

Methodological innovation in adult learner choice-making research

Locally deployed multi-agent AI systems for interview augmentation

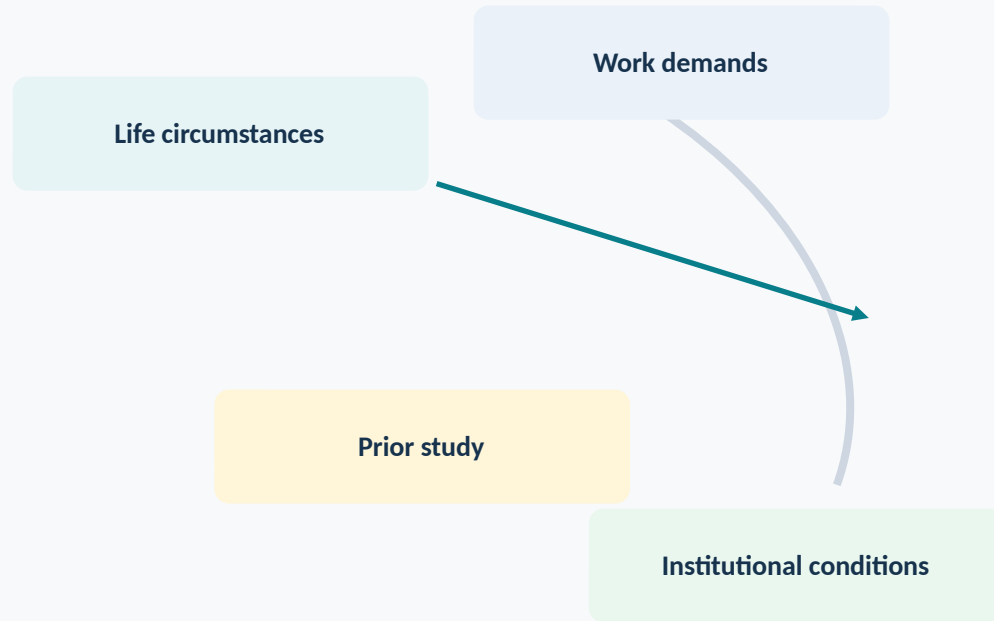
- **Adult learner choice-making** as a methodological challenge
- A local, human-governed AI research instrument
- Accepted abstract described pilot-stage work;
this presentation reports the current methodological and implementation state

*AI drafts;
researcher confirms*

HERDSA 2026 virtual showcase

Dr Michael J Henderson

Why adult learner choice-making is difficult to study



- Educational choices are **complex, non-linear, and context-dependent**
- Personal, professional, and institutional **transitions intersect**
- Semi-structured interviews help, but **rely heavily** on retrospective sense-making
- Conventional workflows create **analytic lag**

Adult learning choices are rarely a single decision point.

