DERBY MUSEUMS

A WHOLE HISTORY OF FORWARD THINKING

DERBY MUSEUMS

Human-Centred Design & Co-production HANDBOOK

Introduction and Context

The vision for Derby Museums is for people to discover their place, in the world.

Our cause and values:
Together we make Derby Museums for the head, heart and hands. We do this by:
• being independent
• fostering a spirit of experimentation
• pursuing mutual relationships
• creating the conditions for well-being (helping people connect with others, keep learning, take notice of the world and give back to the community)
• proving that we are doing it

In our museums we revere people such as Joseph Wright of Derby, the polymath Erasmus Darwin and the clockmaker John Whitehurst. Their curiousness and desire to unlock the wonders of the universe inspired more practical people of industry such as Richard Arkwright to harness nature for manufacturing. Yet unlike the 18th Century, when only those of means were able to feel the pleasure of discovery, we want all our communities to learn new things and explore their creativity. We believe the best museum is a place of encounters. Somewhere people can look at the world differently, form new friendships and be active. Our visitors must feel they are entitled to participate.

Museums enable individuals and communities to learn together. Museum learning is already all of the things much orthodox learning is not: curiosity driven; non-judgmental; non-compulsory; engaging; informal and fun. The people in the future will need to be resilient, creative, resourceful and empathetic systems-thinkers, exactly the kind of capacities museum learning can support. Our approaches not only enable people to learn but to collaborate and create.[1]

Human-Centred Design is used by organisations all over the world to develop products and services:
Human-Centred Design is the discipline of generating solutions to problems and opportunities through the act of making 'something new', driven by the needs, desires, and context of the users for whom we are making it.[2]

The Derby Museums' Human-Centred Design Methodology draws inspiration directly from the 18th Century Enlightenment and applies to our 21st century needs. This is represented beautifully in the work of Joseph Wright (shown below), whose paintings capture the atmosphere and detail of discussions in the 18th Century that shaped the world as we know it.

[1] Happy Museum Paper 2011   [2] Ref: PDD Consultancy

Joseph Wright's representations of 18th Century Enlightenment principles influence and inform Derby Museums Human-Centred Design Methodology. See pages 6-7 for our contemporary version.

| DEFINE | UNDERSTAND | THINK | IMAGINE | MODEL | PROTOTYPE |

About this handbook:

This handbook is intended to support you to design projects, programmes, products and services within your role at Derby Museums. You will probably have had some experience already if you've taken part in ideation sessions or been involved in a recent development project.

The handbook is a living piece of work, regularly updated to reflect our thinking – or as we find/develop new tools. 'Our thinking' includes *your* thinking... so if you have any comments, suggested improvements, or tools you would like to see added - just let us know!

How to use this handbook:

The following pages in this handbook show the overall methods and workflow - guiding you through the various stages, the questions you can ask and the tools you can use to help you answer those questions and move to the next stage. We then expand on these stages and tools with project examples, referenced material and sources for more information.

The best way to use the handbook is to just have a go.

We hope you find the DMHCD handbook useful. If you have any questions, or need help - please feel free to get in touch.

The following people are best positioned to help:
Hannah Fox, Andrea Mercer, Andrea Hadley-Johnson, Daniel Martin and Chris Keady.

Joseph Wright Paintings from left to right:
A Philosopher by Lamplight (or an Hermit), 1769.
The Alchymist, in Search of the Philosopher's Stone, discovers Phosphorus, 1771 & 1795.
A Blacksmith's Shop, 1771.
An Experiment on a Bird in the Air Pump, 1768. (National Gallery, London)
A Philosopher Giving that Lecture on the Orrery, in which a Lamp is put in the Place of the Sun, 1766.

Contents

TEST　　　　EVALUATE　　　　PRODUCE　　　SHARE

WE ARE MUSEUM

We want people to have collective and meaningful experiences in our museums and to ensure what we do is relevant to their lives, we work together with our stakeholders - listening to, understanding and responding to our collective needs - for mutual benefit. It's 'human-centred' because it starts with people! It's 'co-production' because we do it with people, not to them...

A quote widely attributed to Benjamin Franklin (who visited the Silk Mill in 1771) and which is understood to have originated with Master Xun - a 3rd century BC philosopher and teacher - gives us an important guiding principle:

'Tell me and I forget, teach me and I may remember, involve me and I learn.'

