Securing good learning progress in design and technology from Key Stage 2 to Key Stage 3

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Transition

One teacher
Primary classrooms
Variable timed lessons
Stay in one place
Limited materials
Integrated themes
Familiar friends and teachers
All belongings in one place
Familiar places
Small school
Walk to school
Old rules
Oldest and biggest
Lunch as always

Many teachers
Workshops and specialist rooms
Fixed timed lessons
Move all over the school
Range of materials textile food, metals, woods, plastics, card
Lack of cross curricular themes
New friends – new teachers
Carry stuff everywhere
Unfamiliar surroundings
Large buildings
Bus ride to school
New rules
Youngest and smallest
New lunch arrangements

Where we are now – in primary schools

- NC2000 is the statutory order
- Many schools have moved away from QCA and are following a creative curriculum
- School initiated learning with a focus on local needs
- Less prescription
- Teachers deciding what to do

Implications

- progression and consistency
- Ensuring adequate coverage across range set out in NC 2000
- D&T activities linked to projects not always good D&T (lack of focus on user and purpose)
- Pupils' experience will vary widely from school to school

What is good practice?

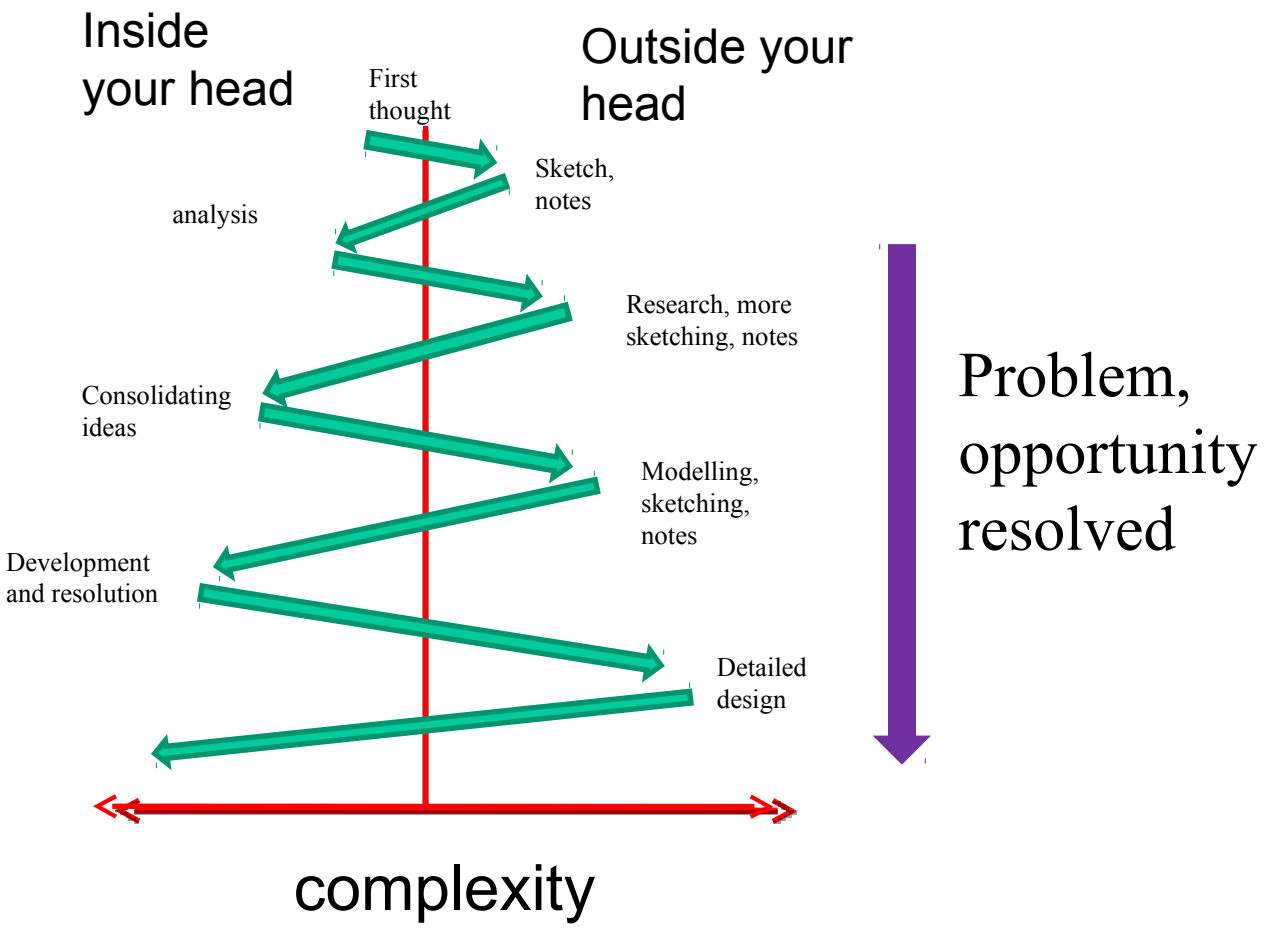
- A clear focus on
  - User
  - Purpose
  - Function
- Pupils being engaged in authentic d&t challenges where they make design decisions.
- Clear focus for activities based on learning intentions.

