Enhancing learning and teaching through design practice

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What is design thinking?
What design thinking have to do with teaching?
Design thinking as part of design practice

Characteristics of design practice

Designers ‘problematise’ situation that needs improvement

Centred on needs of humans in context

Mutual adjustment between specifications and proposed solution

Draws on research, precedent and experience
Design practice differences for teachers

Know or can come to know their learners (users/audience)

Develop and implement their design

May have the opportunity to revise design…
… while implementing
… with other learners, in other contexts.

But we don’t teach teachers to be designers

or support them in their design practice
How do expert and novice teachers engage in design of learning experiences for their students?

Expert – experienced \( \geq 10 \text{ years} \)
Novice – early career \( \leq 5 \text{ years} \)
Learning experiences unit of work

Diagram:
- Simulated environment
- Naturalistic setting
- Preliminary analysis
- Model building
- Model testing

- 10 Experienced
- 11 Early Career
- 7 Experienced
- 4 Early Career
- 16 Early Career
How teachers design

- Often involves others in school (cooperative approach)
- Start by identify syllabus outcomes
- Iterative approach: move between thinking about aspects of the overall unit to specific design elements of lesson activities or teaching resources
- Use range of design tools
  - paper and pencil brainstorming
  - online searching for sample units and teaching resources
  - templates for recording their unit of work
# How teachers design

<table>
<thead>
<tr>
<th>Experienced teachers</th>
<th>Early career teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have a ‘working knowledge’ of the syllabus</td>
<td>Refer to syllabus verbatim</td>
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<tr>
<td></td>
<td>Move quickly to lesson detail</td>
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<tr>
<td></td>
<td>Tend not to refine scope</td>
</tr>
<tr>
<td>Consider own professional needs/interests in problem definition</td>
<td>Consideration of student needs/interests</td>
</tr>
<tr>
<td></td>
<td>Limited consideration of differentiation</td>
</tr>
<tr>
<td>Build on own past units</td>
<td>Look to sample units for inspiration</td>
</tr>
<tr>
<td>Consider range of assessment opportunities</td>
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</tbody>
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**Teacher Design Model**

An important aspect of any design process is evaluating the situation. The evaluation stage helps you to design the solution.

**First stage:** What are you trying to achieve?

**Second stage:** What are you trying to achieve?

**Third stage:** What are you trying to achieve?

**Fourth stage:** What are you trying to achieve?

**Fifth stage:** What are you trying to achieve?

**Sixth stage:** What are you trying to achieve?

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25/8/18
Generate the problem

Evaluate Your solution

Get some inspiration

Describe your solution

Reconceptualise the problem

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**Pre Design**
- Interview (audio recorded)

**Design Task**
- Think aloud (video recorded)

**Post Design**
- Interview (audio recorded)
- Design artefacts

Presentation of Design Model
How ECTs engaged with the model

• Confirmed they were not taught to ‘design’ units in TE
• Referred to model to stimulate their thinking
  • helped them take a “step back” from the detail
  • as a checklist to see if they “missed anything” in their design
• Struggle with problem-solution terminology

Next steps

Teacher – Designer

Teacher Design Model
  … revision
  … broader testing in a range TE and ECT contexts
  … an interactive model
Similarities or differences to your design practice?

How can design be supported in your school?

Want to know more…

learningdesignresearch.wordpress.com
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