



# DESIGN SKILLS FOR A CHANGING WORLD



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#InnovateVAM



**V&A**

INNOVATE

This stage is about inventing and exploring multiple possibilities, testing them openly and often, and learning quickly before making well-informed decisions about the right ideas to develop.

This stage involves:

- > Brainstorming multiple ideas
- > Filtering and selecting ideas
- > Rough prototyping and testing ideas
- > Iterating designs
- > Refining to one concept

## ACTIVITIES FOR OPENING UP IDEAS

These activities will help your students open up their creative thinking. Encourage the students to unpick their design opportunity and explore it in multiple ways.

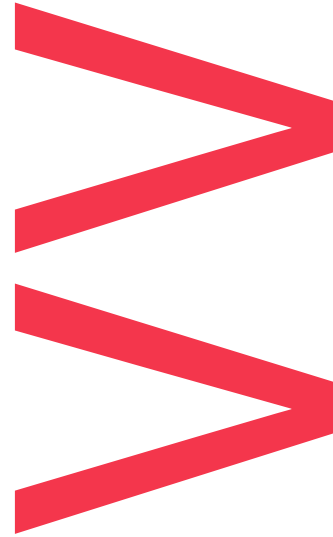
### RAPID IDEATION

Opening up students' creative thinking and generating ideas in relation to their design opportunity.

You will need:

- > Post-its
- > Pens

Give students a series of questions or statements from which they generate ideas related to their design opportunity. Each idea should be written or drawn on a post-it. For each question or statement give students a few minutes to brainstorm. Encourage them to come up with as many ideas as possible. Make a timer a feature in this activity to keep the pace up and reduce any preciousness.



For example: Imagine you have £1 and you need to design a solution to your problem. Now imagine you have £1 million.

Imagine you were designing something for one specific person from your research.

Imagine you were designing something that would reach as many people as possible across the world.

### GROUP SKETCH

Opening up students' creative thinking and generating ideas in relation to their design opportunity.

You will need:

- > Large paper
- > Pens

Each team member sketches an image related to a concept, idea or topic from their research that they want to explore further. Each sketch is then passed to someone else, who draws another related image building on the idea. This is repeated so that each team member adds a drawing.

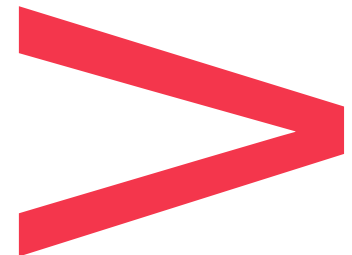
Put everyone's sketches up on a wall. Use The Big Diamond tool to make connections between drawings from different teams. Ask: What visually connects these drawings and why? What would happen if we moved this here, or there? What would happen if we combined these two or three ideas?

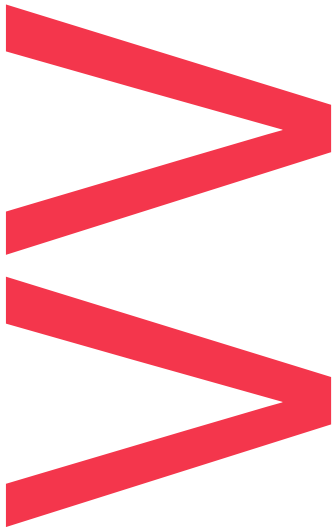
**ITERATIVE IDEATION**  
Developed with designer Tom Gayler

Developing design ideas through a sketching activity that considers function, users and location.

You will need:

- > A4 paper
- > A4 tracing paper
- > Pencil
- > A4 image of an object. Images should be loosely related to the context, either existing solutions, or familiar objects.





First, the students need to create a line drawing of their selected image on a sheet of plain A4 paper.

Then, ask them to place a sheet of A4 tracing paper on top of their drawing.

**Function:** Next, ask them to change the function of the object to match that of their design opportunity, sketching and annotating changes to the design on the tracing paper.

**User:** Then, they will need to place another sheet of tracing paper on top. Students should now sketch and annotate changes to the design, thinking about their user and how they can adapt it to be more useful or more attractive to that person.

**Location:** Next, they should place the final sheet of tracing paper on top. Students should now think about the location of their design opportunity, sketching another iteration to the design to allow it to work in the location, considering the environment and the amenities.

Each student should have made four drawings, each built on top of the last one exploring Function, User, Location.

Students can select one iteration of the design to model and prototype, this can be any of the tracing paper drawings, not necessarily the final one.