When we co-produce with our communities - including volunteers, partners, audiences - we have a greater understanding about our collective motivations and needs, rather than simply assuming that we know. The programmes and other outputs we design and create are then much more relevant and accessible to a wider range of people. By co-producing, we are learning from each other; exchanging knowledge and expertise; sharing experiences; building our communities.

Co-production Logic Model

You can use a logic model as a template to draw up your own project or programme with colleagues or project partners.
The top sections 'inputs/activities/outputs/outcomes/impact' usually stays the same, but there are lots of different ways you
can lay them out. Search 'logic models' on the internet to see some options. A logic model can help you to:
- *Plan a new project. It can help you to think about the need and what you will do to address that need.*
- *Communicate your thinking to people who support or benefit from your work.*

VALUES

DERBY MUSEUMS

A WHOLE HISTORY OF FORWARD THINKING

The vision for Derby Museums
is for people to discover
their place, in the world.

Principles of the
18th Century Enlightenment:
Humanity
Experimentation
Tolerance
Understanding
Questioning

Five Ways to Wellbeing:
Connect
Give
Take Notice
Keep Learning
Be Active

INPUTS

TANGIBLE ASSETS:
Collections
Buildings

RESOURCES:
People
Finance

PARTNERSHIPS:
Skills
Knowledge

MUSEUM

TOGETHER WE MAKE DERBY MUSEUMS

'**MUS**EUM - TOGETHER WE MAKE DERBY MUSEUMS'
is a sub-brand of Derby Museums and is intended to:

- encourage people to become co-producers either as volunteers, partners, funders;

- communicate that we believe the most meaningful partnerships are built upon active involvement, shared values and fun;

- encourage our communities to see Derby Museums as places they feel actively part of.

This sub-brand can be used across literature you produce to promote our co-production opportunities and engage new audiences and partners.

APPROACH & METHODOLOGY

Use human-centred design to ensure that what we are doing is relevant and meaningful.

Co-produce with our communities to ensure our civic institutions are sustainable & useful through active participation.

ACTIVITIES & OUTPUTS

Co-produced, sustainable programmes, displays and spaces are globally connected but locally designed and delivered for enjoyment and learning through participation.

OUTCOMES & IMPACTS

Derby Museums are somewhere people can learn about themselves, look at the world differently, form new friendships and be active.
Creating opportunities and new approaches for lifelong learning, skills and enjoyment.

We enable people to
THINK - FEEL - DO
(HEAD - HEART - HANDS)
and it
MAKES A DIFFERENCE

ADVOCACY

FUNDRAISING

VOLUNTEERS

STEM AMBASSADORS

YOUNG MAKERS

PARTNERS

FRIENDS OF DERBY MUSEUMS

COMMUNITY GROUPS

STAFF

SUPPLIERS

TRUSTEES

FUNDERS

VISITORS/PARTICIPANTS

RESOURCES & KNOWLEDGE

TIME & SKILLS

ENGAGEMENT & FEEDBACK
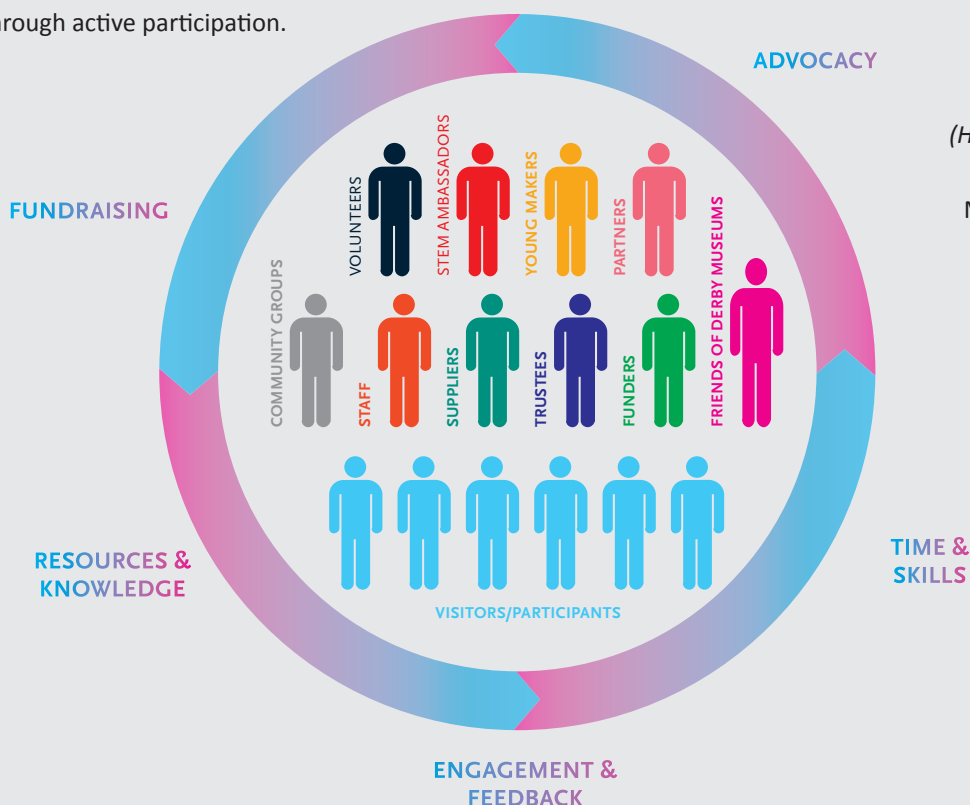
Derby Museums Human-Centred Design Workflow

