate and/or redundant publications

Paper mills: bying papers or authorship









Gift authorship

Using technology – Al chatbots unethically







Publish or perish

Bibliometric data steer the funding:

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- Pressure for a department

More journals, more conferences

Open access journals:

- Charge publishing fees
- Do not charge anything for access
 - → The content is available without subscription









Basically a good and effective model for science publications

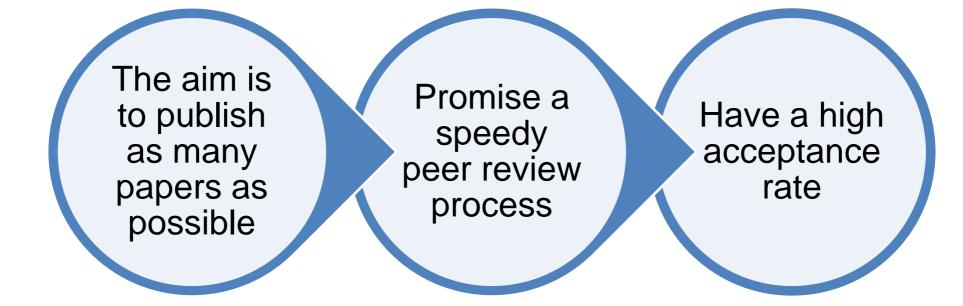
But for predators: a way to get rich







Predatory journals



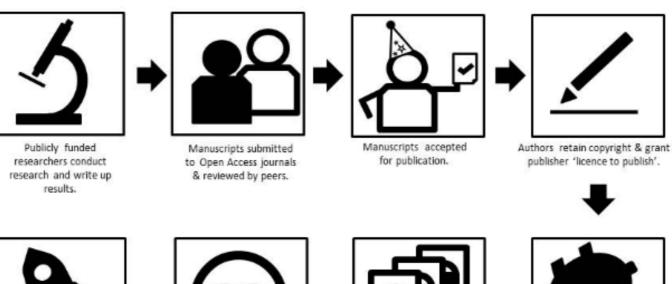




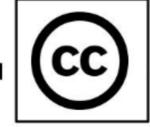


GOLD OPEN ACCESS

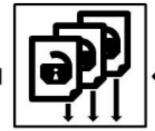
maximised dissemination, economic efficiency & social impact



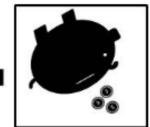
Accelerated scientific progress & maximised return on public investment.



Public granted reuse rights under open licenses.



Published versions of articles immediately accessible to public.



Authors may be required to pay publisher an 'article processing charge' to cover publishing costs.



Model and text adapted from Timothy Vollmer and Teres a Sempere García "Research article cycles" http://wiki.creativecommons.org/File:Research.articles.cycles.jpg

Paula Callan & Sarah Brown, QUT 2014 CC-BY 4.0



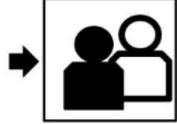




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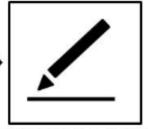




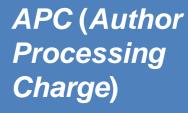
Manuscripts submitted to Open Access journals & reviewed by peers.



Manuscripts accepted for publication.

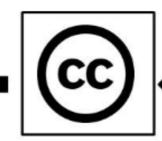


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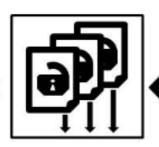




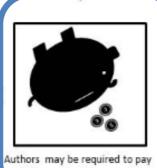
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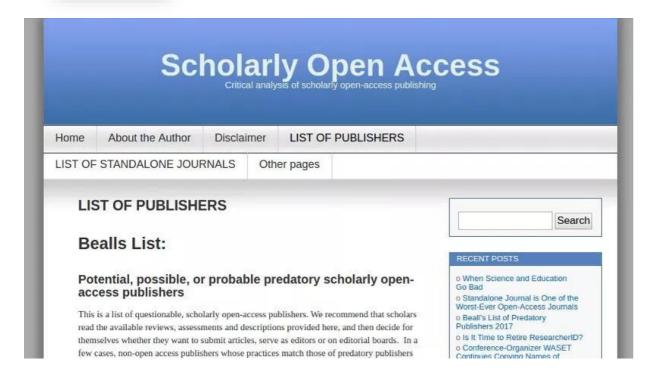


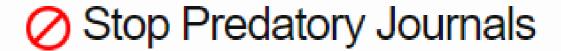
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CABELLS

SCHOLARLY ANALYTICS









BUT...