The reality

- No information about pupil's D&T experience or attainment is passed on
- Wide range of feeder primary schools
- Schools doing there own D&T activities

So how can you know where the pupils are in terms of D&T?

The Design Process

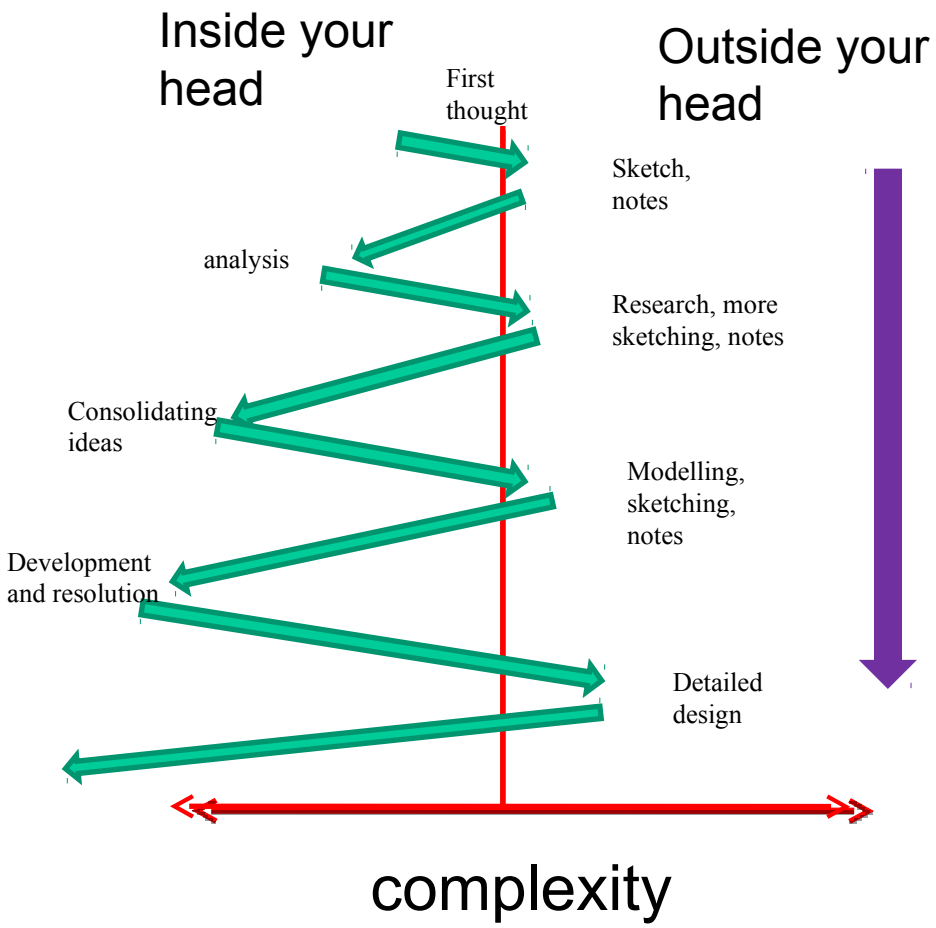


This is the only explanation that makes sense to me!