### MAKING AS INVENTION

Developed with designer Tom Gayler

Fast paced making skills as part of an iterative, explorative process.

You will need:

- > Range of sketch modelling materials, such as plasticine, card, string, tape, paper straws
- > Camera

**Form:** Ask the students to pick their favourite idea from the 'iterative ideation' drawing phase, and model it in 3D. This object should be kept small (to fit inside a mug) to save on time. Once completed, a photograph should be taken.

**Transform (sensory experience):** Ask the students to emphasise the interaction with or use of their object via one of the senses (touch, taste, sight, sound or smell). Students should then iterate on their prototype, thinking about one particular sense. Photograph again, capturing each iteration of the modelling.

**Instructions:** By drawing a set of instructions (4 x drawings with captions) students should describe how the object is to be used. Students should also describe their user. They should be encouraged to think about starting to use the object, using the object, and finishing using the object.

Ask students to share their ideas with their team and with another team. Each team member should explain how their idea meets their team's design.

## ACTIVITIES FOR PROTOTYPING

When we describe prototyping in this stage, we are describing a method of testing and iterating ideas, not making finished models.

### CRITERIA FOR PROMISING IDEA

Helping students select their best ideas.

You will need:

- > Post-its
- > Small cards or A5 paper
- > Pens of different colours
- > Sticky dots for voting

Ask students to visualise all their ideas from the ideation phase, by sketching, making, storyboarding or mapping them on a wall/floor. Students should then decide which ideas feel strongest. Try using a criteria such as:

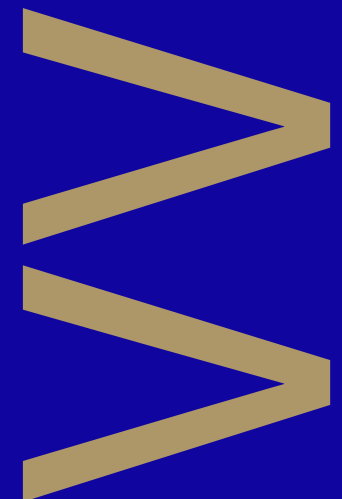
**RELEVANCE** – It relates to our opportunity and the insight in our research  
**IMPACT** – It would have a real impact on the people it's for and clearly answers a problem/meets an opportunity

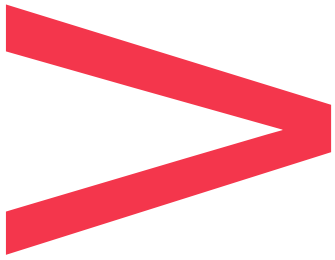
**DELIGHT** – It excites us and will excite others

**FEASIBILITY** – This could realistically be made (cost, materials, manufacturing, sustainability)

Teams rate the ideas, ending up with 3–5 ideas they want to take forward.

Now teams can sense-check those final concepts. Ask them to make models, explaining how they work, with who, and why they are important. Encourage students to share with other teams, listen to feedback and questions, and improve their ideas based on this input.





### PROTOTYPING STRATEGY

Help students build a plan for how they will rapidly prototype their ideas with people.

You will need:

- > Paper
- > Pens
- > Computer

Before they start prototyping their ideas with users, make sure you encourage the students to build a strategy for what they are trying to learn. Define the questions students want to answer through testing.

For example: Does the user understand the idea and how it works? Why would people use my product instead of an existing product? How might people find out that my service exists? If I want this to last over time, what different materials should I test?

Then ask students to define who they need this information from. Who are the target users for their idea? These people might have been involved in your Collect phase.

You then need to decide how you will test your idea. This could be through an interview, focus group, or role play within your team.

### ACT IT OUT

Students put themselves into the situation of the user.

You will need:

- > Paper
- > Pens
- > Range of rapid prototyping materials, such as plasticine, card, string, tape, paper straws

Create a role play and act out the experience of your idea from start to finish from the perspective of the user. By playing it out students will start to identify tricky moments or uncover questions users might ask.

Students then discuss their experience, cluster their feedback, and make changes to their ideas. Then they should test it again.

### CRIT #2: DEFINING YOUR ANSWER

As a class, review the prototyping journeys. Use the Throw a Crit tool to help students reflect and get feedback from each other.

At the end of this stage, students will need to show:

- > Visual evidence of the million and one ideas they generated in answer to their design question
- > Visual evidence of how these ideas were tested, what was learnt and what happened as a result
- > A focussed concept which answers their design question and is clearly born out of testing

*This resource has been co-produced with Ella Britton, V&A Design Thinker in Residence*

