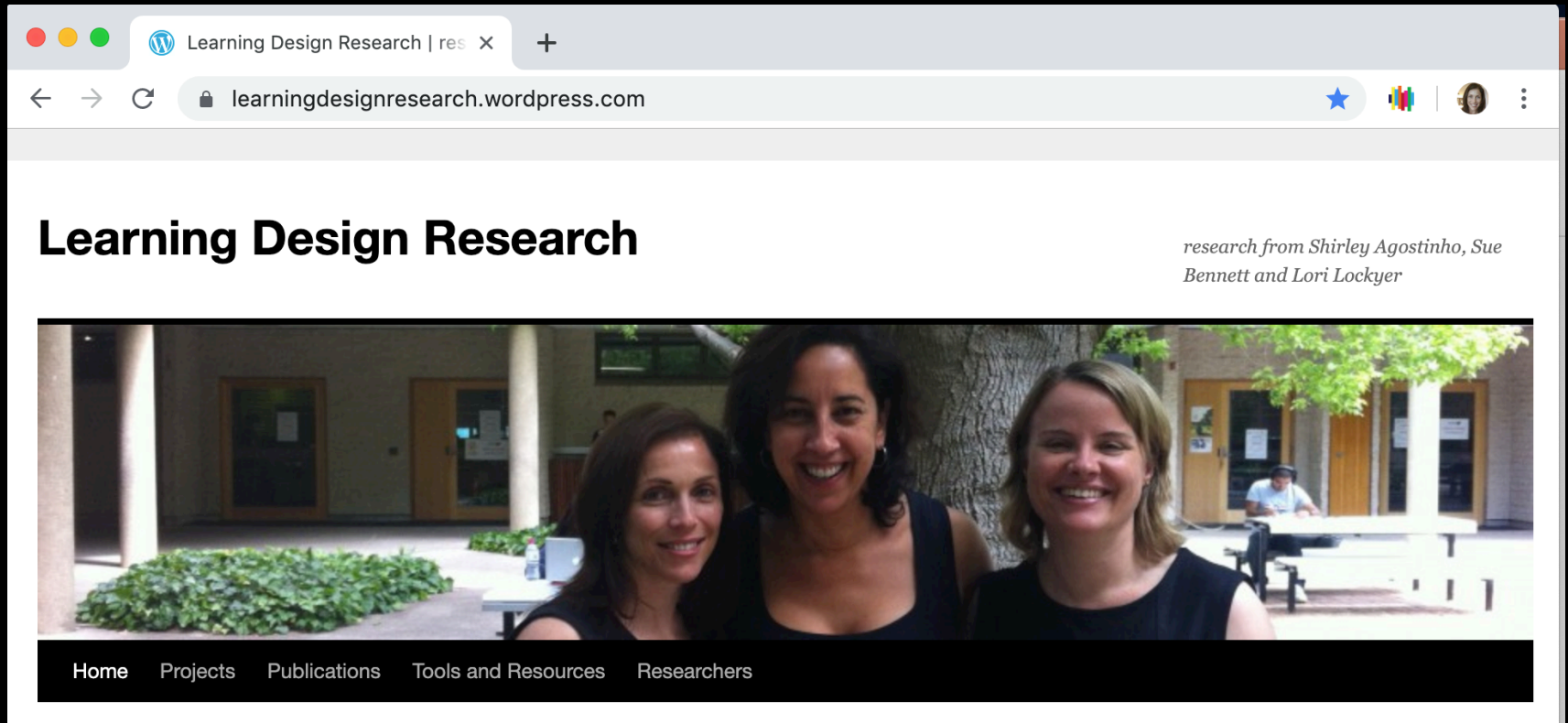


# *Supporting teachers as designers*

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# Our research – learningdesignresearch.wordpress.com




Learning Design Research | res x +

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## Learning Design Research

*research from Shirley Agostinho, Sue Bennett and Lori Lockyer*



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# Learning Design

Where did it come from ?

Calls to improve quality in Higher Education and integrate technology

What is it?

