Problematising and unpacking the uncertainty of design within technology education

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My PhD

- Investigating the complexities of design in technology education;
  - *What are the aims of design research and the associated research methods.*
  - *Identify the conceptions and understandings of design from the perspectives of teachers, students and practitioners*
  - *Implement a tool/framework/method to support design in technology education*

Understanding the field

No.	Category Title
1	Design Education Pedagogy
2	Design Education Setting
3	Technological Literacy/Nature of Technology through Design
4	Technology in Design Education
5	Conceptual Design
6	Integrated Design
7	Design Thinking
8	The ‘how-to’ of Design
9	How Design is Understood
10	Design Cognition
11	Supporting Design Educators
12	Assessment in Design Education

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Conceptual Design

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Emerging Pedagogy

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Case Study

Interest v Need

Is there a problem?

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This study

- Narrative literature review
- Presents a naïve theoretical model
- Output;
  - Model to support research investigations and educators tool
  - Identification and conversation about uncertainty of design
  - Focal point for further research

Narrative Study

What are the problems and challenges associated with fostering designerly students within technology education?

To note….

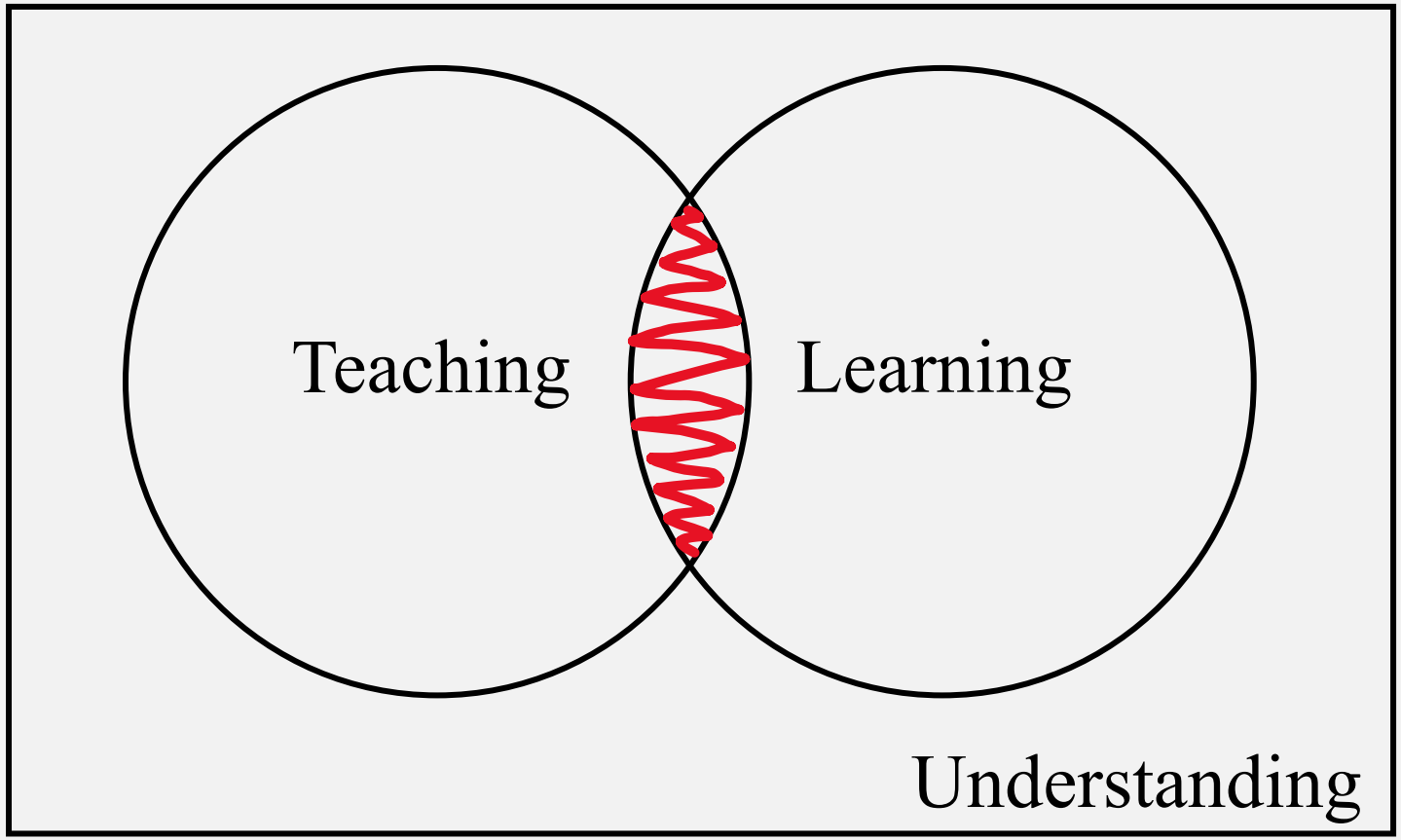
Not problems of bad practice but problematised complexities of design

