AI Powered Academic Writing

with Integrity

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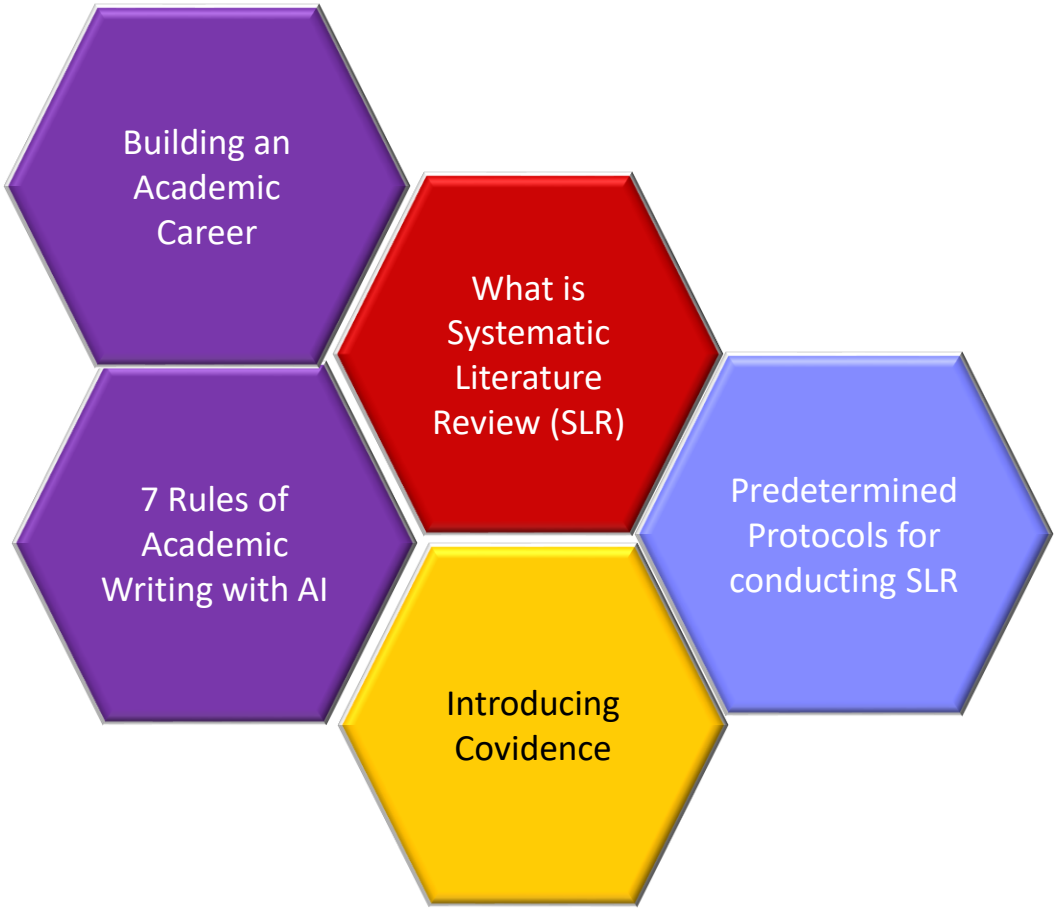
Building an Academic Career
What is Systematic Literature Review (SLR)
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Predetermined Protocols for conducting SLR
Introducing Covidence

NRF Rated Scholar

Building an Academic Career

From Young Academic

Keep updated with research trends and innovation

Continuous contribution to the research community. Balance independent and collaborative work

Publish in high impact journals from the beginning

Seek grants and research funds

Develop thinking skills, technical skills and soft skills

Acquire relevant qualification, postdoctoral training; training on specific methodologies and technologies

Build a strong foundation of academic credibility centered around your research interest your ontological position (a way of viewing the world, that informs, theoretical thinking, the process of knowinng, perspective and self-awareness, all of which are used to obtain knowledge of reality and to design, conduct, analyse and interpret research and its outcomes

