

MAKING ACCOUNTING THINKING VISIBLE: VISUAL THINKING STRATEGIES, GENERATIVE AI & METACOGNITIVE DEVELOPMENT

Zuliana Zaludin

ENHANCING CONCEPTUAL UNDERSTANDING THROUGH VISUAL & AI-SUPPORTED LEARNING

Background

- Accounting is often perceived as procedural & abstract
- Students memorise rather than understand
- Visual Thinking Strategies (VTS) & GenAI offer a new approach

Objectives

- To explore how VTS and GenAI support:
 - Conceptual understanding
 - Metacognitive development
 - Student engagement
- Session participants will be able to:
 - Identify a human-led, GenAI-assisted workflow
 - Design a VTS + GenAI learning task
 - Apply strategies to foster metacognition

Methodology

- Participants: Pre-university students
- Activity: Group-based visualisation using VTS & GenAI
- Data:
 - Visual artifacts
 - GenAI prompts & AI-use statements
 - Pre and post-reflections
- Analysis:
 - Thematic (understanding, metacognition, engagement)
 - Rubric-based (visual accuracy, coherence)
 - Triangulation across data
- Ethics:
 - GenAI as a visualisation support tool only
 - Students critically evaluated AI outputs & limitations

Theoretical Framework

- Sithole et al. (2021) & Giorgino et al. (2023): visual representations enhance conceptual understanding.
- Malan & Stegmann (2018): peer interaction supports reflective learning.
- Wood et al. (2023); Zhou & Luo (2025): GenAI is a supportive tool requiring critical evaluation.

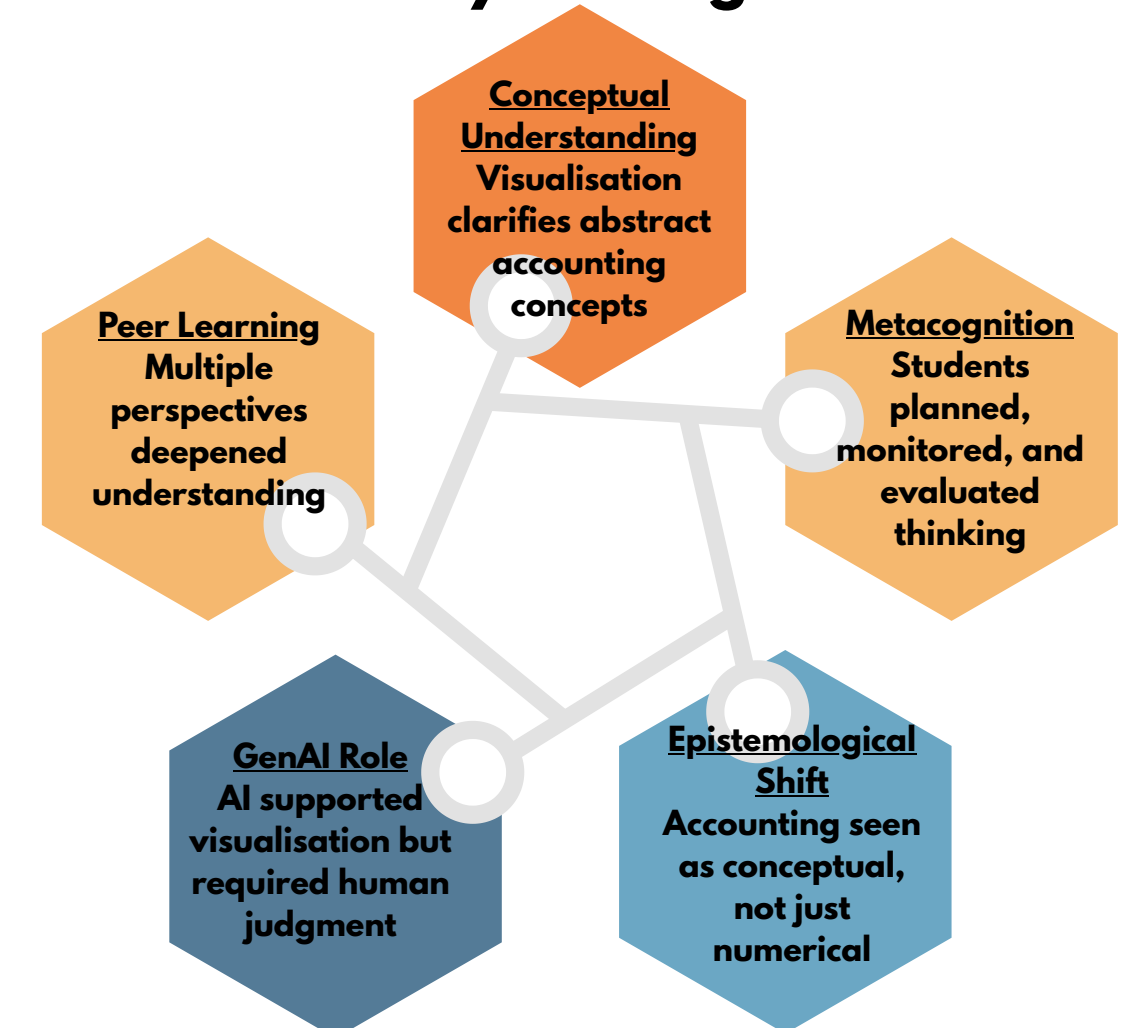
Sample student work



- Students used visual metaphors to represent abstract accounting concepts.
- Visualisation enabled interpretation, discussion & refinement of understanding, supported by student reflections and AI-use statements.

Together, these inform the use of VTS & GenAI to support conceptual & metacognitive development.

Key Findings



Implications

- Visual methods enhance learning in technical subjects
- Transferable to other concept-heavy disciplines (econs, finance & science)
- GenAI should be used as a support tool
- Promotes reflective independent learners

Conclusion

This study demonstrates that VTS combined with GenAI make accounting thinking visible, enabling deeper conceptual understanding & fostering metacognitive awareness in pre-u learners.

References

Giorgino et al. (2023); Malan & Stegmann (2018); Sithole et al. (2021); Wood et al. (2023); Zhou & Luo (2025)