reflect and redefine   *reflect and redefine*

reflect and redefine

What are you trying to do? Who is involved?

Why are you doing it?

What ideas do you have?

reflect and redefine
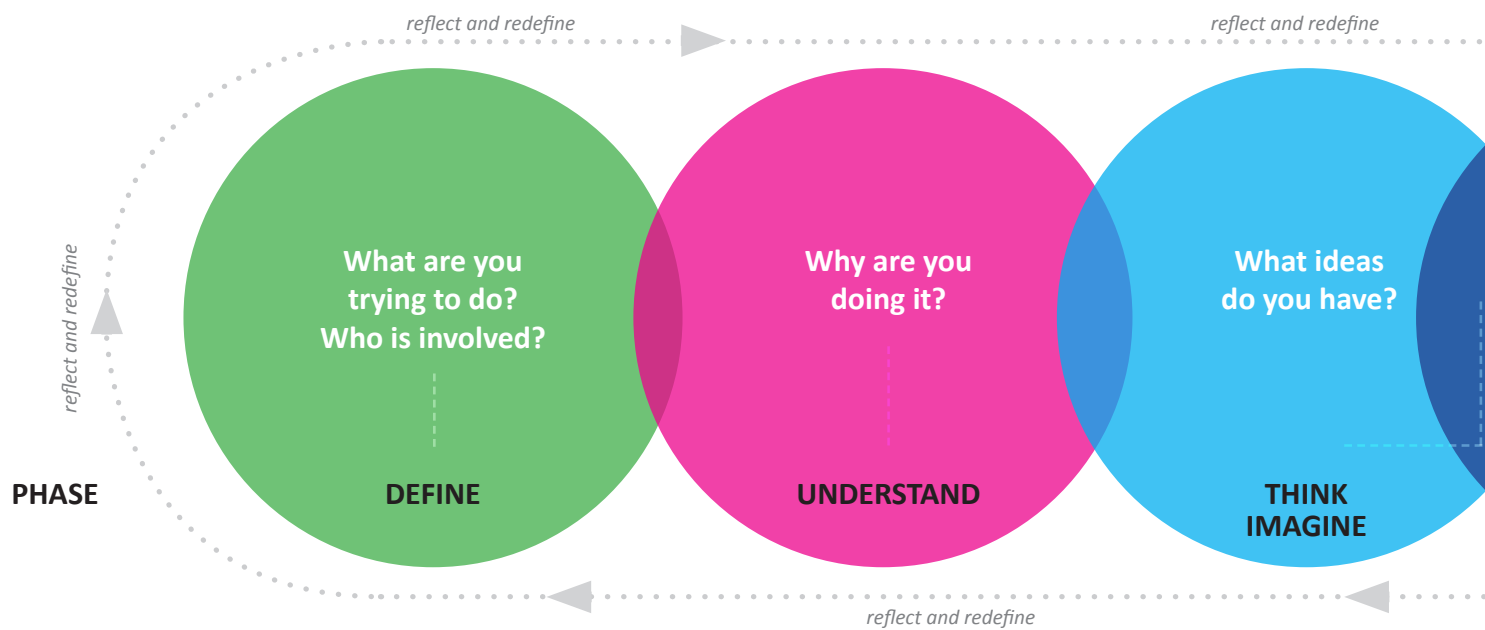
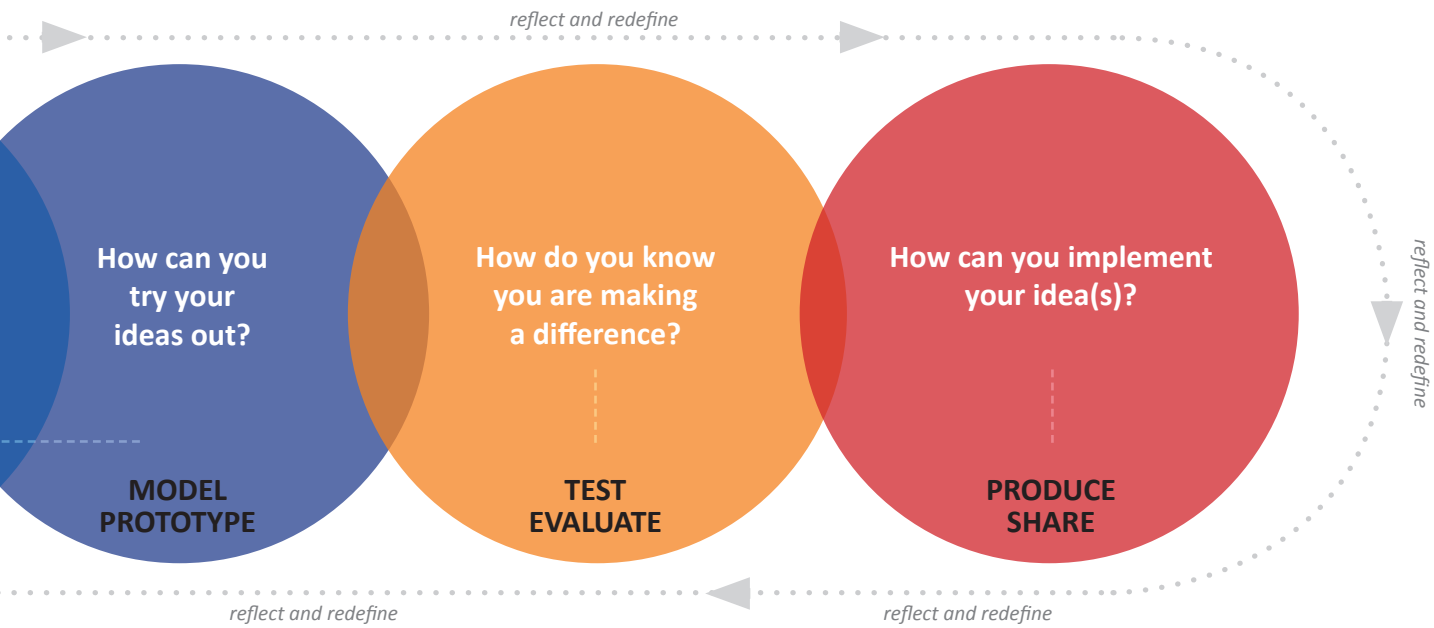|	DEFINE	UNDERSTAND	THINK IMAGINE
PHASE			
QUESTIONS you can ask	**What** is the issue you are trying to solve? **What** are your guiding principles? **Who** is the audience? **Who** are the partners? **How** urgent is this? **What** does success look like? **What** are the available resources/constraints?	**What** are your assumptions/hunches? (brainstorm) **What** does your primary research tell us? (End users thoughts) **What** do you find when you go deeper? (including other examples of people meeting this type of challenge)	**What** are the needs and motivations of your end-users? **What** analogies could you draw on to help you? **What** are your initial ideas? **How** can you take these ideas even further?
METHODS to help us answer the questions	**Create** our 'How Might We' (HMW) question/s **Develop** initial project team after inviting everyone to contribute **Ideation Session** to **Brainstorm** who might have the same or similar issue, or an interest in yours - invite them to join the conversation.	