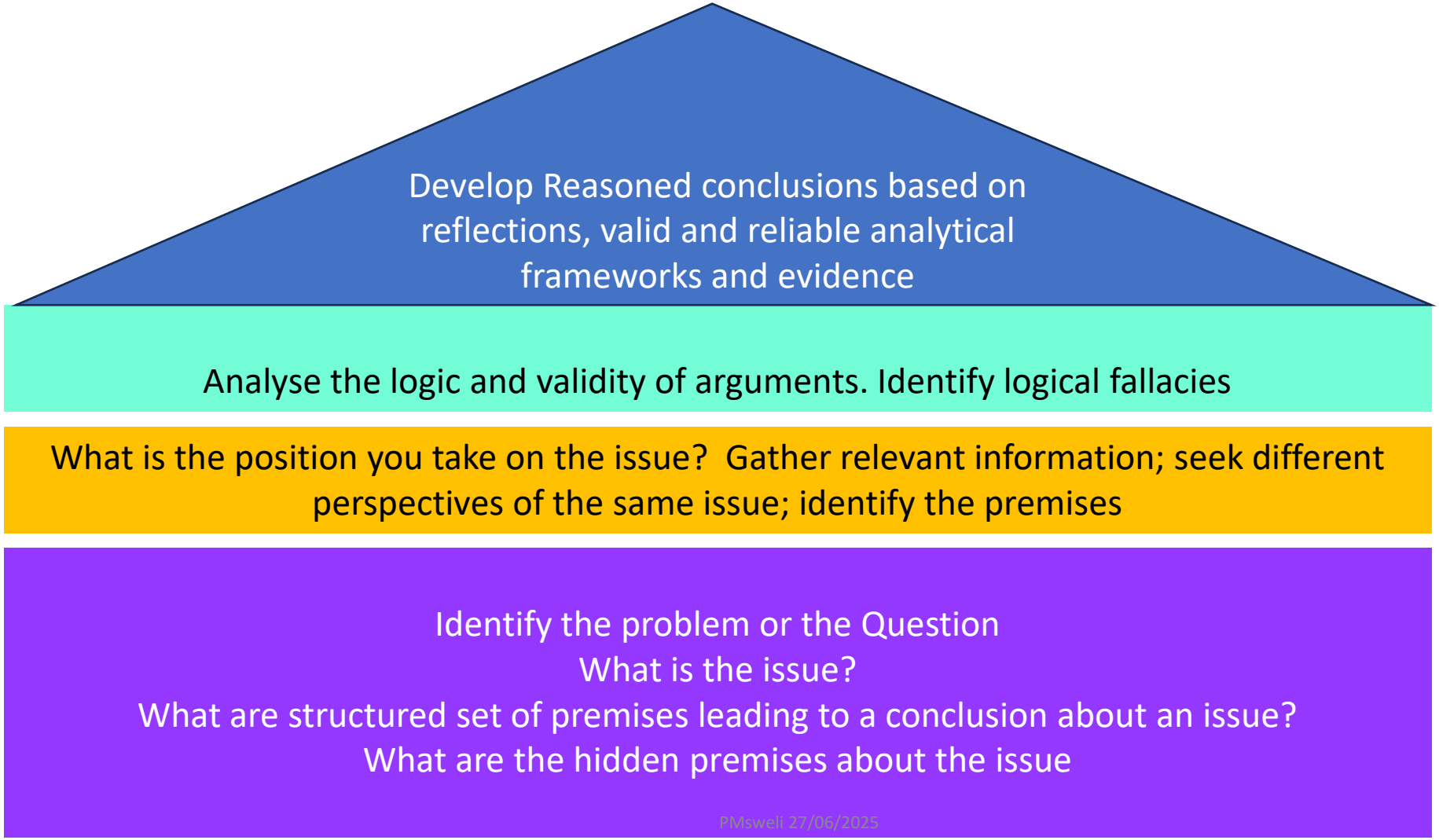
Critical thinking: is a skillful way of thinking that is open minded, clear, logical, and informed by valid evidence

Rule #1

- AI should enhance your CRITICAL THINKING SKILLS not Replace

PMsweli 27/06/2025

Which part of your critical thinking house if not solidly built will result in your critical thinking house falling apart?



Think Logically, Write Coherently

To write coherent arguments requires that we understand different components of a logically sound argument:

1. A point at the centre of an argument that is in dispute or in question.
2. A claim or position we take on an issue backed with a valid set of premises
3. Assumptions we make about the issue, assertions or claim must be valid and factual
4. Evidence - that is factual information to support a claim or conclusion.
5. Conclusion - a proposition which is arrived at after the consideration of valid evidence

Check the logical soundness of arguments by interrogating a reasoning trajectory that logically links valid evidence, with valid assumptions, valid premises and valid claims.

