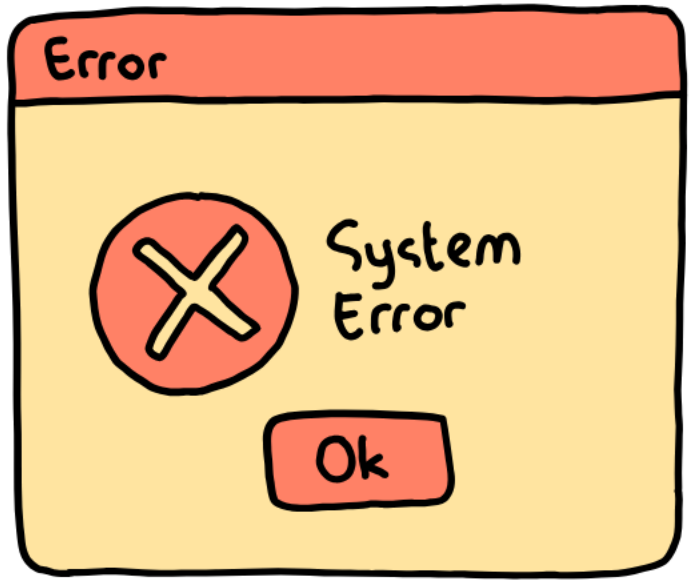
Acknowledgement

Logical leap or logical lapse?

Strengthening the data-to-claim process



Thinkers whose work has informed this session

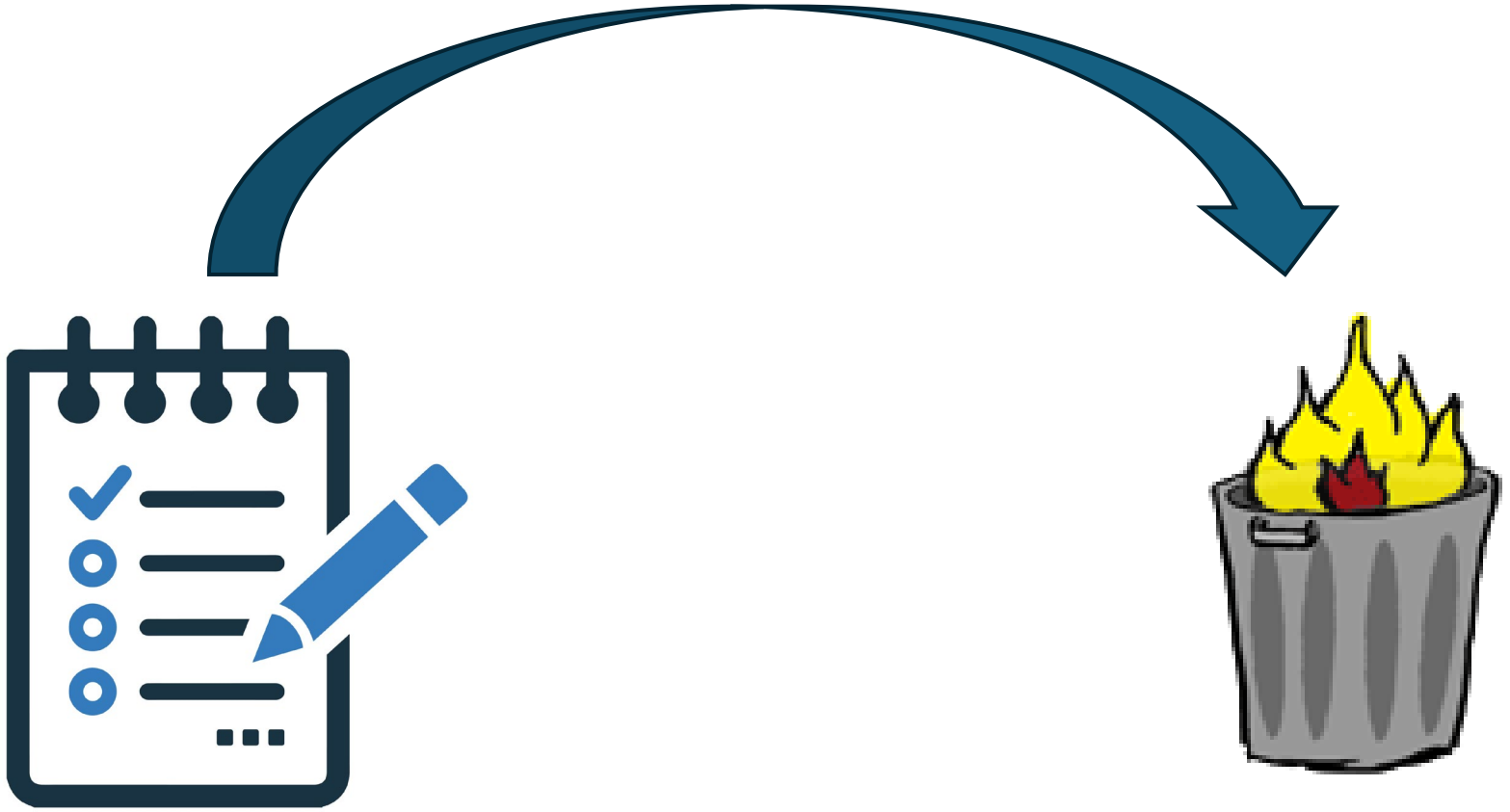
- The foundations of my thinking on this topic are informed by
- **Tyson Yunkaporta**, who applied logical fallacy coding in his 2024 article “The Ancient Wisdom Grift: Mad Studies and Indigenous Methods applied to the problem of spiritual disinformation narratives” (International Mad Studies Journal) and tested his thinking with a collective of his community members.
- **Andrew Hawkins** - whose conversations and writings have informed my understanding of what evaluation is and what it can and can’t do. Especially: Hawkins, A., Bayley, S. 2024. Managing the risk of program failure: Propositional Evaluation as a tool for risk management
- **Deborah Fournier.** 1995. Establishing Evaluative Conclusions: A Distinction between General and Working Logic. New Directions for Evaluation, 68
- **Amy Gullickson**. 2020. The Whole Elephant - Defining Evaluation. Evaluation and Program Planning (79)
- **Stephen Toulmin**. 2003. The Uses of Argument. Cambridge University Press
- **You Are Not So Smart Podcast by David McRaney** and the **Your Logical Fallacy Is** website by Jesse Richardson.
- My colleagues and the clients I work with at ARTD, who challenge me to think and explain myself better, every day.