... often only partially accessible retrospectively

What the earlier work made visible

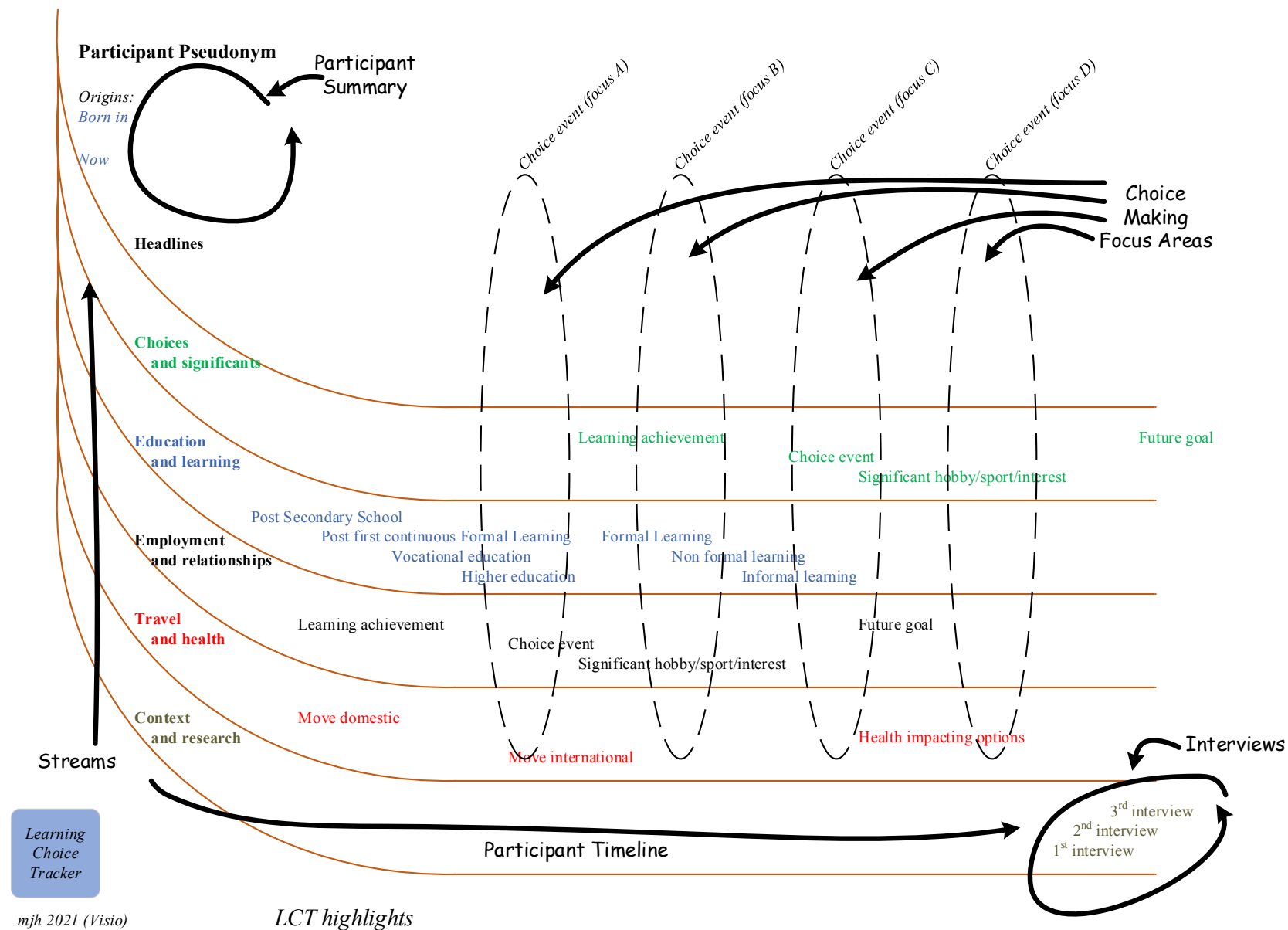
- adult learning choices are layered and socially situated
- recall is partial and retrospective
- representation required substantial post-interview researcher construction