LOGICAL FallacIES	Definition	How to Resolve It
Ad Hominem	Attacking the person, the leadership structure not the argument.	Focus on the argument's merits, not the speaker/ leadership structure
Straw Man	Misrepresenting, exaggerating of oversimplifying an argument to easily refute it.	Restate the original argument accurately.
False Dilemma	Presenting only two options when more exist.	Identify and propose middle-ground alternatives.
Appeal to Authority	Using an authority figure as evidence, even if irrelevant.	Verify if the authority is relevant and credible.
Circular Reasoning	Restating the premise as the conclusion.	Demand independent evidence for the claim.
Hasty Generalization	Broad conclusions from small/unrepresentative samples.	Seek larger/more diverse evidence.
Slippery Slope	Assuming one step will inevitably lead to extreme outcomes.	Question the causal chain; show missing links.
Post Hoc	Assuming causation from correlation.	Look for confounding variables/alternative explanations.
Red Herring	Introducing irrelevant info to distract.	Refocus the discussion on the original topic.
Appeal to Emotion	Using emotions (fear, pity) to replace logic.	Separate emotional appeals from factual evidence.
Bandwagon	Arguing something is true because it's popular.	Popularity ≠ validity; demand objective proof.
Moving the goal post fallacy	Redefining criteria to exclude counterexamples.	Reject arbitrary redefinitions; stick to original terms.

Rule #2

Always disclose AI use in your academic work

Declaration Examples:

- **Author's Note**: This blog post was created with assistance from Claude (Anthropic's AI assistant) to help structure content and enhance clarity.

- *While AI aided in drafting and refinement, all content was reviewed, validated, and approved by theauthor to ensure accuracy and originality.*
- *AI grammar-checking tools helped refine sentence structure and eliminate errors."*
- *AI was used to to suggest paraphrase statements to reduce wordiness and improve clarity*

Rule #3

Comply with Institutional AI Policy

UNISA Guidelines on AI Use: **Honor pledge statement for Staff/Student**

- As a student, I commit myself to upholding the highest standards of academic integrity and personal responsibility. I acknowledge that the use of AI-generated content, if not properly disclosed and attributed, would constitute a violation of these principles.
- I hereby declare that any AI-generated content I have included in my submitted work has been clearly identified and referenced according to the requirements set forth by my *[lecturer/department].* I have not used AI tools in an unauthorized manner to produce content that I am submitting as my own original work.
- I understand that the intentional misrepresentation of AI-generated content as my own would be a breach of trust and academic honesty. I am committed to transparency regarding the use of AI tools and will seek guidance from my [*lecturer/department]* if I have any questions about the appropriate application of these technologies.
- By signing this pledge, I affirm my dedication and commitment to maintaining the integrity of my academic endeavours and upholding Unisa's values on academic integrity and zero tolerance against any form of academic misconduct or dishonesty.
- I will strive to use AI responsibly and in alignment with the ethical standards expected of me as a student.

- [Student/staff number]

Date:……..

- [Student/staff Signature]

Conducting Literature Review: Excerpt *from* ***Guidelines on the use of AI : Promoting responsible and ethical practices***

3.3.2. Conducting a review of literature

Researchers are encouraged to use AI tools as a starting point, not an endpoint, for their literature review. When using AI tools such as Connected papers, Scispace, Dimensions.ai, Perplexity.ai, Litmaps etc to mention the few for literature review, it is important that researchers:

3.3.2.1. Clearly identify the specific tasks within their literature review process where AI-powered tools can be beneficial, such as rapid scanning of large bodies of literature, identifying key themes and trends, or generating initial summaries.

3.3.2.2. Advocate for the continuous improvement of institutional guidelines and support structures to ensure the responsible and effective use of AI in research activities.

3.3.2.3. Critically analyse and verify accuracy of the AI outputs.

3.3.2.4. Encouraged to maintain active role in the literature review process and complement AI-assisted literature review with manual, human-driven analysis to deepen their understanding of the research landscape.

3.3.2.5. Familiarise themselves with strengths, limitations and identify potential gaps or biases in the AI-generated insight when conducting review of literature.