This study raises questions

- How can we become better designers?
  - Is design ability a construct of intelligence?
- How do we overcome design fixation and form effective design feedback?
  - What does effective feedback look like?
- Why is design complex to research?
  - What is the universal definition of design?
- How effective are emerging pedagogies?
  - Do we lose the essence of a pedagogy when we need to implement it in practice?
- What impact does the design studio have on designing?
  - What environmental factors can impact designing?
- Varied understanding of design
  - Is product design different from biomedical design?
- What does design look like in practice?

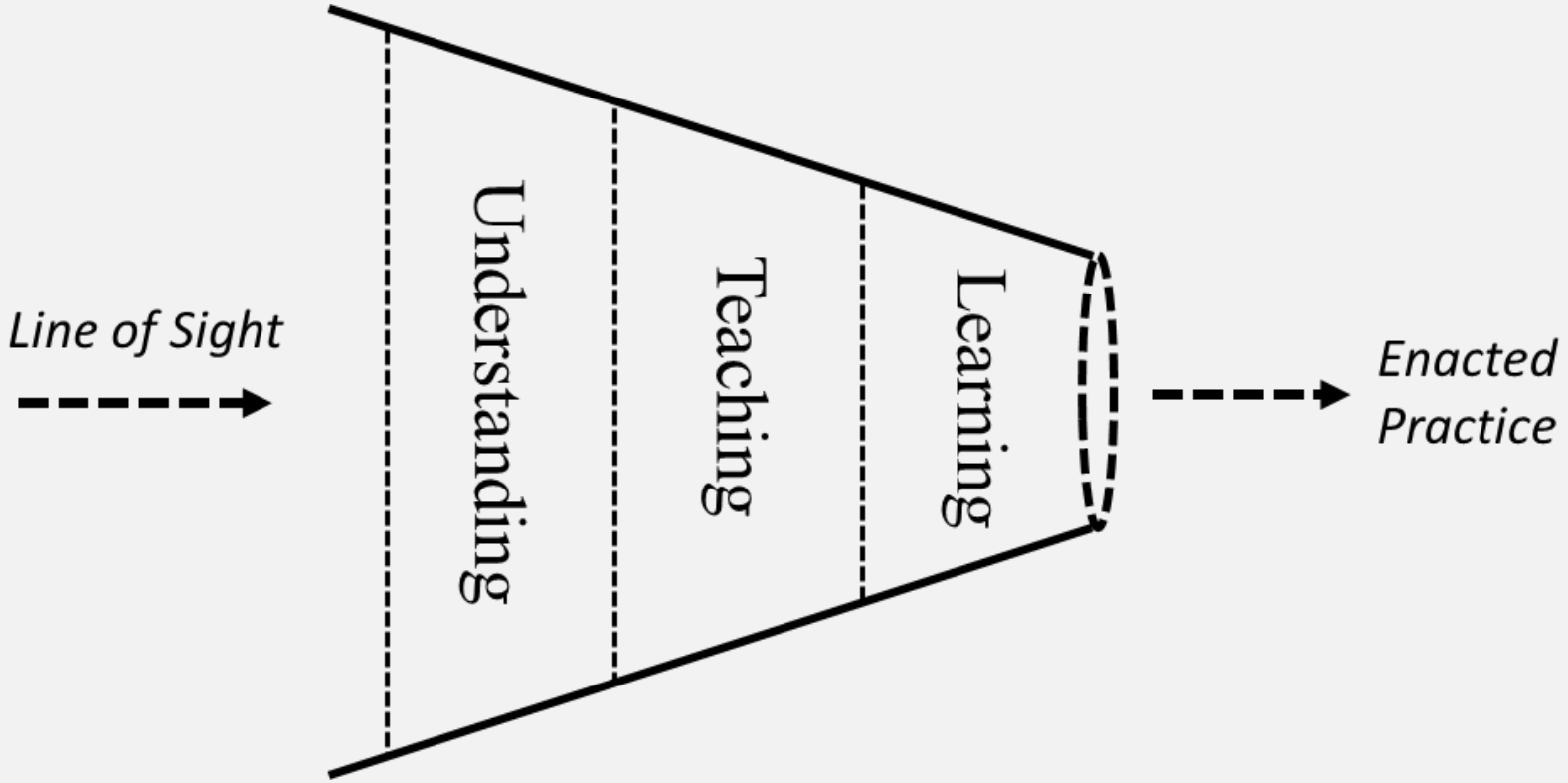