"... understanding... never leaves room for the simple application of a general knowledge of rules to the statements or texts to be understood... understanding means a growth in inner awareness, which as a new experience enters into the texture of our own mental experience.

Understanding is an adventure, and like any other adventure is dangerous ... it affords unique opportunities as well. It is capable of contributing in a special way to the broadening of our human experiences, our self-knowledge, and our horizon, **for everything understanding mediates is mediated along with ourselves**. "

Gadamer 1981 in: Schwandt, T. 1997. Evaluation as Practical Hermaneutics. (pp. 110-11)

Checklists will never do the work of understanding



What is logic?

Define what you think logic is.

How would you explain it to someone new to evaluation (not a program logic, just *logic* itself).

What is logic?

“The study of correct reasoning, especially as it involves the **drawing of inferences**” - Encyclopedia Britannica

"Logical reasoning involves working **step by step** from a premise(s) to arrive at a valid solution or conclusion, and **each step in the logical argument must be correct** to reach a valid solution or conclusion. With logical reasoning, two different people would arrive at the same conclusion if given exactly the same information..."
– Cole, M. 2023. Evaluative thinking. EJA, 23 (2)

What is an argument?

A warrant is: **a principle, assumption or rule** (unspoken or explicit) that connects the premises and the conclusion, justifying the **inferential** leap to get to the conclusion.