An approach that provides tools to help educators design learning activities

# Learning Design

- Describe
  - What learners and teachers do
  - What resources, content, tools are available
  - How the learning process is facilitated/supported
- Development work
  - Repositories, resources, tools
- Design from a socio-cultural perspective
  - Concepts of storing, sharing, reusability of teaching ideas

## Task

### WHAT STUDENTS DO

The subject outline and an extensive set of readings and resources are provided at the beginning of the subject. These provide information to which students need to refer throughout the session. At the first class meetings the students form teams of three or four, and select an educational or training problem put forward by a real client. From that time the student work directly with a client representative to produce a multimedia package that addresses the initial client brief.

The sequence takes learners through three stages:

1. **Exploration** of the problem writing and small-group and arising in each case project
2. **Articulation** of a solution: T statement outlining their pro
3. **Reflection** on the solution: individual paper and collabor outcomes, and consider imp

### SIGNIFICANCE OF ORDER

The activities are designed to be co upon the preceding tasks.

### CRITICAL ACTIVITIES

Although it is possible for students to sequence of stages and activities.

## Resources

### ACCESSIBLE RESOURCES

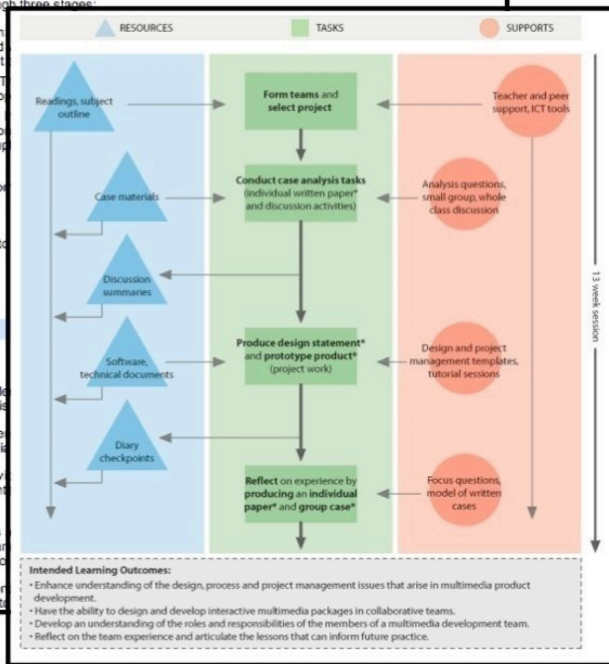
The resources, developed as a colle as a back-up in case Web access is

Readings: The cases are suppleme process, and technical tips for medi

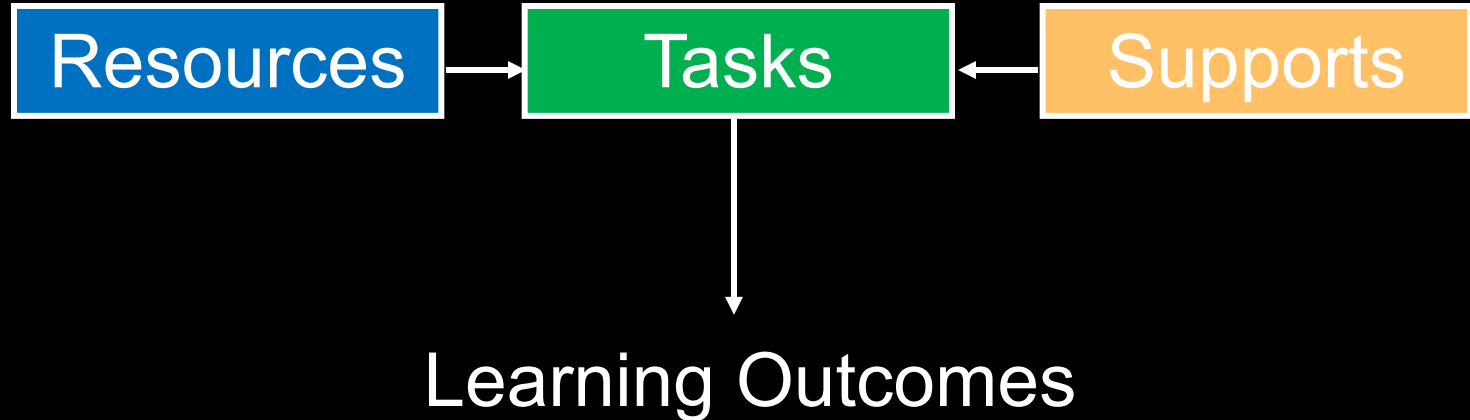
Subject outline: This document prov requirements. Associated document to readings and other resources.