Original Approach

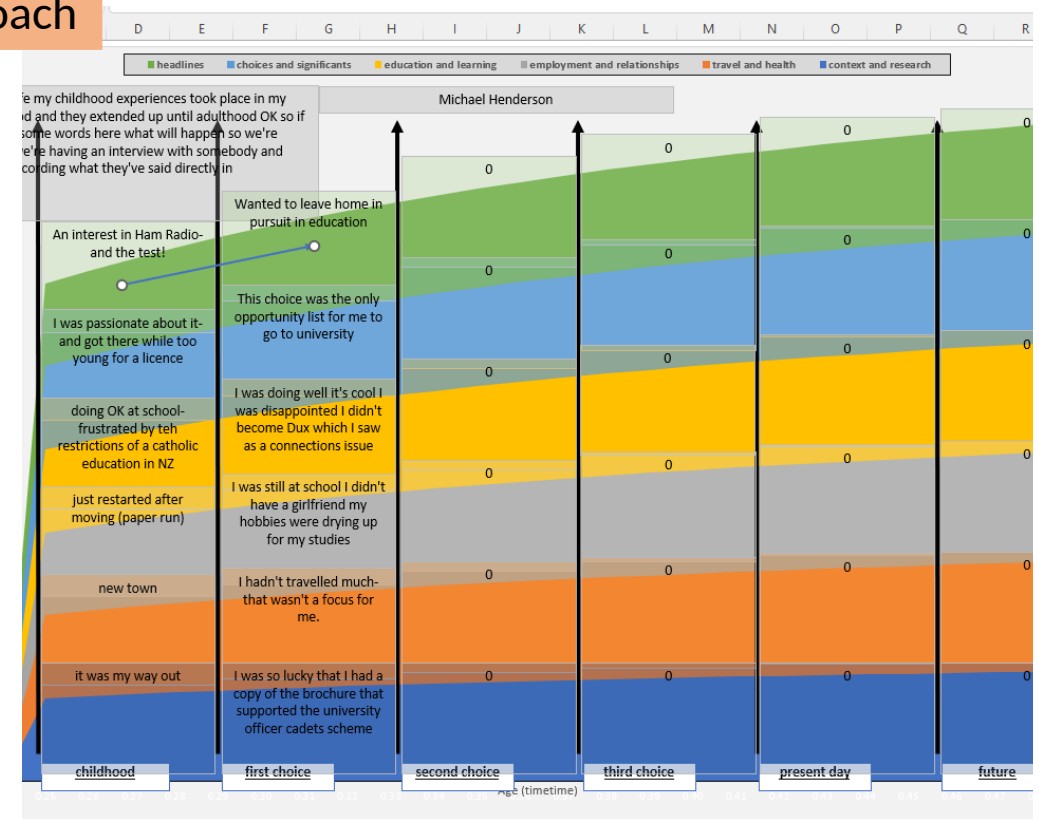
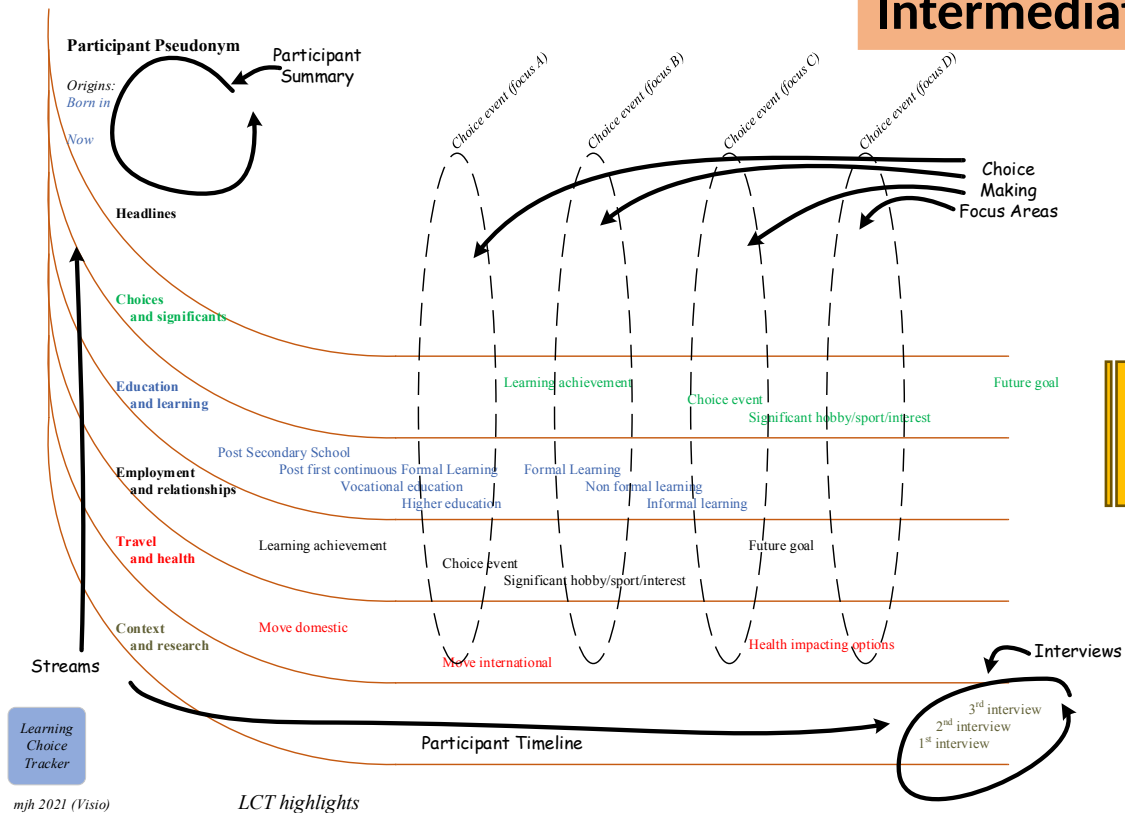
the original Learning Choice Tracker (LCT)