**Set up** a Project Lab **Research** and Surveys **Interview** with empathy **Audience/stakeholder** workshops	**Generate** as many ideas as possible to serve these identified needs (wild ideas are welcome!). **Get** as many views as possible. **Ideas** tracking
TOOLS we can use	**Audience** development toolkit **Volunteer** framework **'How Might We'** Question (pg 10-11) **DM Learning** Strategy **Project Lab** (pg 8-9)	**Empathy** Map Template (pg 16-17) **Visitor** surveys - analogue and digital (social media etc) **Sector/Industry** surveys - analogue and digital (inc social media)	**Brainstorm** guidelines (pg 13) **Smart** Boards **Social** Media/online **Project Lab** (pg 8-9)
INTERNAL REFERENCES we can look at	**DM Vision**/Cause/Principles **DM Business Plan** **DM Learning** Strategy **Audience** Development Strategy **Previous** projects	**DM Vision**/Cause/Principles **DM Business Plan** **Audience** Development Strategy **Previous** projects	**Audience** research **Ideas** library **DMHCD** Process
PEOPLE who can tell us more or help us	**Executive** Director and Exec Team **Audience** & Communities Team **Volunteer** Coordinator **Visitor** Services Manager	**Executive** Director and Exec Team **Audience** & Communities Team **Volunteer** Coordinator	**Other** colleagues **Other** organisations