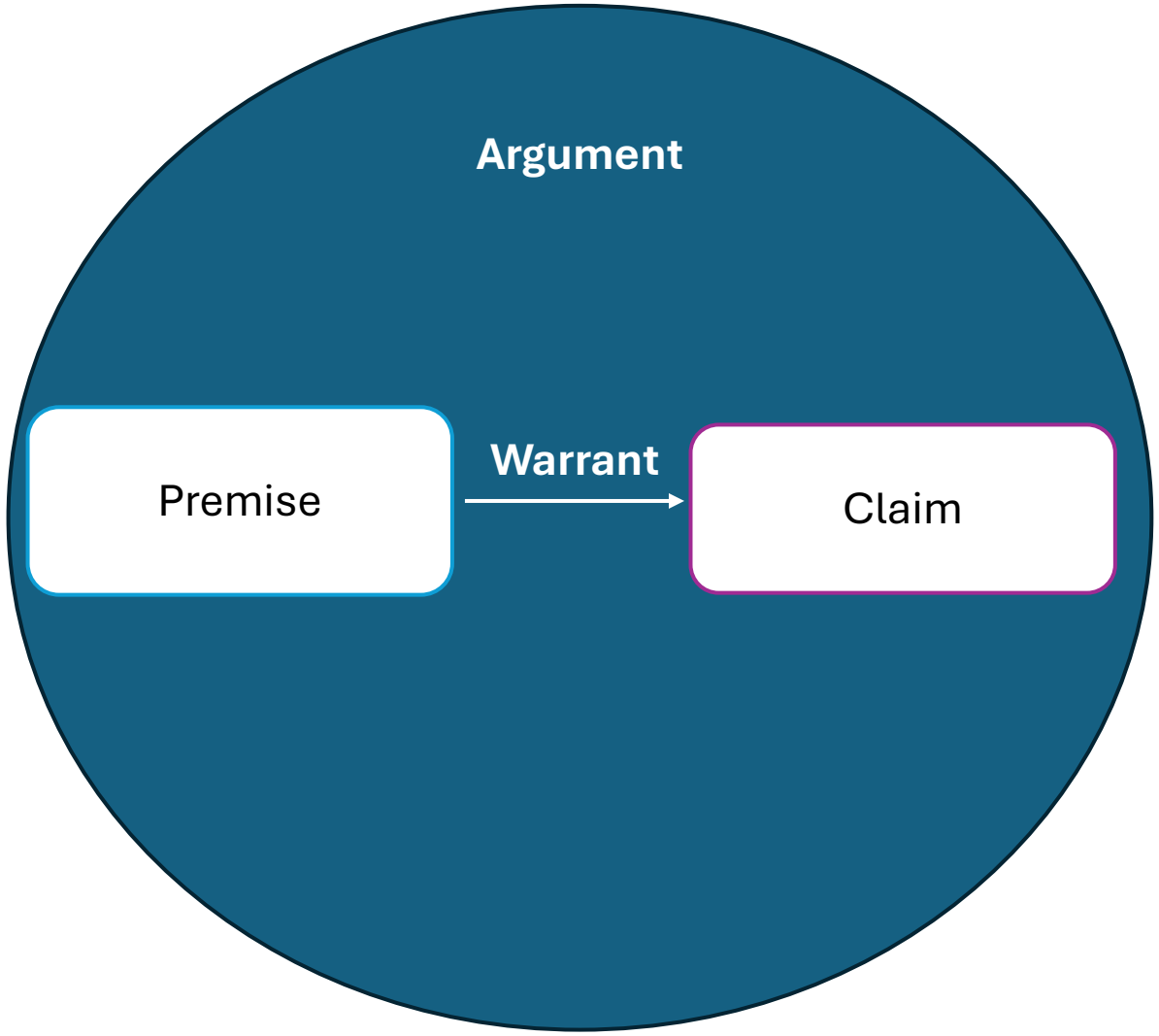


Image adapted from: Wambsganß, Thiemo & Molyndris, Nikolaos & Söllner, Matthias. (2020). Unlocking Transfer Learning in Argumentation Mining: A Domain-Independent Modelling Approach.

Some examples

Example 1

The program should be discontinued **[claim]** because it has not met its target number of participants **[premise]**, it exceeded its budget **[premise]**, and there is insufficient evidence that the program achieved its intended behavioural changes for participants **[premise]**.

Unstated warrant: We should not invest in programs that can't achieve what they set out to.

Example 2

Grant applicants held concerns about how assessments of applications are being made, who is involved in assessing them, and whether they have the appropriate expertise **[premises]**. The grant assessment process should be documented and made available to applicants in order to improve probity and transparency **[claim]**, in accordance with the principles of the Grants Administration Guide **[warrant]**.

Explicit warrant: accepted principles of how good grant programs should be administered; and based in the authority of the NSW Government.

A good argument…

1. Offers reasons for the conclusions
2. The premises are acceptable and the warrant for each conclusion holds
3. Contains enough relevant information required for the audience to find the conclusion acceptable.

Paraphrased from: Rodrigues, C. 2020. Informal Fallacies – Introduction to Philosophy: Logic. Rebus Press

General logic of evaluation

The 'general' logic of evaluation guides practice, specifying "the basic conditions under which rationally motivated argumentation can take place....it **specifies to practitioners how someone would reason to justify claims.**"

(Fournier, D. 1995. Establishing Evaluative Conclusions: A distinction between general and working logic)

The expanded logic of evaluation

Steps

0. Clarify evaluation purpose and assess evaluability
1. Define the evaluand
2. Define the group to which the evaluand belongs
3. Identify criteria/delineate evaluation questions
4. Identify performance standards
5. **Justify the criteria and standards**
6. Measure; observe evaluand's performance
7. **Justify the measures**
8. Synthesise an evaluative judgement
9. **Justify the synthesis method**
10. Report judgement

Source: Table 2, Gullickson, A. (2020) 'The Whole Elephant: Defining Evaluation', Evaluation and Program Planning (79)

General logic of evaluation

Working logics of evaluation (the approach/es)