Case materials: Two real-life cases with access to a project overview an relevant literature. Students are also

Discussion summaries (student-gen of the main points and posts these to



# Our learning design approach



# Our learning design approach



**Resources**

**Tasks**

**Supports**

static

formative

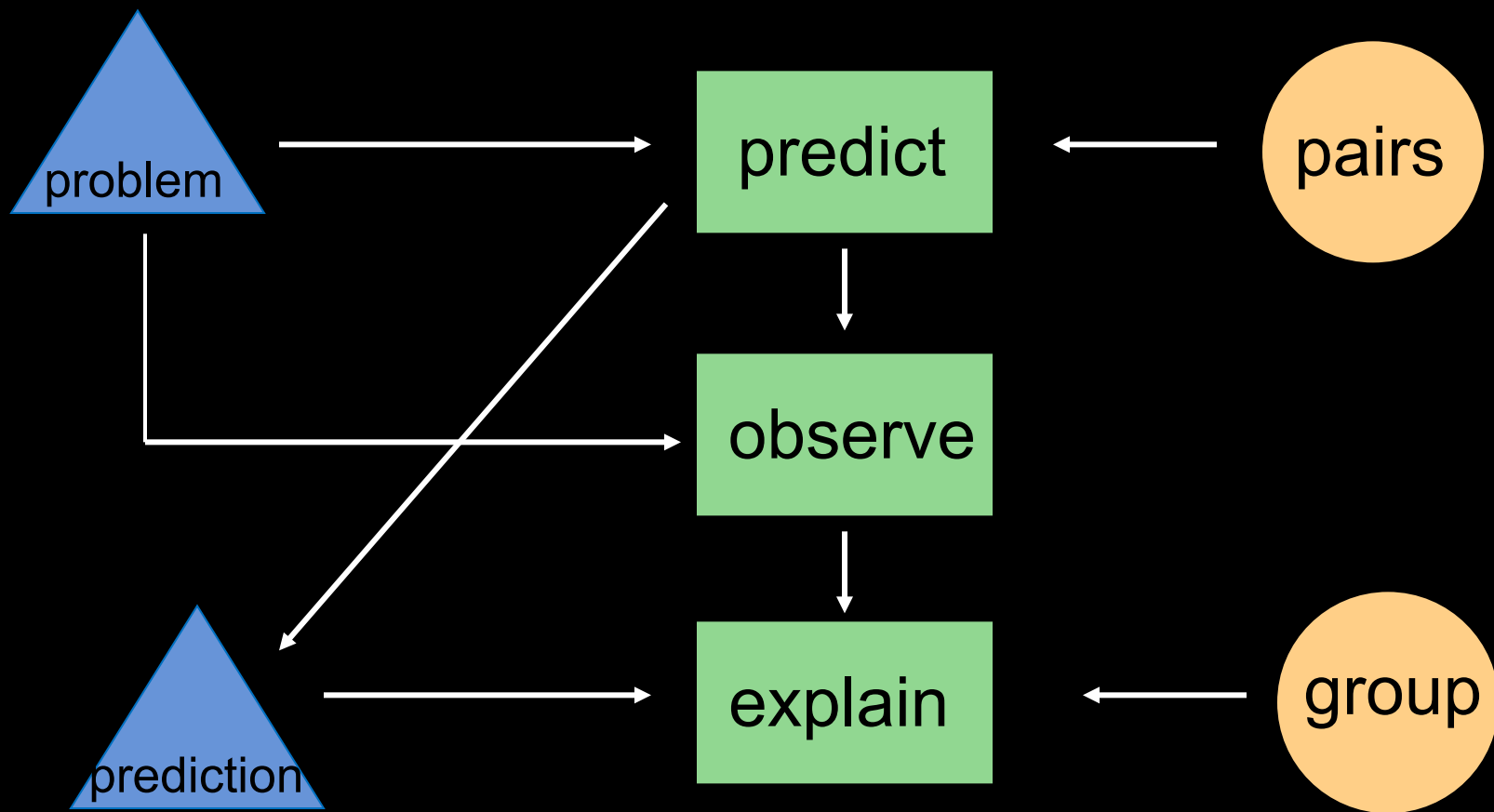