3.3.2.6. Do not rely on AI-generated output as a substitute for one's own critical analysis and synthesis.

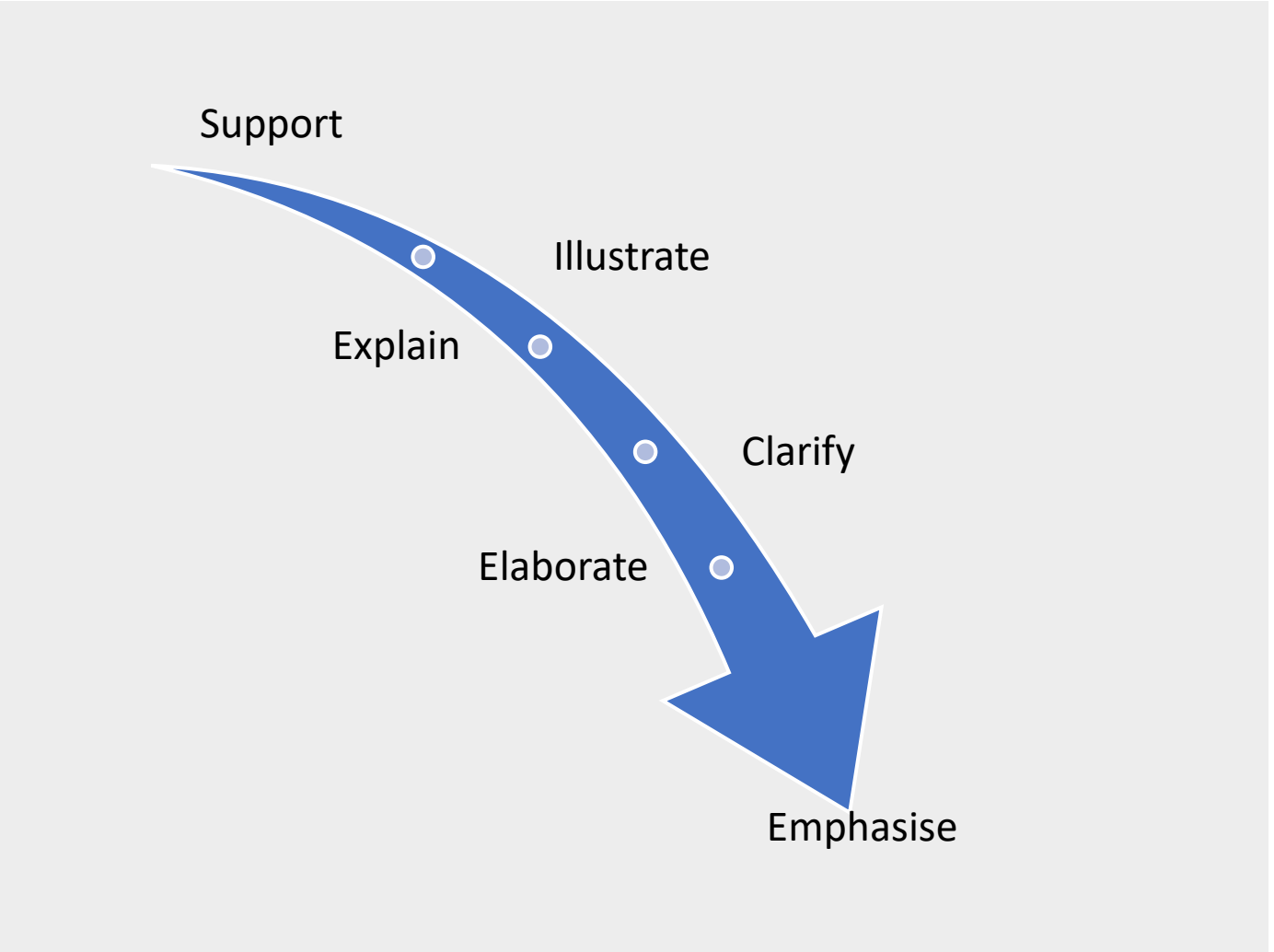
Rule #4

Verify all AI-generated information against reliable sources

Rule #5

Develop your unique voice in writing and stick to the issue: AI Cannot do this for you