You can use this process from the beginning, or dip in at relevant points but do try to ensure that you are at least checking off that you have considered each section, as they are there to help us realise our projects and activities to their fullest potential for everyone involved. You may also find that you have to repeat some steps in order to fully explore and test your ideas, redefining as you learn more...

reflect and redefine

reflect and redefine

reflect and redefine

reflect and redefine

How can you try your ideas out?

MODEL PROTOTYPE

How do you know you are making a difference?

TEST EVALUATE

How can you implement your idea(s)?

PRODUCE SHARE

Which ideas are strongest? **Can** you combine, expand and refine our ideas? **What** do other people (including your users) think of these ideas? **What** resources do you have or need to prototype idea(s)?	**What** tools are you using to track the level of success? **Did** it work? **What** do people think and feel (including you?) **How** can you improve? **Do** you need to redefine?	**What** resources do you have? **Who** will be part of it? **What** are the tasks? **How** are you tracking success? **Who** could you be telling about what you are doing? **How** could you be telling them? **What** is your next HMW 'How Might We' question? **How** does this feed into your other work or the work of others?
Seek feedback. **Present** a selection of ideas to the user. **Reserve** judgement and maintain neutrality. **Create** and present actual working prototype(s)	**Gather** feedback & data, document. **Measure** success. **Review** the objective (HMW) and Journey Mapping outcomes against the prototype experiences **Determine** if the solutions met the original HMW (Set aside emotion and ownership of ideas.)	**Determine** resources. **Plan** and assign tasks. **Make**/produce. **Deliver!!** **Measure** the outcomes. **Share** the outcomes...
Project Plan Template **Workshop** resources **Project Lab** (pg 8-9)	**Evaluation** framework **Logic** Model (pg 4-5) **Online** platforms (e.g. Tumblr) **De-brief** meetings **Project Lab** (pg 8-9)	**Project** Plan template (pg 22) **Presentation** template **Evaluation** framework (pg 23) **Social** Media/online platforms **PR/Marketing**/Film/Photography
Evaluation library - case studies **DMHCD** Process **Journey** Maps	**Evaluation** library - case studies summary reports learning logs	**Evaluation** summary reports **Presentation** examples **PR/Marketing** strategy
Other colleagues **Other** organisations	**Other** colleagues **Other** organisations **SM Workshop** supervisor **DM Technician** **Audience** & Communities Team	**Other** colleagues **Other** organisations **Co-production Team** **Wider Management** & Exec Team **Audience** & Communities Team

Developing Project Labs

We usually start our projects with a Project Lab. The Project Lab can happen at the beginning of a project, or it can pop-up in different forms throughout, dependant on the parameters e.g. timeframes, different project stages etc.
Project Labs provide an essential space in our human-centred design process, for questions to be asked, ideas to be shared and strong connections to be made. They take many different forms - large and small, tangible and digital, short or long - but all are designed to encourage dialogue and new understandings between ourselves and our audiences, partners and even each other.

We mind-mapped the following thoughts about Project Labs, to help you understand the principles and approaches when thinking about setting up one yourself. Pages 10 -15 show you moments when you might consider using a Project Lab (in dark grey) but you can use them whenever you need to.

What is a Project Lab for?
It creates space for you to:
- shape and inform the whole project or a strand
- involve
- check your definitions and understanding
- prototype
- share and exchange Ideas and inspiration
- ask questions
- share progress
- understand collective needs and draw insights
- make connections
- encourage openness and transparency

What does a Project Lab give you the opportunity to do?
- gather and survey opinions
- capture desires and needs
- make the project tangible
- share (both ways)
- create dialogue between you and audiences, others
- raise the profile of how/why you do the things you do
- promote your approaches, the spaces and the project
- get people excited
- connect, engage and involve
- break down barriers
- ask difficult questions
- generate ideas
- create opportunities to think, feel, do
- experiment
- play
- discover
- respond
- attract partners and volunteers
- observe behaviours
- generate new knowedge and skills
- listen and reflect

How should a Project Lab feel?
- safe (friendly and non-judgemental).
- reflective of the brand and/or a flavour of the project
- interactive - things to do, encouraged to take part
- inviting (language and design)
- visible
- considered (design, accessibility)
- accessible
- motivational
- responsive
- multisensory where appropriate (e.g. include sound?)
- up-to-date
- thought provoking
- scaleable

What resources are available for a Project Lab?