people

dynamic

summative

+/- technology

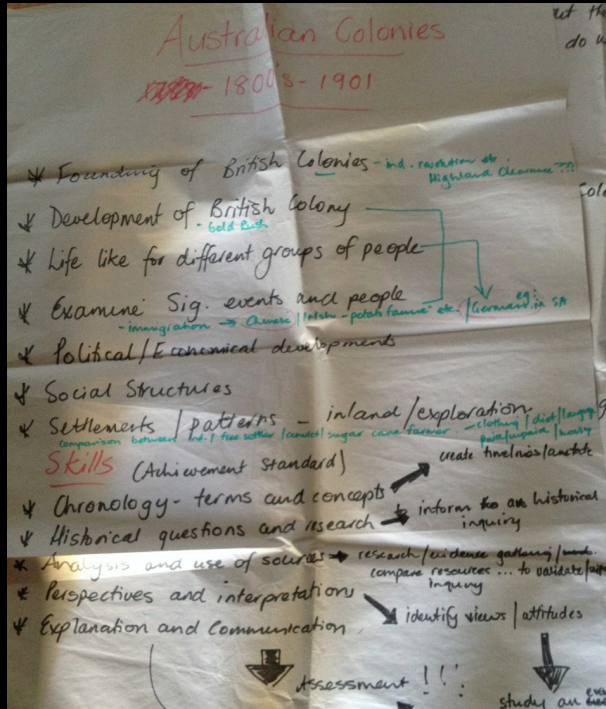
# Example



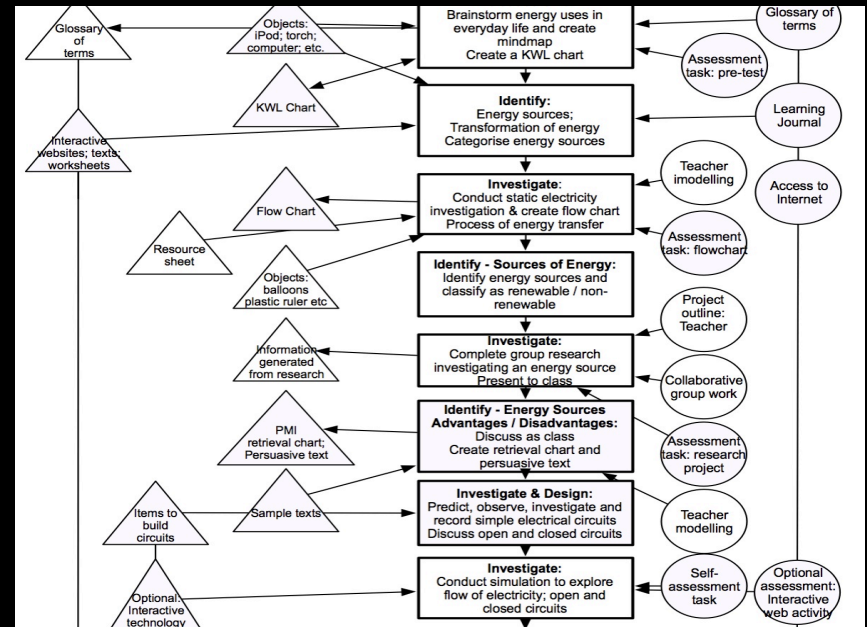


# Creating and representing

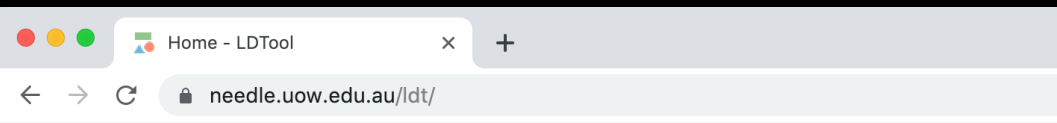
## Planning



## Representing



# Learning design tool



## Home

Welcome to the Learning Design collection.