...for analysing and discussing key points of the life journeys of the participants

...based on their recall at the time of the interview(s)



Intermediate Approach

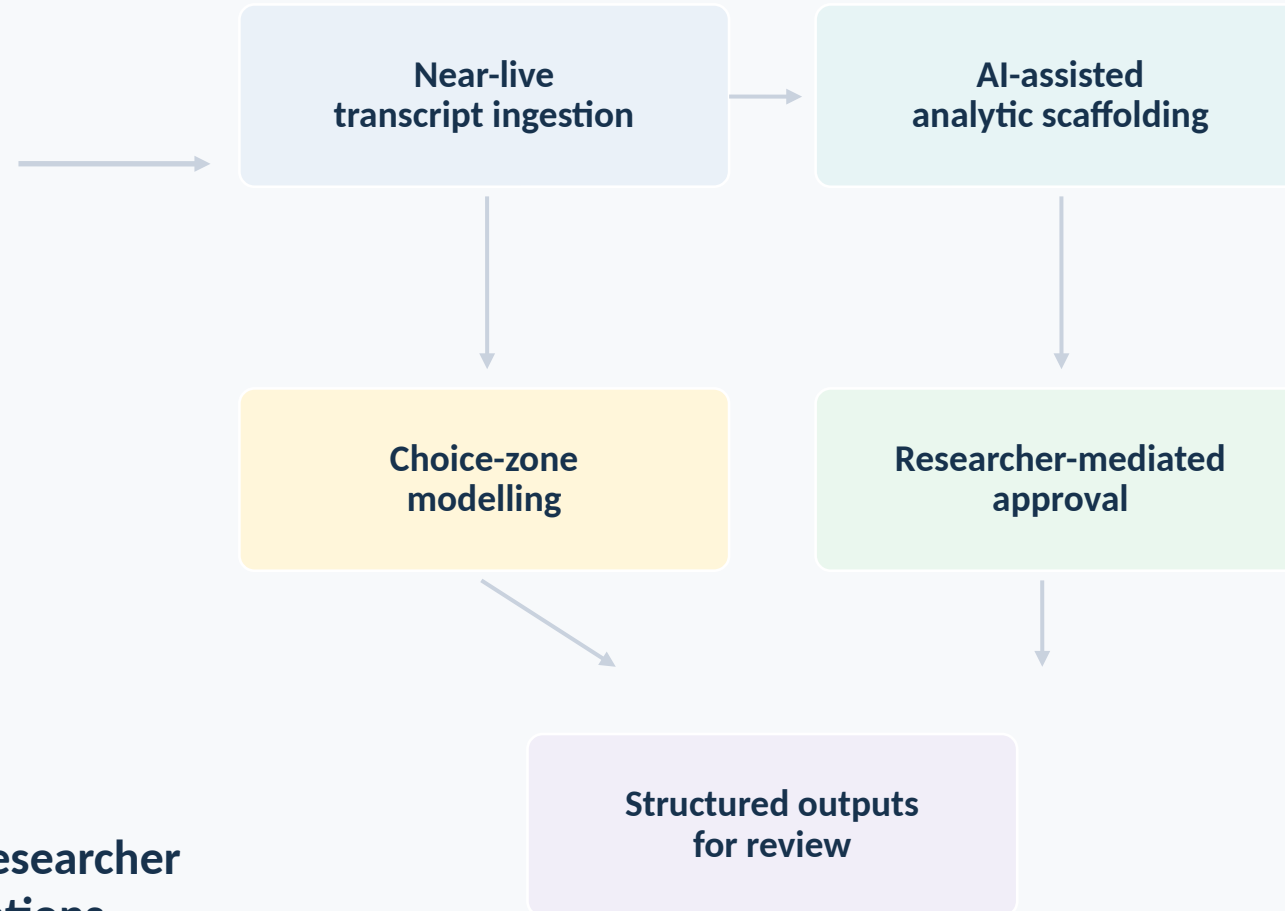


...using a semi-automated tool set

The Learning Choice Tracker as a methodological response



LCT
research instrument



AI proposes structures; the researcher confirms canonical interpretations.