- people (staff/volunteers/partners) for skills/capacity
- objects/collections
- social media platforms
- email database
- marketing strategy
- post-it notes, flip charts
- cameras
- iPads
- low cost resources - e.g. paper, plasticine, tape etc.
- workshop equipment - Laser cutter, 3D scanner/printer bench tools, printers/computers etc
- magnifying glasses, microscopes

What spaces can you use for a Project Lab?

- digital - social media, blogs, forums, website
- museum - (e.g. galleries, notice boards, tables)
- takeover days
- planned workshop sessions

What tools/methods can you use in in Project Lab?

- empathy & behaviour maps (emotions, dwell, flow etc.)
- surveys – on-site and on-line
- hashtags
- interviews
- film/photography/drawing/audio recordings
- google apps - (e.g. maps, forms, apps e.g. hangout, docs)

DEFINE

What are we doing?
Who is involved?

Open first internal 'Project Lab'

Invite all staff, volunteers and partners to contribute. This could be an email forum, an ideation session, a comments board in the staff spaces (ee page 8 for more on project labs). Create blog if possible.

Define the first 'How Might We?' Question

- Who is involved?
- Who is this for?
- What are we trying to achieve?

Make some initial assumptions to define challenges and opportunities. Brainstorming, asking questions in the Project Lab, empathy mapping (see page 20) and developing problem statements/points of view can help create the first How Might We?

Decide your approach and define your resources

- Who is in the initial project team?
- How much time do you have?
- What resources do you have? (People/Funding/spaces/skills)
- What does success look like?
- What are your guiding principles?
- Who else might have similar issues and could be involved or connected?

Produce Project outline connected to the guiding principles and the How Might We? Also include any knownoutcomes and outputs. (This could be a project scope or logic model if useful.)

What is the problem you are trying to solve or the challenge you are striving to meet? What is stopping you from doing this already?

Why ask a 'How Might We' question?

How Might We (HMW) questioning was developed by Min Basadur[1] four decades ago and is used as a creative way to approach an issue or a challenge.

It promotes a sense of positive collaboration and offers a more effective way of framing a place to start compared to *'How can we do this?'* or *'How should we do that?'*

Both of these statements can result in the immediate response of *'we can't do this'* or *'we shouldn't do this'*. Importantly, the HMW also importantly encourages a sense of enquiry that resonates with the spirit of Enlightenment that runs through Derby Museums' collections and narratives.

How to formulate your HMW?

The HMW questions are sometimes best formed by asking *what is stopping us doing this already*, then thinking of a point of view or problem statement (see opposite) someone could have about the challenge or situation. The empathy map (page 20) might help you do this.

UNDERSTAND

Why are we doing it?

Open first public 'Project Lab'
to Listen/Observe/Engage.
This is where we can review and test our primary assumptions and knowledge with our audiences and partners - existing and target.

Where should the Project Lab be to help us observe at source and reach the right people? Does it need to be on neutral ground?

Research and Empathise
Use Q&As in the project lab, audience/stakeholder workshops, online/person-to-person surveys, behaviour and empathy maps.

- Do our assumptions match reality?
- After primary research, what do we discover if we go deeper?
- Has anyone met similar challenges that we can learn from?
- What can we reveal if we ask questions in new ways?

Review the HMW
Does it need to be adjusted or redefined as a result of what we now know?
- Does the HMW reflect the difference we want to make?
- Does it set the right tone and reflect our desired approach?
- Can it now be written as the Project VIsion?

Project Lab
Share what we learned and how we learned it.
If we have a project blog - update it regularly.

An example of formulating a HMW

The Challenge - Development of a new learning programme for hard-to-reach young people.

Through assumptions and deeper research, you might know:
- teenagers think museums are boring and uncool
- we aren't delivering programmes to meet KS4 curriculum
- current programmes don't seem relevant to young people's lives
- there are additional needs that you may not be equipped to deal with
- you don't know how to communicate with teenagers
- the atmosphere at the museum turns young people off

The point of view or problem statement could then read: -
Disaffected young people feel that museums aren't for them - that they are boring and not cool, full of old people or screaming children.
They don't actually know what we do as we don't talk to them directly and museums don't feel like places that help them improve their lives.