All points you make in your dissertation/thesis should be connected to the issue under discussion and should always either:

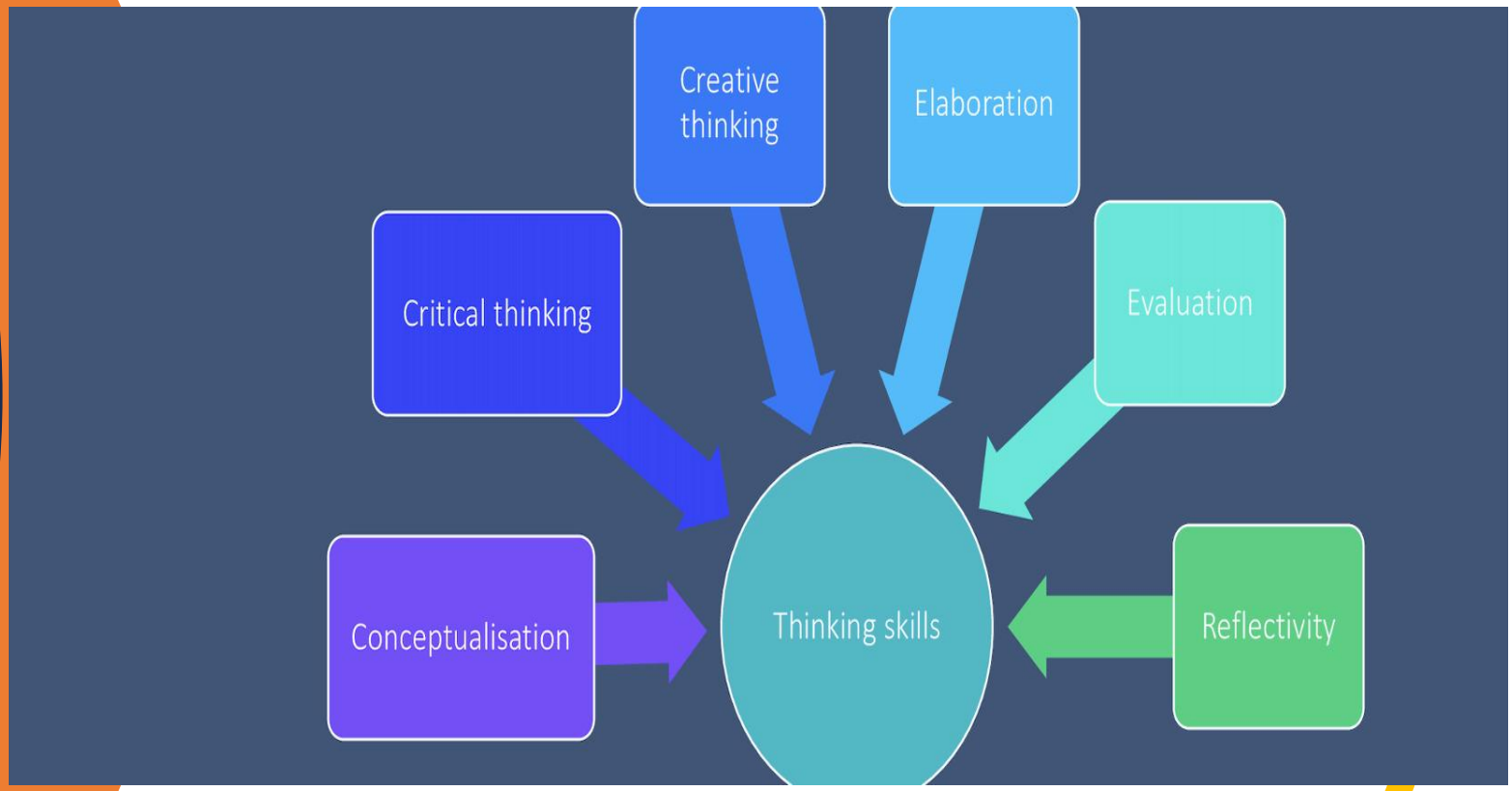


How to cultivate your unique voice in writing: some ideas

- Use metaphors and signature phrases
- Write from your lived experience
- Take a bold stance in your writing that is backed by evidence
- Read your work aloud and check if it sounds like you
- Read extensively and create your writing palette with your favourite phrases metaphors and analogies