The transition pupil

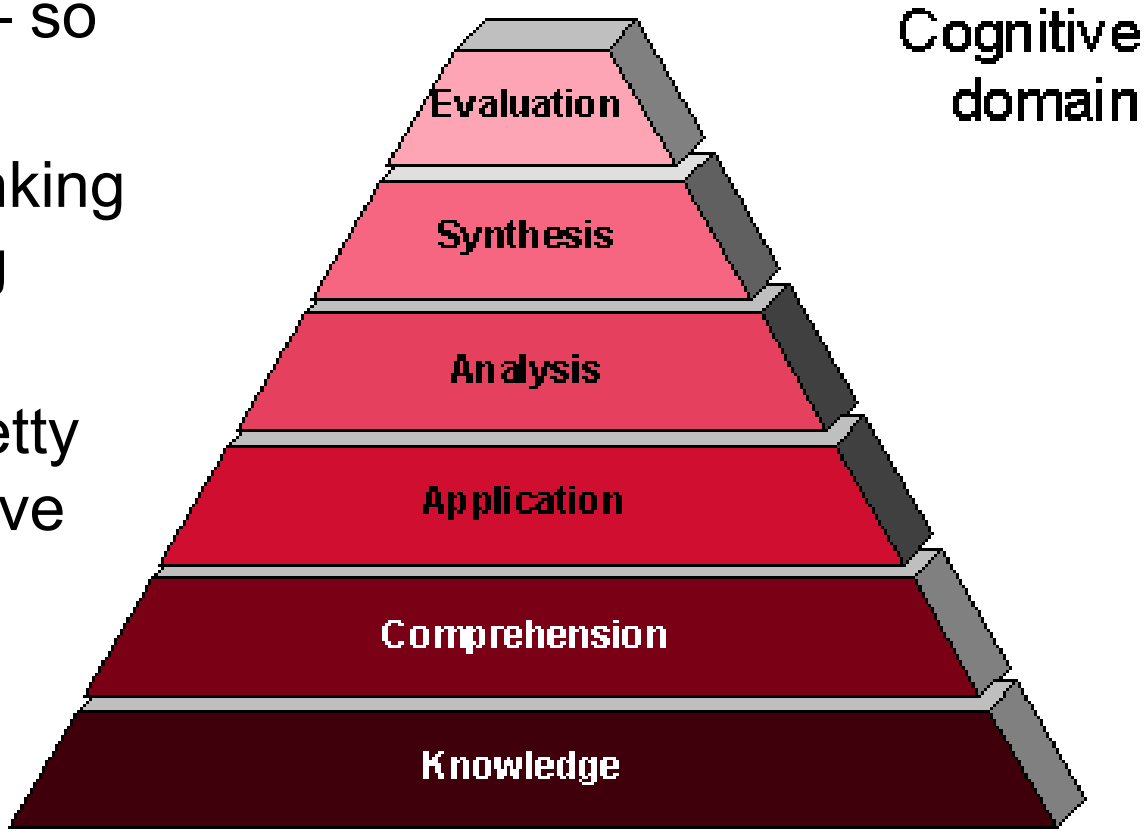
The skills needed to complete the design and make process are bias in one direction, so it is difficult to reach resolution!

Frustration!



Base line Testing

- We have KS2 English, Maths and Science – so how does that help?
- Separate out the thinking skills and the making skills.
- Making is usually pretty low because they have not been taught very much!
- Thinking though will always outstrip the making



Base line Testing

- First question – knowledge and hand skills!
- Draw a square 40mm x 40mm!
- Question on comprehension.
- Copy and enlarge a shape.
- Sequencing – make a cup of tea.
- Analysis of a product.
- Evaluation to improve a product.

What support is there?

- Quality through progression grids
- Moving forward posters
- D&T Association Primary Resources
- the Key stage 3 strategy ideas
- Bridging the Gap

How can we look at keeping progression?

- Focussing on the generic skills needed in designing
  - Generating ideas
  - Managing constraints
  - Adapting
  - Evaluation
  - Communicating skills (talking through ideas, drawing, annotation, 3D modelling, perspective, scale drawings, etc)

TRUCK PROJECT 2010 Today's Date:

Your Name Distance achieved	

NOW EXPLAIN YOUR RESULT…

Did it work? Describe how well you truck performed as it rolled down the slope?	
How well did your wheels turn? What slowed them down? Could you have improved this?	
What words could you use to describe the *movement* of your truck? (wibbly wobbly?)	
Do you think having a *smooth* finish on your truck has helped it go further/faster?	
Compared to the other trucks, explain how well do YOU think yours did? Did your truck go straight? Explain what happened. Why did this happen?	
If you were to design & make this truck again, how would YOU make it better?	

