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Exploring designerly ways of knowing

Andrew Mayes
Introduction

Andrew Mayes
DP Curriculum Manager
• Computer Science
• Design technology
• Information Technology in a Global Society (ITGS)

Email: andrew.mayes@ibo.org

@AJPMayes
What’s it all about?

• Cultures of education

• Designerly ways of knowing
  • Design methodologies
  • Design products
Cultures of education

“The collected experience of the material culture, and the collected body of experience, skill and understanding embodied in the arts of planning, inventing, making and doing” Royal College of Art (1979)

Images from: http://lego.wikia.com
Contrasting science, humanities and Design

<table>
<thead>
<tr>
<th></th>
<th><strong>Science</strong></th>
<th><strong>Humanities</strong></th>
<th><strong>Design</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Language</strong></td>
<td>Numeracy</td>
<td>Literacy</td>
<td>Modelling</td>
</tr>
<tr>
<td><strong>Area of study</strong></td>
<td>The Natural World</td>
<td>Human experience</td>
<td>The artificial world</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>Controlled experiment</td>
<td>Analogy</td>
<td>Modelling</td>
</tr>
<tr>
<td></td>
<td>Classification</td>
<td>Metaphor</td>
<td>Pattern-formation</td>
</tr>
<tr>
<td></td>
<td>Analysis</td>
<td>Evaluation</td>
<td>Synthesis</td>
</tr>
<tr>
<td><strong>Values</strong></td>
<td>Objectivity</td>
<td>Subjectivity</td>
<td>Practicality</td>
</tr>
<tr>
<td></td>
<td>Rationality</td>
<td>Imagination</td>
<td>Ingenuity</td>
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<td></td>
<td>Neutrality</td>
<td>Commitment</td>
<td>Empathy</td>
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<td>Concern for ‘truth’</td>
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The nature of design
Ways of knowing – Areas of knowledge

Ways of knowing
- Language
- Sense perception
- Emotion
- Reason
- Imagination
- Faith
- Intuition
- Memory

Areas of knowledge
- Mathematics
- Natural sciences
- Human sciences
- History
- The arts
- Ethics
- Religious knowledge systems
- Indigenous knowledge systems
Designerly ways of knowing

Design processes
• Solution-focussed
• Wicked problems
• Using codes

Design products
• The wealth of knowledge embodied in objects
• Objects as a form of knowledge available to everyone
• Invention comes before theory
Solution-focussed

MYP Design guide (2014)
DP Design technology guide (2014)
Wicked problems

A wicked problem is a form of social or cultural problem that is difficult to solve because of incomplete, contradictory, and changing requirements.

Half the solution to any problem lies in defining it.

Dr. Phil

tippytoediet.com
Design thinking

“[Design thinking is] a discipline that uses the designer’s sensibility and methods to match people’s needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity.”

Tim Brown, IDEO
Analysis and synthesis
Ideation

"The way to get good ideas is to get lots of ideas and throw the bad ones away."

Linus Pauling Nobel prize winner
Divergent and convergent thinking

Divergent thinking:
- Identifying issues
- Strategy and planning
- Create choices

Convergent thinking:
- Risk/reward evaluation
- Decision making
- Project management
- Make choices

Unlimited possibilities → Projects → Measurable results
Inductive reasoning
Deductive reasoning

“Eliminate all other factors, and the one which remains must be the truth.”

- Sherlock Holmes,
  The sign of Four.
Abductive reasoning

The best answer for now
The designers’ ‘code’

Images sourced from:
1: MYP design Teacher support materials;
Prototyping

prototypes (fidelity) + testing (context) = prototyping (validation)

Image sourced from: http://www.cartoonstock.com
Image sourced from: http://www.cadfanatic.com
Image sourced from: http://www.chasingaion.com
Design products
Objects as a form of knowledge

- Ancient Egyptian Furniture: 3000-2000 BC
- Medieval Furniture: 500 - 1450 AD
- Jacobean Furniture: 1567-1625 AD
- Rococo Furniture: 1725-1775 AD
- Art Nouveau Furniture: 1890-1914 AD
- Art Deco Furniture: 1925 - 1940 AD
- Contemporary Furniture: 1980 - Present
- Ancient Greek Furniture: 2000 - 300 BC
- Renaissance Furniture: 1350-1550 AD
- Colonial Furniture: 1500-1754 AD
- Revival Furniture: 1800-1900 AD
- Bauhaus Furniture: 1919 - 1933 AD
- Modern Furniture: 1930-1945 AD

Image sourced from: http://www.onlinedesignteacher.com/furniture_design/furniture_design%20history.html
Knowledge embodied in objects
Knowledge embodied in objects
Invention before theory
Invention before theory
Invention comes before theory

“Thermodynamics owes more to the steam engine than vice versa”

Derek de Solla Price
Technology leads to Science which leads to Technology which leads to...
In summary

The missing ‘third’ culture of education

Design processes
- Wicked problems
- Solution-focussed
- Abductive reasoning
- Using codes

Design products
- The wealth of knowledge embodied in objects
- Objects as a form of knowledge available to everyone
- Invention comes before theory
The loose ends...

- To what extent are we still missing the ‘third’ culture of education?

- What is the value of developing these ‘Designerly ways of knowing’ within our students, parents, teachers, administration?

- TO what extent do trained designers think and act in these different ways?

We cannot solve our problems with the same thinking we used when we created them.

Albert Einstein
Making time for creativity: Why does it matter?

Get involved!

- Submit a film demonstrating creativity at your school
- Apply to be a speaker at the symposium

Find out more at: http://blogs.ibo.org

Twitter: #IBPAS2015