Design-based research with reflexive thematic analysis

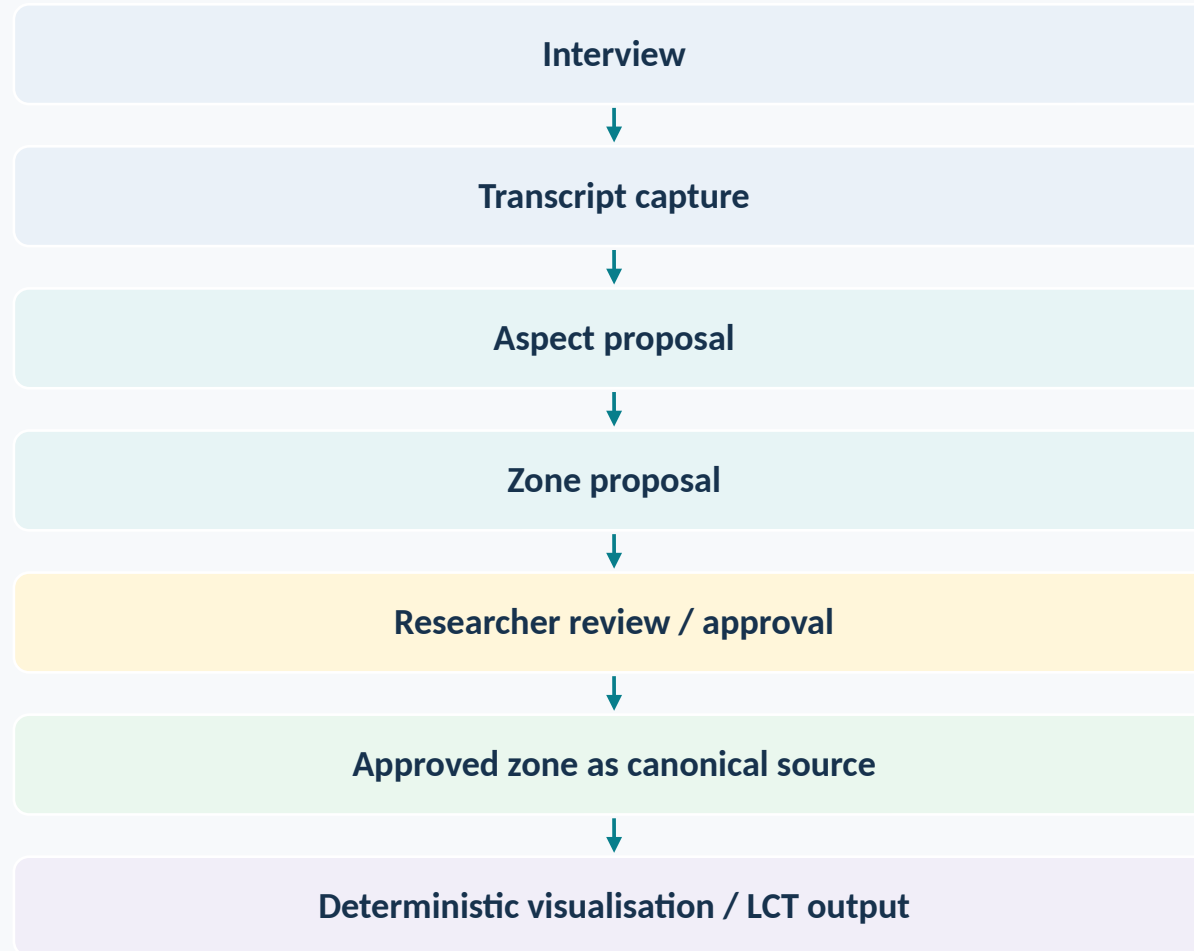
Methodological positioning and AI roles

- Design-based methodology
- Reflexive thematic analysis
- Local-first AI augmentation under human judgement
- Complementary AI roles:
 - ☐ prompt suggestion
 - ☐ analytic drafting
 - ☐ temporal mapping
 - ☐ synthesis

A brief view of the underlying architecture



I show the architecture because it carries the method.