Rule #6

Develop academic writing thinking skills: AI Cannot do this for you



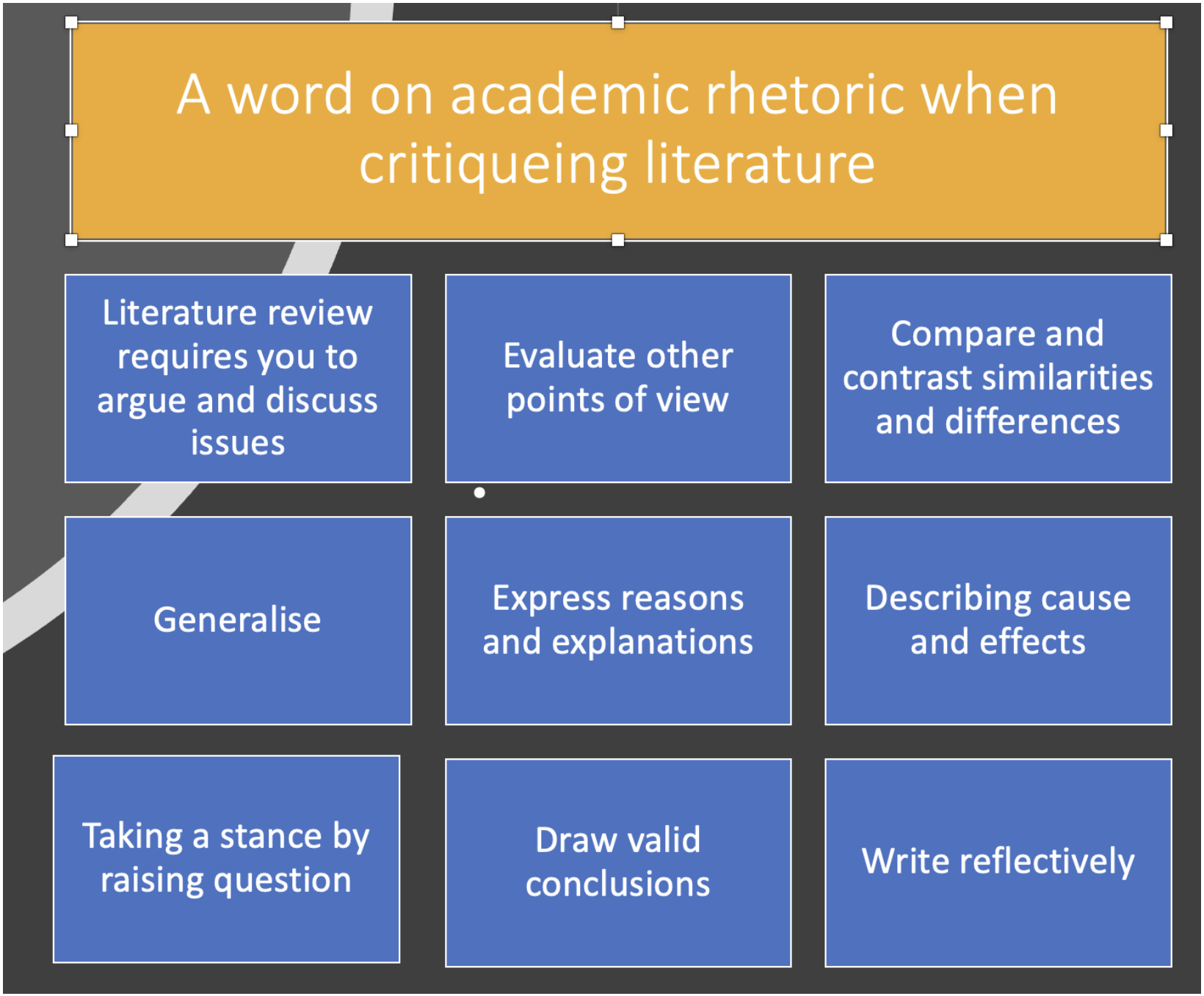
Rule #7

Develop Academic Rhetoric skills: AI Cannot do this for you

What is an academic rhetoric?

A way of channelling creative energy in written work to create, contest, affirm and shape the world around us.