Naïve Theoretical Model

Iteration 1



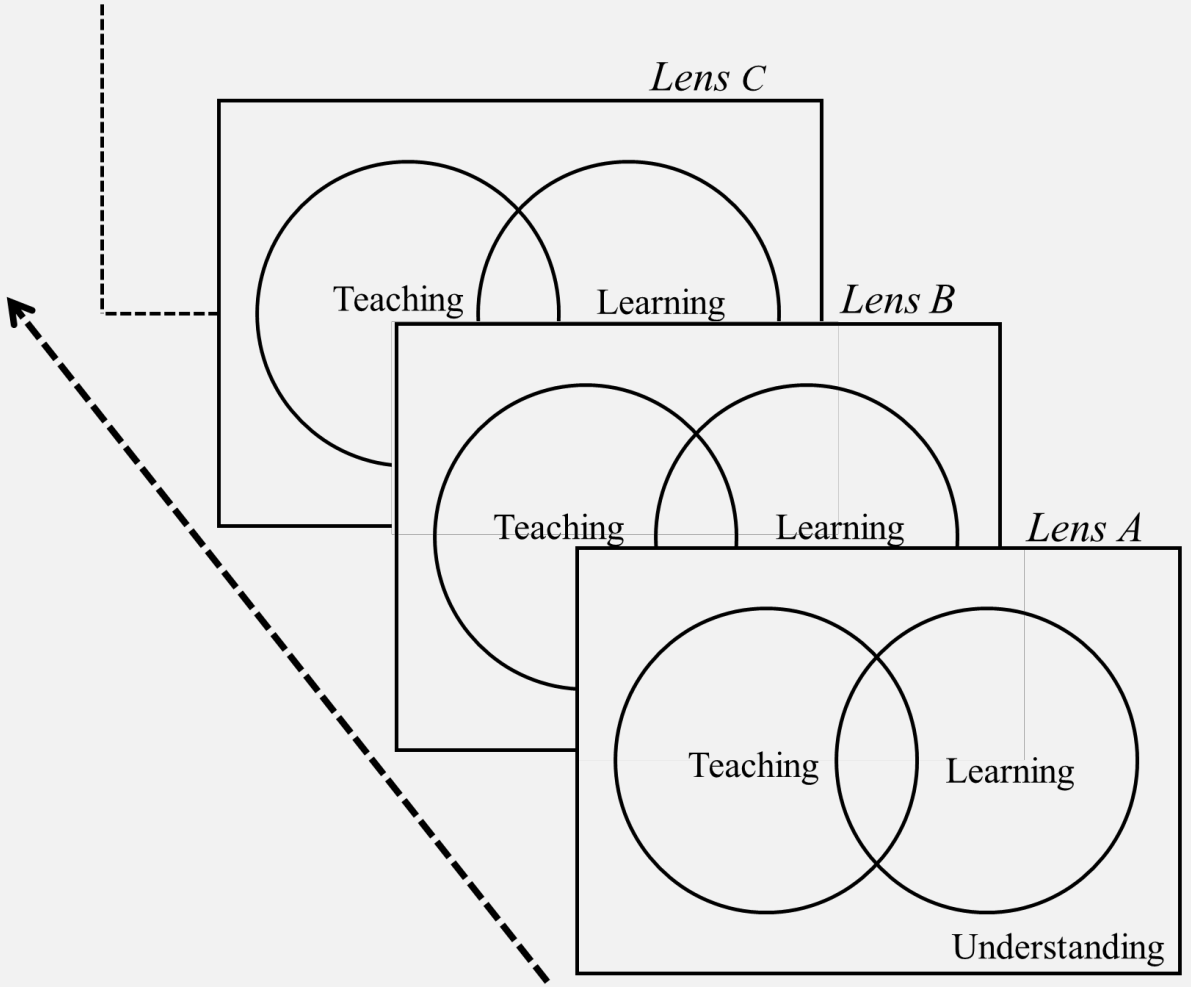
Naïve Theoretical Model

Iteration 2 – teachers, educators, policy makers….

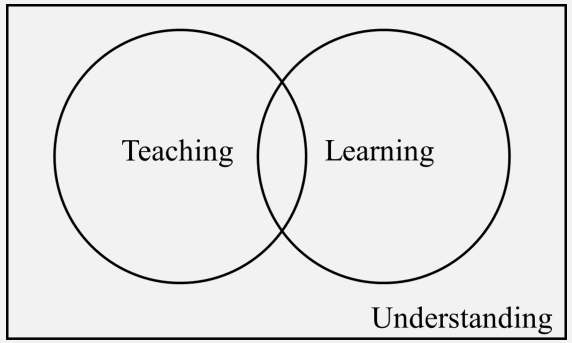


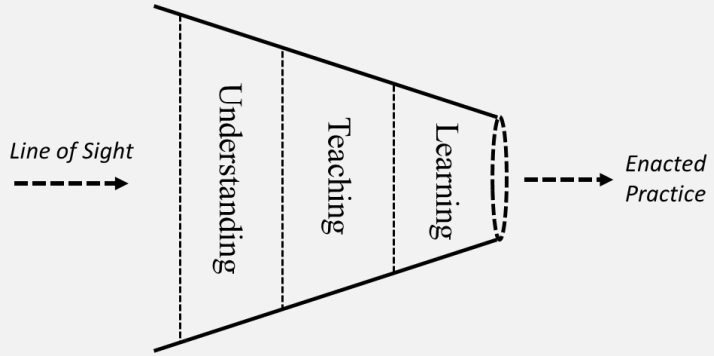
Inter-dependency between each factor

Naïve Theoretical Model



What does design look like in practice?





