Getting Started with Design Thinking

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OVERVIEW

Design Thinking has become a globally recognised term to define the design process traditionally used by designers of various disciplines.

Whilst this creative problem-solving process has traditionally been used by designers to create "product" outcomes, it is now being applied more broadly across society. The value of this design process to students is therefore not in only how well they develop the problem solving skills to create "products", but also how they can begin to develop higher-order thinking skills to solve some of society's greatest systemic challenges.

At its core, the design process focuses on exploring a problem or a challenge that affects a particular user or user group. It is based on cycles of courageous action, reflection, insight and incremental improvement. Therefore, although design can tend to focus on a tangible product outcome, the design process is never really complete; there are always opportunities to refine and incrementally improve.

In establishing the simple *Design Minds* design process of *Inquire*, *Ideate* and *Implement*, we evaluated some of the most recognised global design thinking methodologies including the Cooper Hewitt's 'Ready, Set, Design' (Smithsonian, Cooper Hewitt Design Museum 2011), Stanford D School's 'Stanford Design Program' (Plattner 2010) and IDEO's 'Design Thinking for Educators' (IDEO 2011).

Methodology	Design Stages									
Cooper Hewitt	Identify	Investigate		Frame/ Reframe	Generate		Develop		Evaluate	Re-evaluate
iDesign Thinking	Intending	Defining		Exploring	Suggesting		Innovating	Goal-getting	Knowing	
D School	Empathise	Define		Ideate			Prototype	Test		
IDEO	Discovery	Interpretation		Ideation	Experimentation		Evolution			
Design Minds	← Inquire →		*Reflect*	← Ideate →		*Reflect*	← Implement →		*Reflect*	

Figure 1. How the Design Minds phases were developed as a synthesis of leading design methodologies.

We sought to synthesise from these global examples a design process, that as Einstein would say, is "as simple as possible but no simpler".

What emerged were the three design phases *Inquire*, *Ideate* and *Implement*, punctuated at each stage by moments of structured *Reflection*:

> *Inquire*: exercises related to research, identifying/defining a problem/opportunity, developing background understanding, setting objectives and developing a brief.

> *Ideate*: exercises related to brainstorming, generating ideas and solutions to a problem/opportunity, experimentation, risk-taking and play.

> *Implement*: exercises related to testing developed ideas, prototyping and communicating an end result.

During each of these phases there are also moments of structured **Reflection** to gather insights and allow changes and improvements to be made before proceeding to the next phase. This structured reflection is the most integral component to classroom learning as John Dewey has argued: "We do not learn from experience. We learn from reflecting on experience."

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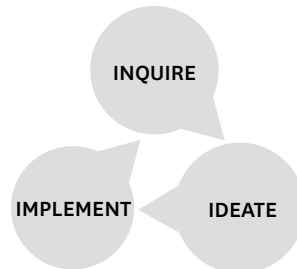
Figure 2. The Design Minds phases

It's obvious that the types of behaviours and actions that take place in each of the phases are quite different. As a 21st century educator, your role is changing from being a "sage on the stage" to a "guide on the side". In facilitating the design process with your students, your role is to define and encourage the certain types of behaviours that are useful in each stage. For example, you really want to encourage play, experimentation, risk-taking and lateral thinking in the *Ideate* phase, however a more rational and investigative approach is more appropriate in the *Inquire* phase.

In this toolkit, you will be presented with a range of introductory activities that quickly take students through one or more of the three design phases. The exercises are intended to be short, sharp and fun and can be used at any point during your teaching program, either as warm-up exercises at the start of a class, or injected as a tool for problem-solving at certain stages during a particular class project.

By regularly introducing your students to these exercises, you will be building their problem-solving capacity and developing their ability to consciously move in and out of particular design phases, as well as through the entire design process.

Figure 3. Rapid prototyping in action, during the *Implement* phase. Image by Becky Strong.

Design Minds