A communication strategy that incorporates rhetoric device to construct an argument, or make an existing argument more compelling


A word on academic rhetoric when critiqueing literature
Literature review requires you to argue and discuss issues
Evaluate other points of view
Compare and contrast similarities and differences
Generalise
Express reasons and explanations
Describing cause and effects
Taking a stance by raising question
Draw valid conclusions
Write reflectively

Academic Rhetoric Cohesive ties, for establishing your voice in academic writing

INDEED
NOT ONLY DOES….BUT
THERE ARE OTHER WAYS
FOR THE SAME REASON
TO CONCLUDE
THAT IS
IN OTHER WORDS
IN BRIEF
IN ANOTHER CASE
TO ILLUSTRATE
AS SUCH
TAKE THE CASE OF
IN ANY CASE
OF COURSE

UNQUESTIONINGLY
SURPRISINGLY
IN FACT
AS A MATTER OF FACT
THEN AGAIN
EVIDENTLY
OBVIOUSLY
CERTAINLY
PARTICULARLY
IN PARTICULAR
NEEDLESS TO SAY
SURE ENOUGH
UNDENIABLY

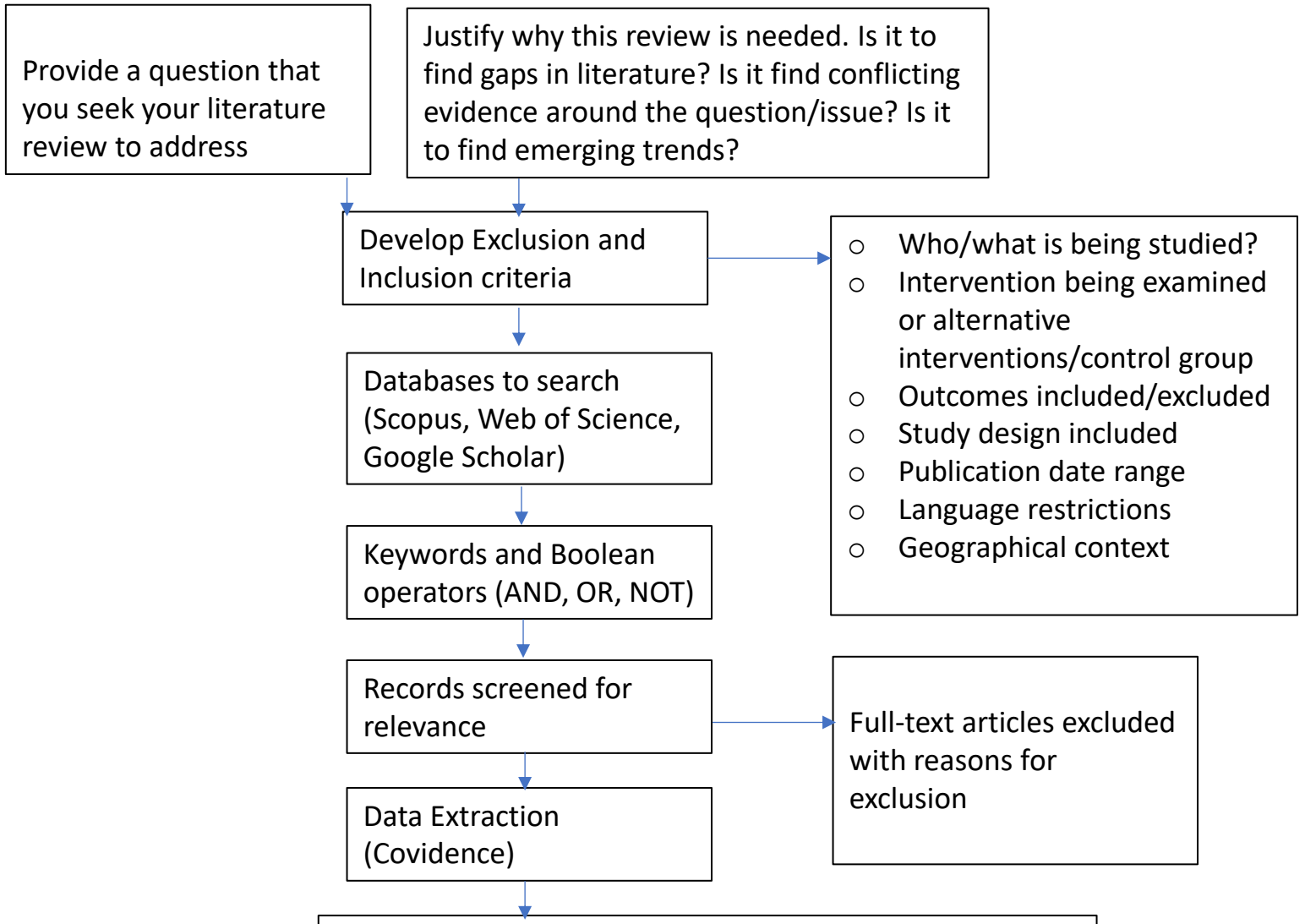
SYSTEMATIC LITERATURE REVIEW WITH AI

With Integrity

What is Systematic Literature Review

A **Systematic Literature Review (SLR)** is a well-ordered structured and rigorous method of identifying, evaluating, and synthesizing all available research relevant to a particular research question following a predetermined protocol.

PREDETERMINED PROTOCOL FOR CONDUCTING SLR



What is Covidence?

A web-based platform that streamlines the systematic literature review process to help researchers efficiently manage screening, data extraction, and quality assessment while reducing human error and bias. Covidence is widely used in academic scientific research, particularly for systematic reviews and meta-analyses

Homework: Create Covidence profile and use SLR Protocol to conduct a systematic literature review

Final word on Critical thinking

- **Critical thinkers are aware of their own biases. All humans are biased, some more than others. Some know that they have biases, some are not aware of their biases. We all have biases that we are not aware of and the critical thinker strives to learn them, so he or she can be more in charge of their thinking. It may be too much of a challenge to eliminate the different biases we have. Instead a critical thinker needs to be aware of the bias and how it will affect the thinking process. Thinking about thinking is referred to as metacognition. A critical thinker looks at how he or she thinks and makes decisions in order to improve the process.**
- ***"The test of a first-rate intelligence is the ability to hold two opposed ideas in mind at the same time and still retain the ability to function."***
- **----F. Scott Fitzgerald1**