This website holds a collection of Learning Designs that can be used in primary, secondary or higher education courses.

A Learning Design is a sequence of learning tasks with associated resources and supports that help students engage in those activities.

Each Learning Design in this collection consists of a diagram and description. This is based on a method first used in the [ICTs and their role in Flexible Learning project](#).

You can [browse](#) or [search](#) the collection any time.

To download a user guide for the LDTool, and to learn more about our learning design research, visit [Tools and Resources - Learning Design Research](#).

We encourage you to [sign up](#) and share your great designs with others, either by contributing ones you create or adapting [designs already in the collection](#).

[Sign up](#)

### Copied: Predict Observe Explain

#### Description:

The Predict Observe Explain strategy is used to help students understand phenomenon of process (particularly scientific or mathematical). The key feature of this design is the opportunity for students to predict the outcome of the phenomenon/process. It is assumed that this will help students more closely observe and be able to articulate the explanation for their prediction and/or the actual outcome of the phenomenon/process. In this design students watch the initial part of a stimulus scenario of a phenomenon/process then work collaboratively in pairs to discuss and record their prediction for the outcome. Students then watch the remainder of the scenario to observe the actual outcome before finally explaining the differences between their prediction and the outcome.

The predict-observe-explain learning design is based on the notion that students learn and solve problems by working through potential contradictory ideas or concepts (eg. their prediction and the actual observed phenomenon/process) and through discussion with their peers.

Author: [shirUJW](#) [Contact user](#) [Their designs](#)

Created: 2014-04-07 11:21pm

Edited: 2014-04-07 11:21pm

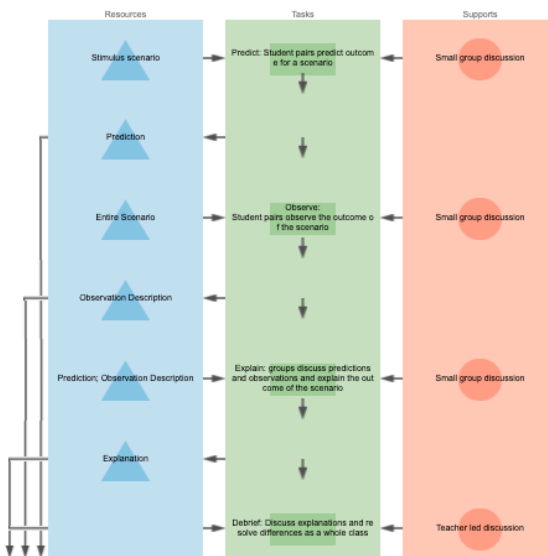
Keywords: science, predictions, collaboration

Derived from: [Predict Observe Explain](#)

[Edit](#) [Copy and edit](#)

#### Intended Learning Outcomes:

- to articulate, justify and critically reflect on preconceptions
- to become aware of alternative conceptions
- to use discipline appropriate language
- to develop process skills (predict, observe, explain)



#### Additional information

This design can be run in a face-to-face or online environment. Multiple choice prediction options could be used (e.g. for novice users or in situations when difficult notation or formulas need to be entered). Additional follow up tasks such as multiple choice tests, concept maps or reflective journals could be used to assess the learning outcomes.

Prior to implementation, it should be ensured that the online environment (if one is being used) is available and set up in a way so that it is ready for students to commence the project. For example:

- The scenarios (stimulus and entire version) are available and ready for viewing
- A system is in place for students to record their prediction, observation and explanation. The system should ensure that students have to record their prediction prior to watching the entire scenario. Regardless of environment, the pairs and small groups should be established prior to implementation, or a system in place to allow students to form pairs and teams.