- there may be journals not found in either whitelists or in blacklists
- it might happen that a journal is incorrectly classified

Blacklists and Whitelists To Tackle Predatory Publishing: a Cross-Sectional Comparison and Thematic Analysis

Michaela Strinzel,^a Anna Severin,^{a,b} Katrin Milzow,^a Matthias Egger^{a,b}

72 journals and 42 publishers were included in both a blacklist and a whitelist Criteria for the inclusion differ







HOW TO SPOT A PREDATOR?

- The publisher: many journals, same editors...
- Invitations: clueless, flattery e-mails; strange mail account, poor language
- Journal: not indexed, "leading" although just started, no-one heard of, false location (Varginia), no editorial office
- The title: "international", "American", mimics another
- The website: unprofessional, editorial board?, location, schedule, advertisements
- False impact figures: IF although new, too high, alternative IF
- Fees: a submission/handling fee, not clearly stated
- Peer-review: unrealistic (days/weeks)
- Ethics and copyright: no policies for misconduct, copyright, archive
- Quality of papers: poor, fundamental errors, outside the stated scope of the journal









Choose the right journal for your research

More information:

https://thinkchecksubmit.org/







PUBLISHING









Responding to a formal review

1. Easy fixes – fix it

2. Harder fixes – may need substantial work (reading, rewriting, new analysis...)

3. Disagreeing with reviewers: explain to the editor why you have chosen not to do anything

See: Stephen B. Heard. (2016). *The Scientist's Guide to Writing: How to Write More Easily and Effectively Throughout Your Scientific Career*. Princeton University Press. Chapter 24



Björk, L. A., & Räisänen, C. (1997). *Academic writing: A university writing course*. Lund: Studentlitteratur.

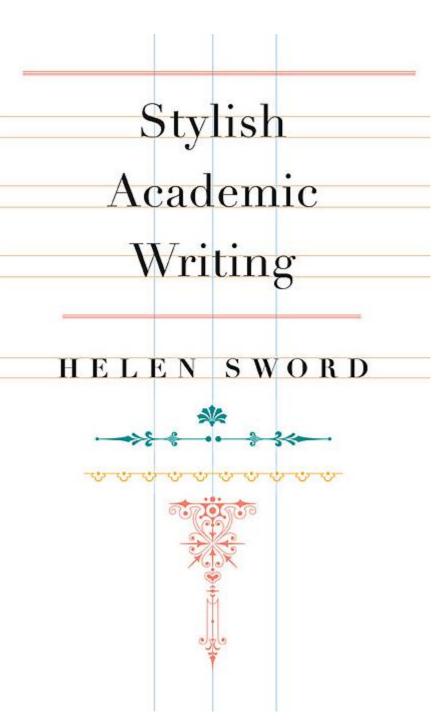
Bailey, S. (2015). *Academic Writing: A Handbook for International Students*. London: Routledge.

Redman,p. Maples,W. (2017). Good Essay Writing. A Social Sciences Guide.

Swales, J. M., & Feak, C. B. (2012). *Academic Writing for Graduate Students: Essential Tasks and Skills*. Ann Arbor: The University of Michigan Press.

Sword, H. (2012). Stylish academic writing. Harvard University Press.