Table 2.1. Comparison of Different Definitions for the Same Phenomenon

Evaluation Approach	*Phenomenon of Interest*	*Source of Criteria (Locus of Values)*	*Evidence (Foundation for a Claim)*	*Warrant (authorizes Inference)*
Connoisseurial/ critic approach to program evaluation	Program defined as set of qualities identifiable by an expert	Personally held values of an expert	Expert values	Expert is reliable and credible
Pluralistic approach to program evaluation	Program defined as set of values held by stakeholders	Stakeholder values	Stakeholder values and their connection to impact	Stakeholder values reflect what is desirable and important
Consumer approach to product evaluation	Functional product	Properties inherent in the product and consumer use	Properties and their connection to extent of performance	Accepted meaning of the word (such as car or watch)
Goal-free approach to program evaluation	Program defined as a means of meeting needs	Consumer needs	Needs and their connection to program effects	Needs accepted as necessary requirements for existence
Causal approach to program evaluation	Program defined as set of treatement-outcome relationships	Dependent variables in goals or research literature	Relationships among variables	Relationships were identified under reliable methods

Source: Fournier, D. 1995. Establishing Evaluative Conclusions: A distinction between general and working logic

General logic of evaluation
Steps specifying how to reason to justify evaluative claims

Working logics of evaluation
Steps specifying how to reason to justify evaluative claims within this approach

Personal/ practitioner logic
The influences on how you justify your arguments and interpret arguments

Logical fallacies

Systematic mistakes made within arguments - issues with the:

- premises being untrue or not relevant to the conclusion
- the inferences being erroneous or having a basis in ambiguity
- or with premises, inferences or conclusions resting on unexamined and erroneous assumptions.

Logical fallacies

Composition fallacy
Assuming that what's true of the parts must be true of the whole

Middle Ground/ Golden Mean Fallacy
Assuming that because something lies in the middle of extremes it must be true

Ignoratio elenchi (irrelevant conclusion)
Making an argument which may be valid but which fails to address the issue at hand

Affirming the consequent
Assuming a particular cause because a particular outcome is present. 'If P leads to Q. Q. Therefore, P."

False binary / the Black and White Fallacy
Assuming there are only two options when there are more, or falsely presenting two options where more are possible

Texas Sharpshooter
Drawing a target around an existing bullethole, i.e. cherrypicking data or overemphasising patterns to fit a particular claim

Special Pleading
Moving the goalposts when the answer isn't the desirable one

Some steps

Step 1 - Do the findings and recommendations display the 3 characteristics of good reasoning?

Step 2 - Make explicit connection between the data/program theory/literature, the claim and the warrant

Step 3 - Strengthen reasoning, and check for logical fallacies

Fallacies found?

Report section	Potential fallacy
Evaluation approach – revision of program logic without explanation of what changed	Special pleading
Findings There was consensus among the TW staff members that the program had a positive effect on adults and children involved	Texas sharpshooter
Attrition of trained parents and school staff from the program likely reflects external factors outside the control of TW…	Special pleading
The program had a positive impact on children's physical activity levels and confidence to play outdoors. The program logic identified that improving children's confidence to play in and interact with their local environment would increase their time spent being active outdoors, thereby reducing time spent on devices. Pre- and post-surveys of all children showed that on average, the participants enrolled spent 1.5 hours less per week on devices compared to baseline.	Affirming the consequent (if P>Q. Q, therefore P)
88% (7) of program volunteers said that they thought participants' confidence in engaging with other adult members of the school community had improved 'somewhat' or 'very much'. Parents of the participants were less certain of whether or not this was the case, however the program volunteers had more opportunity to observe this outcome	Texas sharpshooter
It is likely that there was some change in confidence in engaging with adult members of the school, as observed by the program volunteers, but that this may have been less visible in the home.	Golden mean (i.e. truth lies somewhere between program volunteers and parents observations
While the program target for the number of participants (n=100, 20 per school) was not reached, due to attrition of the program volunteers, the program had a deeper impact than anticipated on the 45 children who did participate in the program. The program volunteers who did commit to the full length of the program were highly dedicated, and instead of 1 hour per week, extended the sessions to 90 minutes. This meant that physical activity targets for the participants were well exceeded.	Special pleading – moving the goalposts on program targets
Recommendation As the peer-to-peer model of the program is low cost for the benefits it delivers (improvements in connection to nature, confidence in engaging with adults, and interest in outdoor play), it is recommended that TW resource the program model to be rolled out in additional schools, and delivered longer-term, with regular training sessions to onboard and build the volunteer base.	Composition fallacy – assumes the issue identified by parents originally is the same at other schools False binary – there are different and perhaps more appropriate scale options available than scaling out.

Others?

Discuss with your table

What would make this tool more useful and how would you use it?

At what stages of the policy/program and evaluation cycle would you use the tool and why?

What parts of the tool are less useful?

What would you change about the tool?

Is this tool necessary? Why/Why not?

Thanks for coming!

Please use the QR to leave your email.