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Naïve Theoretical Model

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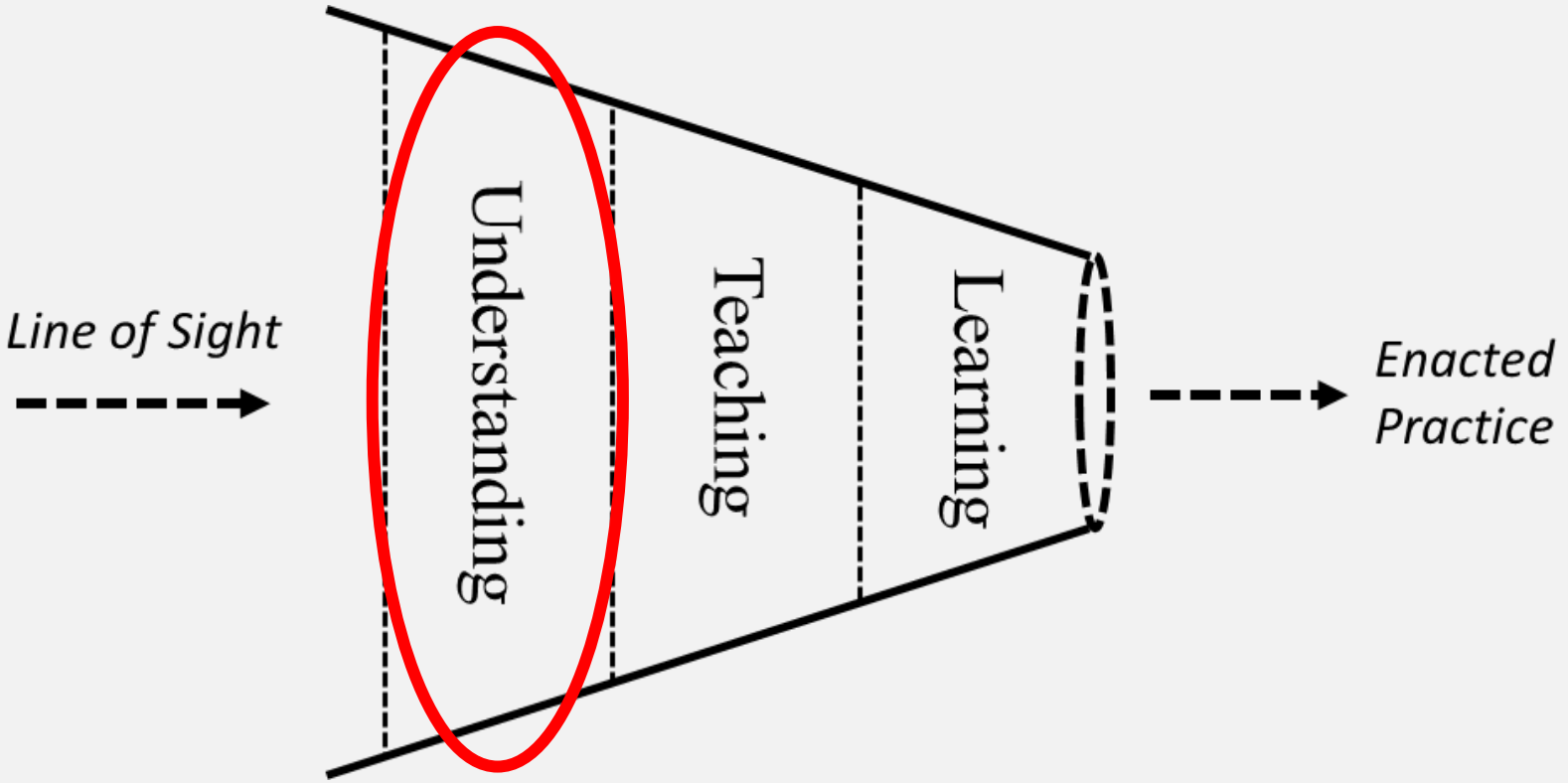