Resulting HMW - 'How might we develop effective learning experiences for young people at our museums that excite and engage them, enabling them to feel comfortable, safe and valued?'

Through this process the HMW gives much more information and ways to explore the challenge than 'How might we develop a new learning programme for hard to reach young people?'

It gives you something to check your project against, asking *'Have we achieved all of the elements in our original HMW?'* *'Do we need to redefine the HMW, given what we have discovered?'* You may find that new HMW questions to explore emerge...

[1] Basadur - Applied Creativity. http://www.basadur.com/

THINK/IMAGINE

What ideas do we have?

Seek Inspiration

- What needs and motivations do people have?
- What insights can you draw from this?
- Can you draw analogies with other places or experiences?

Review the information you have gained from the previous phases. Brainstorm analogies (see below) to help you look in new places for inspiration. Draft journey maps to show touch points and help you plan how you can design to meet needs and motivations.

Generate lots of ideas

Take the needs and motivations you have defined and, drawing on our analogies and experiences, brainstorm and generate lots and lots of ideas that might help meet those needs. *(Make sure there is a 'Yes, and...' attitude - see right-hand page.)* Get as many views as possible, encourage wild ideas and build on the ideas of others.

Analogous thinking

You can draw analogies to parallel places and experiences that enable us to think more widely when generating ideas to design our solutions and products. Start by listing the activities, behaviours, needs, motivations, emotions etc. you have identified. Then generate suggestions about settings or situations you can think of where these would be similar.

Are there any that you could visit for an observation and inspiration visit? If so, when you make your visit, pay close attention to what you are aiming to understand, but keep open to all kinds of other inspiration.

Analogous thinking examples

Design challenge	Demographic	Activities, behaviours, emotions.	Needs, motivations.	Analogies
How might we create an outstanding visitor welcome in our museum?	Mother with three children under the age of five visiting the museum for the first time.	Juggling young children & buggy, A bit tired and stressed. Worried whether there is anything for her children's age.	To feel welcomed, calm and looked after. Needs place for the buggy to be stored. Wants children to be engaged. Needs to easily find the way around.	Top class hotel/spa. Supermarket trolley store. Ikea/Disney Store. Playground with seating. Tube map. Hospital way-finding.
How might we engage young people not in employment, education or training and enable them to gain the skills and experience to find the right job for them?	22 year old man who has been out of work since leaving school/college.	Feels devalued and demotivated. Thinks he is being judged. Doesn't see museums as relevant to his life. Appears apathetic.	Needs to gain experience. Wants to take first steps but unsure how. Needs to feel valued and part of something important. Needs to feel inspired into action.	USA summer-camp workers. Prince's Trust start-up. Football club players/ supporters. Army training. Motivational speaking sessions. 'Meet your hero' autograph signings.

MODEL/PROTOTYPE

Let's try some out.

Open first public 'Project Lab'
to Listen/Observe/Engage.
This is where you can review and test your primary assumptions and knowledge with your audiences/partners - existing and target.

Research and Empathise
Use Q&As in the project lab, audience/stakeholder workshops, online/person-to-person surveys, behaviour and empathy maps.

- After primary research, what do you discover if you go deeper?
- Do your assumptions match reality?
- Has anyone met similar challenges that you can learn from?
- What can you reveal if you ask questions in new ways?

Review the HMW
Does it need to be adjusted or redefined as a result of what you now know?
- Does the HMW reflect the difference you want to make?
- Does it set the right tone and reflect your desired approach?
- Can it now be written as the Project VIsion?

Project Lab
Share what you learned and how you learned it.
If you have a project blog - update it regularly.

Yes, and...
At the heart of creativity is the ability to get excited about ideas, to think with a 'Yes, and..' attitude, believing that 'anything is possible!'. If we try to open ourselves up to that feeling, who knows where it might take us?

Adopting that attitude while generating ideas has real impact and you can warm up before brainstorming by doing some positive improvisations or ice-breaker games.

Conversation starters
Sometimes it can be good to just get things going in a workshop or Q&A session to help you guage people's initial views and kickstart ideas. Ask follow up questions quickly once things get going.
If the conversation doesn't get started quickly using a starter, don't be precious - just move onto the next one. Examples... In a Nature Gallery Project Lab workshop we asked 'Have you ever seen nature beating the odds?' A young person's response was: 'Yes, when there is a plant poking out through a crack in the pavement?' This then started lots of follow up conversations in the groups. Another example might be: 'If you had a shell like a crab, what would it need to protect you from?'