Original designers – Kearney, M. (2002). Description of Predict-observe-explain strategy supported by the use of multimedia. Retrieved November 5, 2009, from Learning Designs Web site: <http://www.learningdesigns.uow.edu.au/exemplars/infu/LD44/index.html>

# How this helps you design

- Makes your thinking **visible**
- Makes your thinking **shareable**
- Other designs can become **inspiration**
- It helps you **identify** the key elements of a design
- It help you to check for **coherence**
- It encourages you to be **student-centred**
- Gives you a focus for **reflection** and comparison
- Enables you to **document** adjustments and change over iterations
- You can **adapt** your own design in another unit

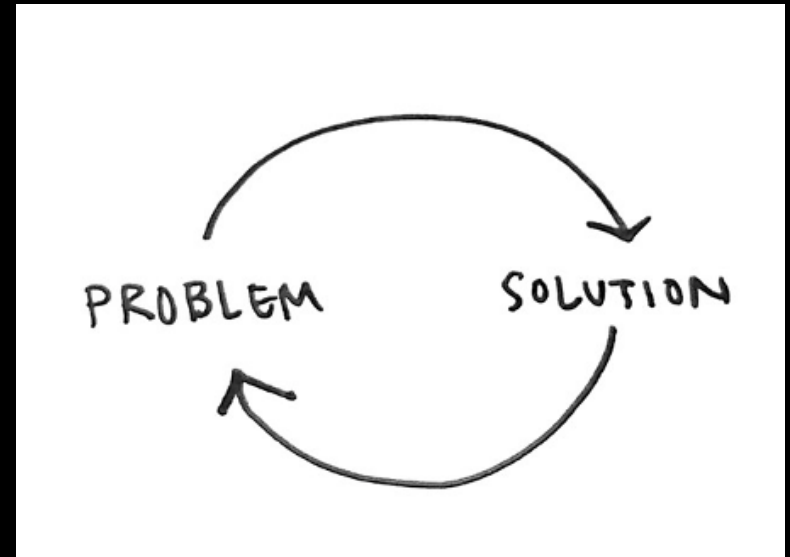
# LDTool

- <https://learningdesignresearch.wordpress.com/>
- 600+ users worldwide
- Examples of use:
  - Professional learning - European university
  - Education Masters degrees – Australia, Europe

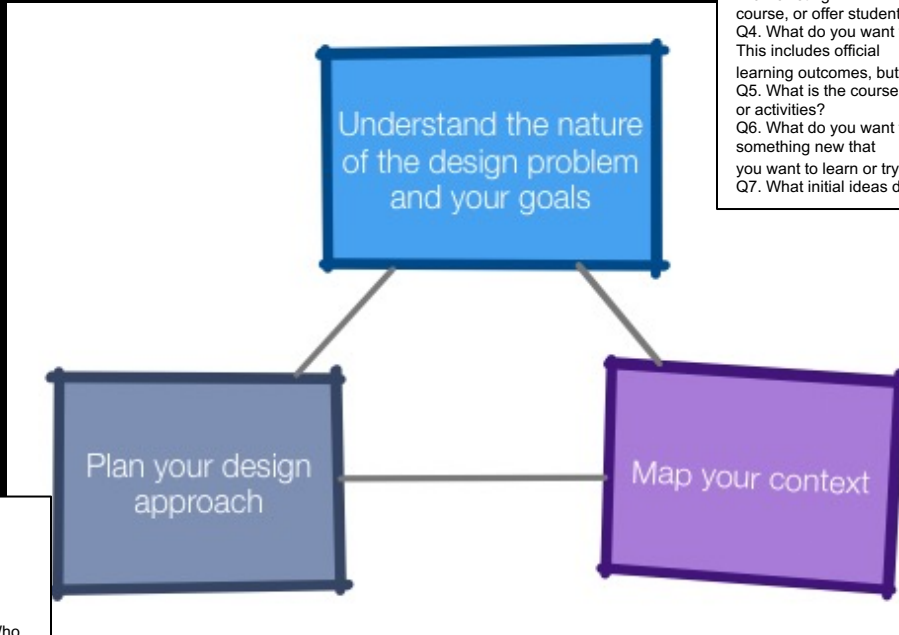
We need to know more about  
how teachers design

# Key finding

- Teachers are designers



# Problem generation tool



## Plan your design approach

- Q16. What is your timeframe?
- Q17. What do you need to produce?
- Q18. What preparation do you need to do? Is there anything that you currently don't know that you need or like to find out?
- Q19. What resources and supports are available? Who will you work with? Who can provide advice?
- Q20. What is your initial plan or steps you will follow for your design process?