- **Critical thinkers learn to handle confusion. People will do almost anything to avoid the mental pain that comes with lingering confusion. We bypass it, avoid it, and even try to pass it off to someone else. In this haste to avoid confusion we often make quick decisions based on limited data or overworked stereotypes. The critical thinker allows him or herself to be confused as they work through the argument towards a conclusion.**

Critical thinking is a skill that can be developed. The good news is that we all have the ability to improve our critical thinking skills. We can become more effective decision makers and improve our self- confidence.

Critical thinkers are intellectually curious. This skill implies that the critical thinker is never totally satisfied with what they know. He or she seeks answers to various kinds of questions and problems. The critical thinker is concerned with investigating the causes and seeking explanations of events; asking why, how, who, what, when, and where.

Critical thinkers are open-minded. An open-minded person is one who is confident enough in his/her abilities to accept new and contradictory ideas, which challenge his/her current beliefs.. Open-minded people are flexible. They are willing to change their beliefs and methods of inquiry, if they are faced with a more valid argument.

Critical thinkers are able to control and use their emotions. Notice this does not say, "*Eliminate emotions*." We gather all sorts of valuable data through our emotions, that we can use in the decision-making process. We just have to be careful not to let emotions dominate our critical thinking and argumentation. Nothing will destroy the critical thinking process faster than misplaced or misdirected anger, fear, or frustration.

Critical thinkers know when to admit to not knowing something. An essential prerequisite to understanding is humility; to be able to admit when you don't know an answer to a situation. Although we want to protect our egos by believing we know everything, learning comes from questioning, not from knowing all the answers.

Critical thinkers can distinguish between a conclusion that might be "true" and one that they would like to be "true." Notice the use of "truth" with a lower case "t." This "truth" refers to just what a person believes, not the ultimate correct position that would be indicated by "Truth." A conclusion that might be true, is based on calculating the probability of its outcome, to see if it has a reasonable chance of becoming a reality. The second type, a conclusion that you would like to be true, is based more on your wishing, wanting, and desiring that it become a reality. The first can be put to the tests of critical reasoning, but the second cannot, and, therefore, is of little value in critical thinking. You may believe your child to be a great person, but the evidence might suggest otherwise.

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