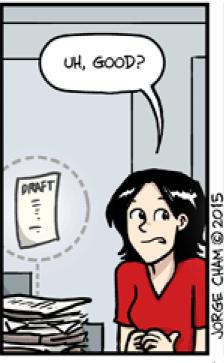
Sword, H. (2009) Writing higher education differently: a manifesto on style, *Studies in Higher Education*, 34:3, 319-336, DOI: 10.1080/03075070802597101













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WRITING STRATEGIES



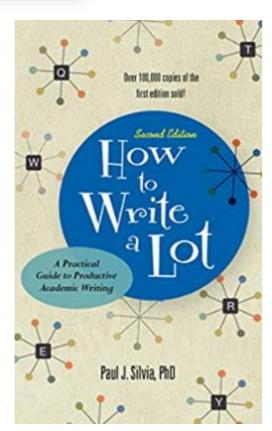
How to become a better writer?

- To write you have to write
- You can find help in books
- Be concious about your writing: style, content, behaviour
- Write during the whole process
- Write every day or have a writing period to write the (whole) text
- Know that much of what you write will not remain in the final product
- Start writing without worrying about the form
- Have a plan but are aware that it might be revised
- Ask for feedback









Silvia, P. J. (2007). How to write a lot: A practical guide to productive academic writing (1st ed.). American Psychological Association.

Sword, H. (2017). *Air & light & time & space: How successful academics write*. Harvard University Press. https://doi.org/10.2307/j.ctv24w65x8







Checklists for the Academic and Research Integrity







Checklists for Doctoral Students



Checklists for Master Students









Checklists for Doctoral Students

Publish your research work with academic and research integrity

Before you start

- The aim of this checklist is to assist doctoral students in writing their thesis and in publishing in accordance with the norms and values of academic and research integrity.
- The checklist helps guide students to prepare their thesis and research articles in line with the best research practices, uphold responsible research conduct, and avoid questionable research practices.
- The checklist is to be used throughout the process of thesis preparation and publication.
- Be aware that the list might need to be adapted to your own needs depending on the research field, your past experience, and in accordance with institutional research policies.

| Name: | |
|---------|--|
| Maille. | |

General tips

- Keep a research diary to help you save all important information.
- Use appropriate tools for working with literature sources, for example, reference management software.
- If possible, choose a topic that interests you and that you understand (or want to understand).
- It is advised that you share your experiences with fellow doctoral students, in both your own field of studies and those of others.
- It is important for you to enculturate yourself in your field of study.
- Be sure to interact with the research community, exchange ideas, and participate in academic events relevant to your work or field of study.
- Be aware of your limits and do not be afraid to say where they are to prevent burn-out.







General preparations

Academic and research integrity

Preparations for the research work

In process:

 Formulating research questions and the study design

Research:

- Data collection
- Data processing and analysis

Academic reading and writing

- Academic reading
- Ethical work with sources
- Structure, form, and language

When your work is a part of a collaborative research project

Ethical publishing

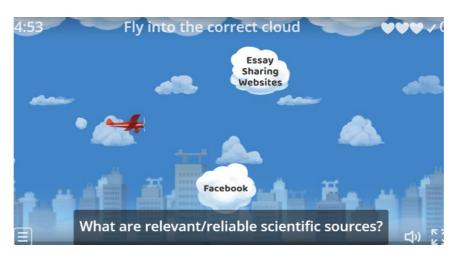
Final considerations

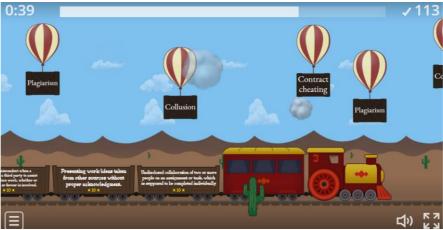






Small word based games to learn the terminology in a fun way





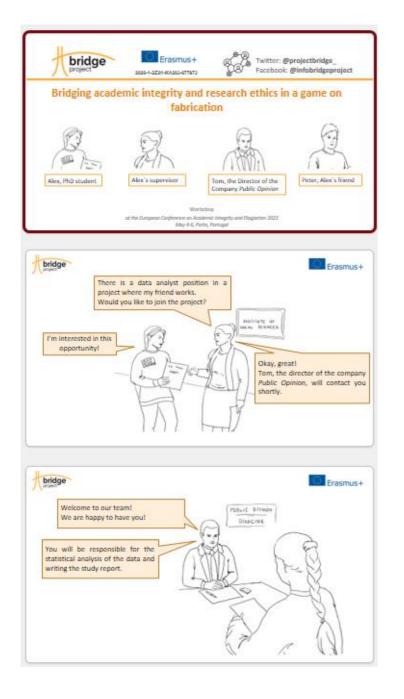












Multiple choice storytelling games:

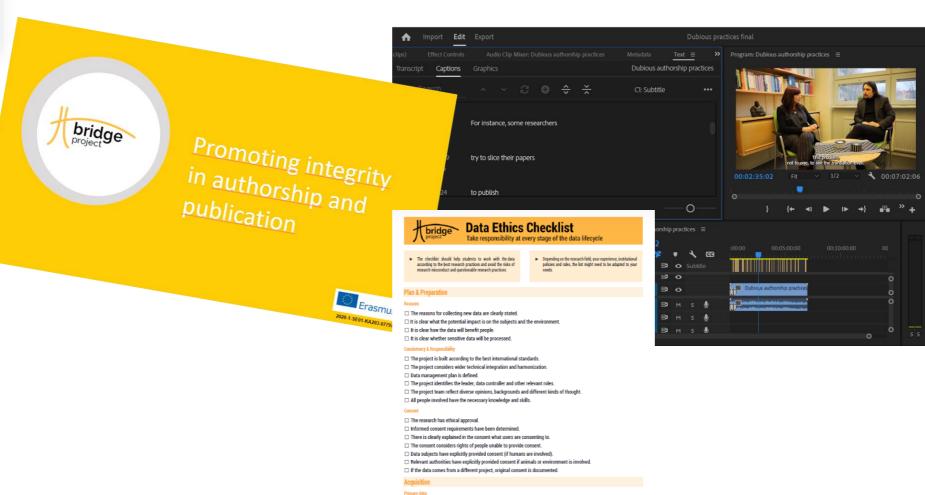
Developing ethical thinking and seeing the consequences of the decisions through dilemmas







Modules – video, documents, quiz, games



Data reliability is ensured (we know who collected the data and how).
 Only necessary and relevant data is collected from respondents.
 An efficient and valid data collection method was used.

The sample of respondents corresponds to the target group
 If necessary, the data is anonymised.





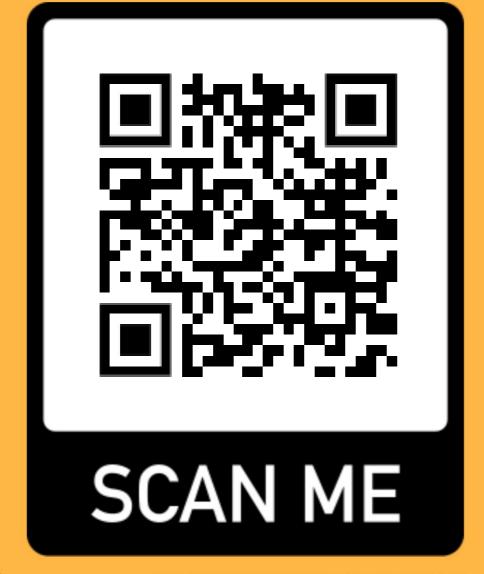


PROJECT OUTPUTS

Co-funded by the Erasmus+ Programme of the European Union

2020-1-SE01-KA203-077

Bridging Integrity in Higher Education, Business and Society



https://dev.academicintegrity.eu/wp/bridge/

Checklists

Guidelines

Open educational resources

Gamified cases

Workshops

Webinars



THANK YOU!

e-mail: sonja.bjelobaba@crb.uu.se



Website: http://www.academicintegrity.eu/wp/bridge/

Twitter: projectbridge_

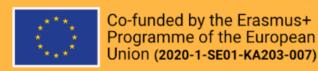
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