Please describe the stages YOU went through (*in the correct order*) to design and make your truck. *The following words might be useful in this exercise:* • Drilling • Cutting • Measuring • Marking • Sawing What were the names of the machine/tools you used?	(1) (2) (3) (4) (5) (6)

HEALTH & SAFETY

Describe 3 things about <u>safe</u> *sawing*?	
Describe 3 things about <u>safe</u> *drilling*?	
Describe 3 things about <u>safe</u> *sanding*?	
Why do you think health and safety is important when doing D&T projects?	

Focus Practical Tasks –

but with a bit of design thinking involved

The water carrier – can you carry four plastic cups of water with one sheet of A4 card?

Learning the cutting and shaping in wood - pencil holder!!!!

Set out a specification

- must make four cuts,
- must drill four holes,
- Must hold 8 pencils…..

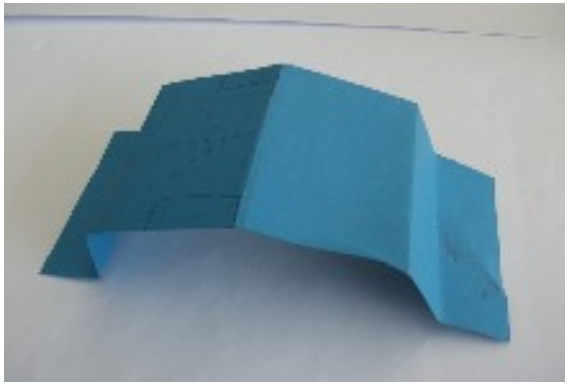
It does not have to be a great design exercise, but just let the pupil try out their own thoughts and then apply to making – What is the worse that can happen?

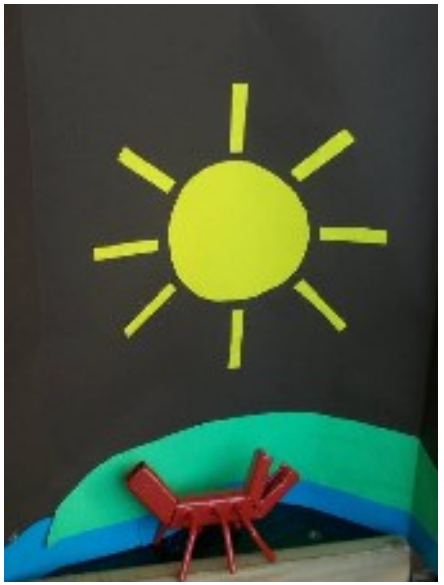
Similar for acrylic ….

The purse, pencil case….
Decoration, size, fixtures……

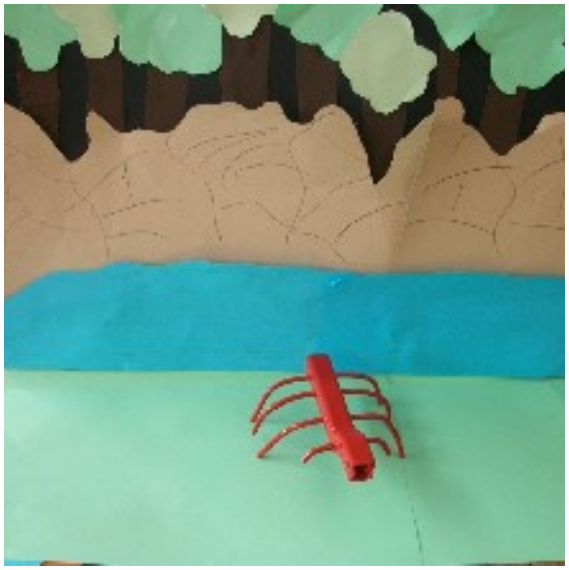
The wooden truck – size limit, how many wheels? Three cuts, drill axle holes …..