## Understanding the nature of the design problem and your goals

- Q1. What kind of problem is this? Are you designing something new or redesigning something that already exists?
- Q2. Why is this design being done? Has this come about from an institutional process (e.g., from a course review) or is this a problem you've identified from your own reflections?
- Q3. What is the rationale for this design? For example, will it fill a gap in an existing course, or offer students more choice?
- Q4. What do you want your students to achieve from this course? This includes official learning outcomes, but also broader aims and goals.
- Q5. What is the course description? Are there required content, tasks or activities?
- Q6. What do you want to get from this course as a teacher? Is there something new that you want to learn or try?
- Q7. What initial ideas do you have?

## Map your context

- Q8. Where does this fit within a broader course of study?
- Q9. Who are the students who will take this course? What are their characteristics? Are there different groups? How many students will take this course?
- Q10. How will the course be taught? This might include face-to-face, online, blended, multi-campus etc. What spaces are available? What tools will support?
- Q11. Is there timetabling or timing issues to consider?
- Q12. Who will teach this course?
- Q13. What approach/philosophy will guide the teaching approach?
- Q14. Are there any other important features of the context you need to consider?
- Q15. Are there any particular constraints (time, resources etc.)?

Hernández-Leo, Agostinho, Beardsley, Bennett, Lockyer (2017)

Why is it important that teaching is considered design?



# Conceptualising teaching as design:

- provides a more **holistic** view of teaching as a continuous design practice
- offers a more **sophisticated** appreciation about what teachers do
- enables the development of **evidence-based** teacher design thinking tools

# Selected publications

- Agostinho, S., Bennett, S., Lockyer, L., Jones, J., & Harper, B. (2020). Learning designs as a stimulus and support for teachers' design practices. In H. Beetham & R. Sharpe (Eds.), *Rethinking Pedagogy for a Digital Age: Designing and delivering e-learning* (3rd Edition) (pp. 105-119). New York: Routledge.
- Agostinho, S. (2011). The use of a visual learning design representation to support the design process of teaching in higher education. *Australasian Journal of Educational Technology*, 27(6), 961-978.
- Agostinho, S., Lockyer, L., & Bennett, S. (2018). Identifying the characteristics of support Australian university teachers use in their design work: Implications for the learning design field. *Australasian Journal of Educational Technology*, 34(2). doi: <https://doi.org/10.14742/ajet.3776>
- Bennett, S., Lockyer, L., & Agostinho, S. (2018). Towards sustainable technology-enhanced innovation in higher education: Advancing learning design by understanding and supporting teacher design practice. *British Journal of Educational Technology*. doi:10.1111/bjet.12683.
- Bennett, S., Agostinho, S., & Lockyer, L. (2017). The process of designing for learning: Understanding university teachers' design work. *Educational Technology Research & Development*, 65, 125-145. doi: 10.1007/s11423-016-9469-y
- Bennett, S., Agostinho, S. & Lockyer, L., (2016). Investigating University Educators' Design Thinking and the Implications for Design Support Tools. *Journal of Interactive Media in Education*. 2016(1), p.9. DOI: <http://doi.org/10.5334/jime.404>
- Hernández-Leo, D., Agostinho, S., Beardsley, M., Bennett, S., Lockyer, L. (2017). Helping teachers to think about their design problem: a pilot study to stimulate design thinking. *Paper presented at: 9th annual International Conference on Education and New Learning Technologies EDULEARN17*; 2017 July 3-5; Barcelona, Spain, pp. 5681-5690. doi: 10.21125/edulearn.2017.2291
- Lockyer, L., Agostinho, S., & Bennett, S. (2016). Design for e-learning. In C. Haythornthwaite, R. Andrews, J. Fransman & E. M. Meyers (Eds.), *The SAGE Handbook of E-Learning Research* (2<sup>nd</sup> Edition) (pp. 336-353). London: SAGE Publications.

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[shirleya@uow.edu.au](mailto:shirleya@uow.edu.au)

Thank you 😊