AI proposes; researcher approves

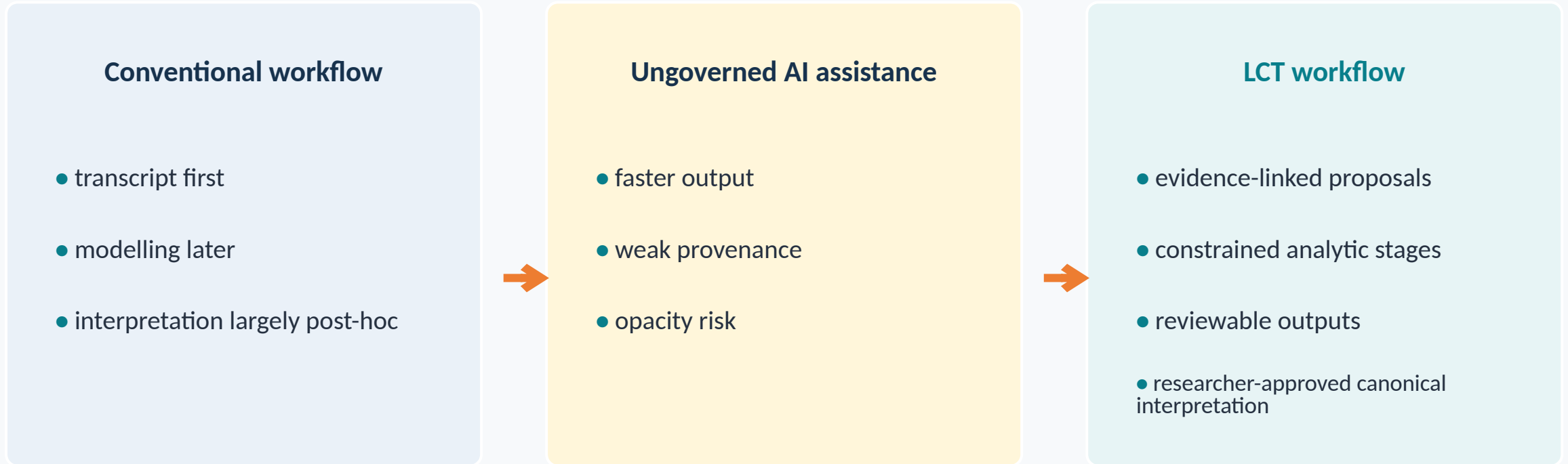
Why the architecture matters methodologically



Architectural feature	Methodological significance
Staged analytic flow	reduces interpretive drift
Evidence-linked proposals	keep claims traceable
Schema validation	constrains structure
Review / approval layer	preserves researcher authority
Approved canonical source	makes outputs accountable
Deterministic visualisation	supports reproducibility and communication

The architecture is the practical enactment of the method.

The innovation is governed AI scaffolding, not AI substitution



Contribution: governed augmentation

Under human control, rather than as a substitute

Ethics, governance, and what is emerging



Ethics and governance

- **Local-first** processing supports data sovereignty
- No automated final interpretation
- **Audit trail** and reversible outputs
- Researcher approval before canonical output

Emerging methodological observations

- reduced analytic lag
- useful decomposition of AI labour
- approval as the **key control point**
- visual outputs remain linked to approved data

Careful claim: methodological observations, not final participant findings.

Contribution to higher education research



A transferable pattern for AI-augmented qualitative inquiry

Local

data sovereignty and reduced exposure

Structured

staged analytic scaffolding

Auditable

evidence-linked and reviewable

Human-governed

AI as scaffold, not substitute

How can AI be methodologically governed so that assistance remains rigorous, ethical, and interpretable?

Questions for your own research design

- What task is being augmented?
- What evidence grounds the AI output?
- What validation constrains it?
- Where does human approval occur?
- What becomes canonical?

Thank you