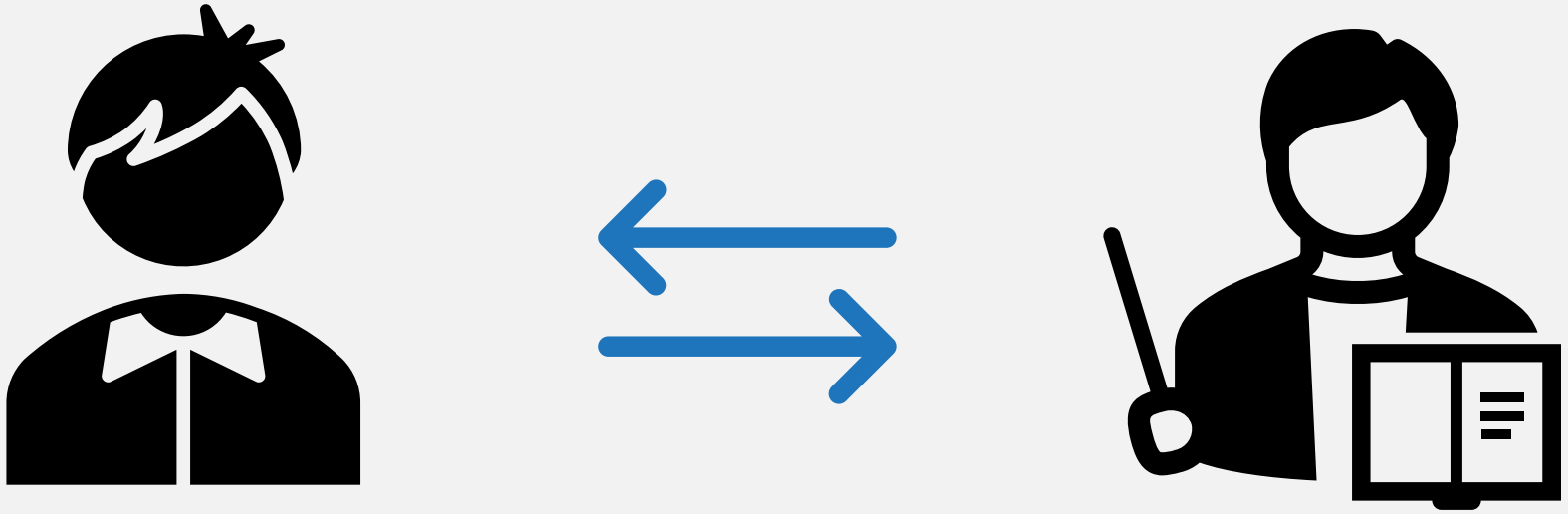

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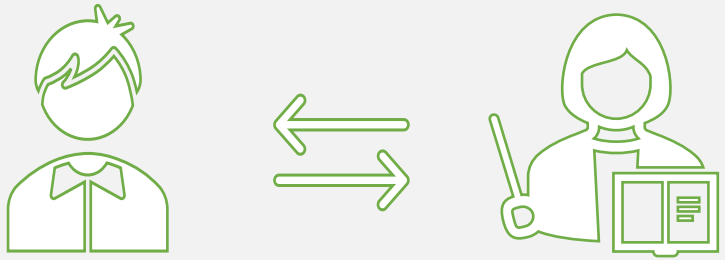

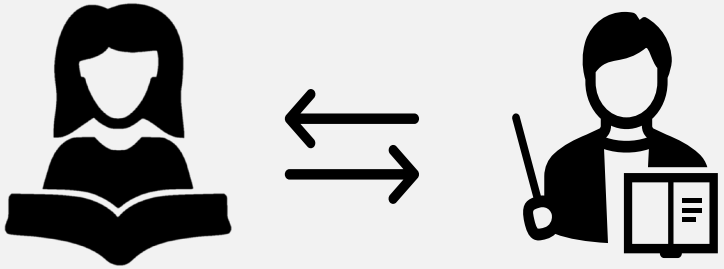

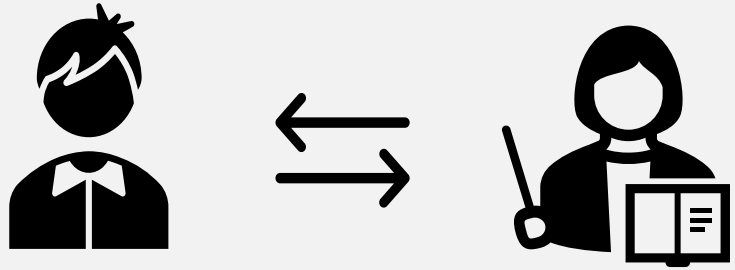

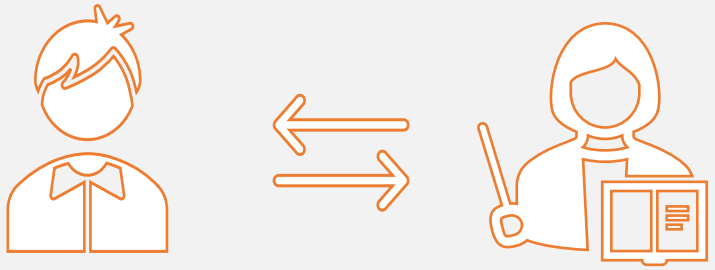

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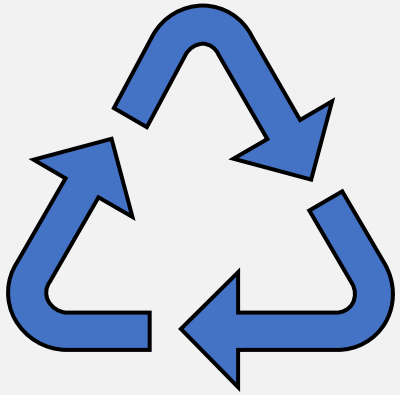