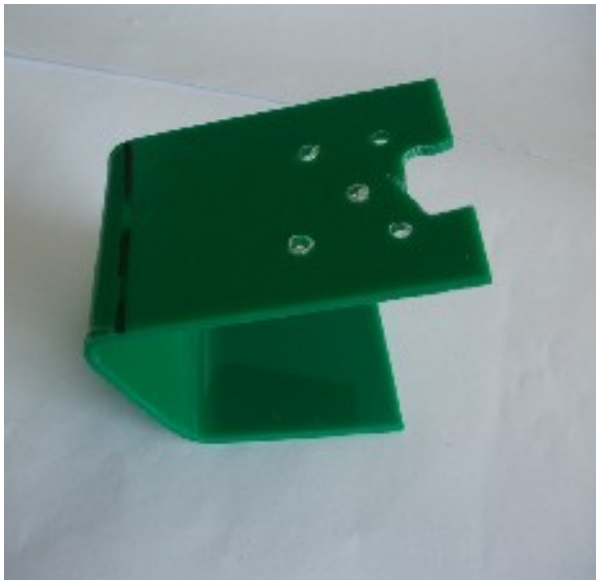
Metal monster- size limit on body, how many legs, teeth, tentacles???

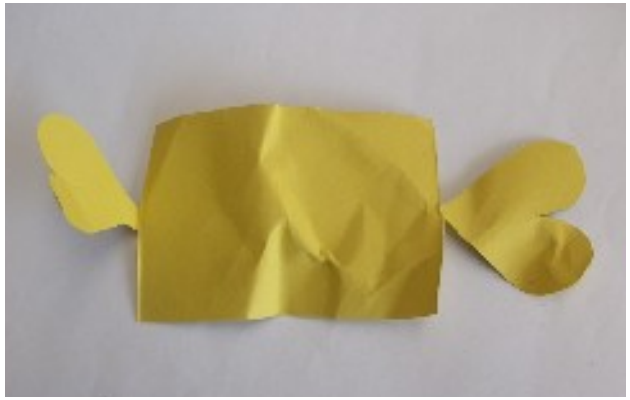




Metal Monsters







First attempt at using acrylic

Bridging the Gap

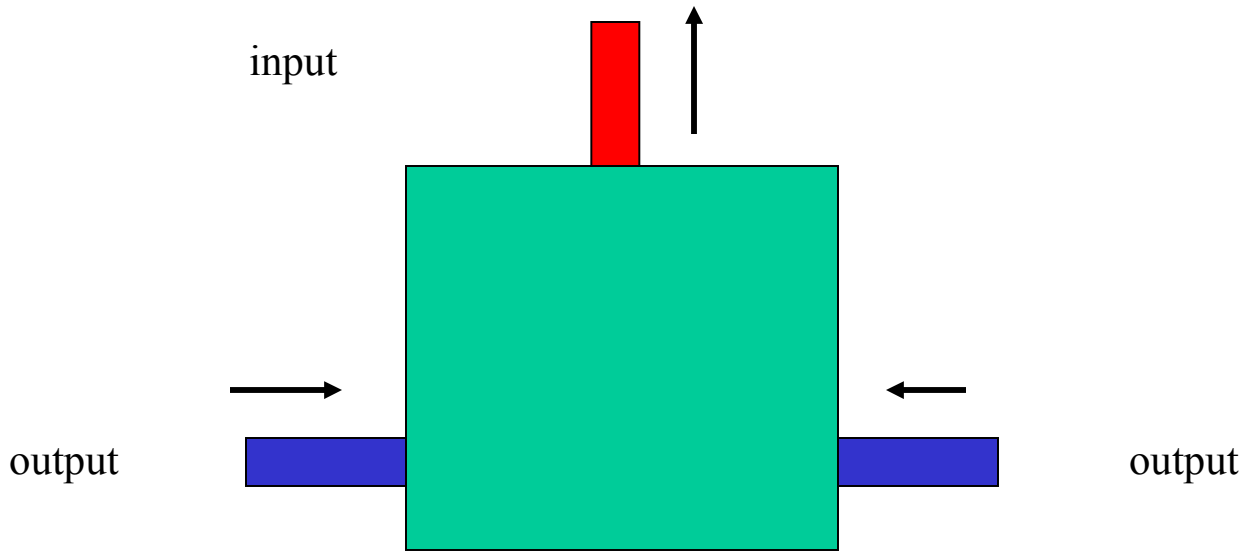
- Contains some useful materials to gauge pupils' previous experience
- Can be done in school or as homework activities
- Provides information on pupils' knowledge & understanding of design and technology.

Assessment Activities

From Bridging the Gap

- What I have done already
- Glove Puppet
- Going on a ‘joint walk’
- Electric circuits.

A practical activity to assess pupils knowledge



What can you assess?

- Knowledge and understanding of mechanisms
- Previous experience
- Technical vocabulary
- Pupils' ability to apply knowledge into other situations
- Construction capability