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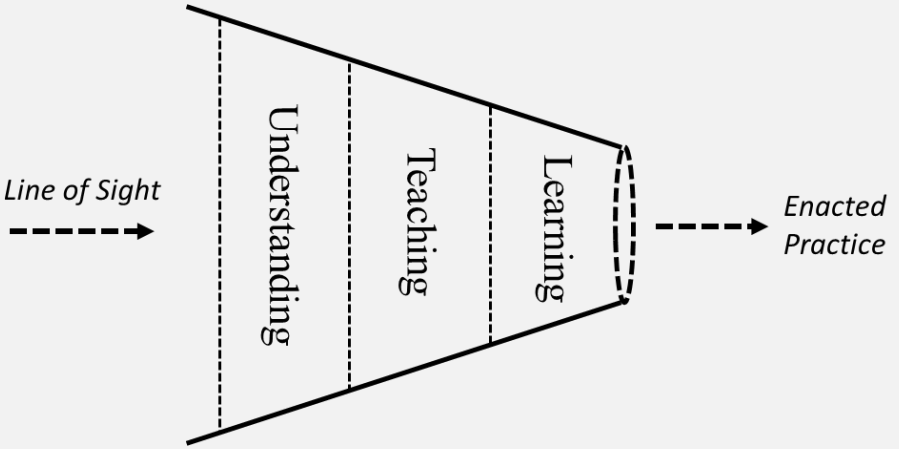
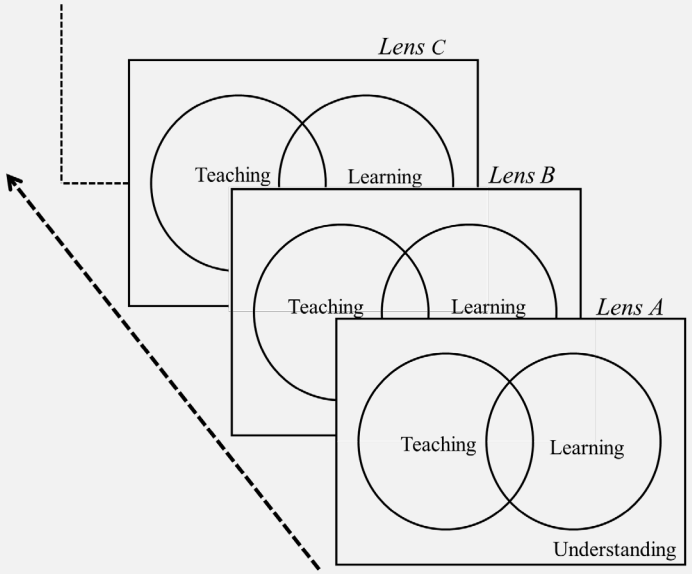
Key Questions

- Can you describe what a design-focused task pitched for a 1st year engineering class looks like?
  - What does a ‘good design’ look like
  - What does a ‘bad design look like
- Could you explain the following,
  - Teaching about/by/to design
- How would you describe your confidence to support students’ design capability?

In Summary

- Rooted within a research need
- Open conversations, research and discussions within this space
- Tool to support investigation
- We need to understand design from the field





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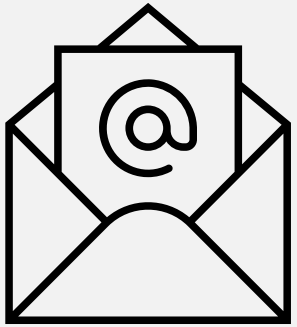
Networking

- I would be delighted to speak with anyone interested in this project…….. Be it;
  - Advice,
  - Experience,
  - Direction,

Contact Details



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Thank You