Principles of brainstorming

Brainstorming as a group (5-9 people with post-its) can be a very positive experience.
Encourage high energy and no more than
15 minutes per topic or question.
Standing up is good.
As soon as a post-it is on the wall, it doesn't belong to the individual – it belongs to the group...

There are some other guiding principles that everyone should be clear on:
- defer judgement (both negative and positive)
- encourage wild ideas - all ideas are good
- build on the ideas of others
  (don't shut ideas down, explore them)
- stay on topic
  (put other discussions in the car park)
- have one conversation at a time
- be visual
- go for quantity over quality

Once you have a full set of ideas you can then start refining, or taking one idea and start brainstorming further...

TEST/EVALUATE

Is it effective? What needs to change?

Project Lab
Sharing prototypes, seeking feedback and ideas of ways to improve.

Project Lab
Share findings and where you're planning to take it next... How can people find out more or be involved in the next steps?

It's vital to be able to track and document your progress so that you can see:
• what is and isn't working
• what can be improved
• whether you need to redefine your HMW
• if you had unexpected yet amazing new insights as a result of your prototypes

The Project Lab is the ideal environment to test and evaluate - remember that the project lab can move and change through the project to meet the needs of the phase you are in and the people you are engaging and working with.

Think about the tools you want to use to track the level of success. They can be as simple as emoticon sheets for children to say how they felt about an experience, through to surveys or even physiological tests as we trialled in Re:Make! Ensure that team members know these tools are available and how to use them.
• Define what you need to evaluate, and who this might involve.
• Understand why you are doing it.
• Gather, record, collate, measure, analyse
• Share, respond to, act on the evaluative information as it comes in.
• Test and trial methods of evaluation
• Share the outcomes of your evaluation - internally and externally.

What did people think, feel, do? What do you need to change?

Asking Questions
What is and isn't working?
What did people (inc you) think, feel, do?
What happened that was unexpected?
How can you improve?
Do you need to redefine your HMW or ask a new one?

PRODUCE/SHARE

How do we make it happen?

Look what we made together!

Final Project Lab
Share tasks that people can get involved in. Communicate progress.

What difference did we make?

Make final plans

Assess the findings and determine the next steps to create a project plan -
- What resources are needed to make this happen? If they aren't available - can you source them or is there another way?
- Who should be involved?
- What are your deadlines and tasks?
- Are there opportunities to feed this into your other areas of work or the work of others?
- How are you tracking success?

Measure and Share it!

Measure the final outcomes (including think/feel/do/make a difference) - evaluate the full project and create a final case study and lesson log.
Reflect on your original or redefined HMW questions.
Seek opportunities to launch and market the project via PR/Marketing.
Seek opportunities to share and promote the project to the sector via presentations, symposiums, visits, conference papers.

Produce and deliver the final work!

Celebrate, credit and retain

Seek opportunities to celebrate the project with participants and funders. This could be anything from a final party/private view; a published book or film; featuring names as credits in public spaces; to simple thankyou letters and shout-outs via social media. Ensure that volunteers and partners know what they can get involved in next and proper hand overs happen with new project teams.

How does this feed into your next project?

Project Lab
Moves into a review and improve mode if desired.

Derby Museums' Empathy Map Tool

Put yourself in the position of the people you are designing for.
When they experience either the current offer, or the imagined offer
- what will they be thinking, hearing etc.? You are making assumptions
using an Empathy Map, but you can also use it directly with the people
you are designing with or for as a way to capture their thoughts.
Complete in the suggested numbered order.

7 What do the

PAINS
fears
frustrations
obstacles

6 HEARING?

What other thoughts and feelings mi

5 DOING?

1 I am (demographic)

2 My task/challenge/experience is...

What am I...

y **THINK** & **FEEL?**

GAINS
wants/needs
measures of success

3 **SEEING?**

4 **SAYING?**

ght motivate their behaviour?

Example - RE:Make

| PHASE	DEFINE	UNDERSTAND	THINK & IMAGINE
QUESTIONS we asked	How might we: • represent and embody the Silk Mill's past and present heritage and be relevant and resilient for the future of Derby and Derby's citizens? • expand our experimental approach through this project? What we understood… • We started to realise that Derby is a city all about Making… with the Silk Mill as the birthplace of modern making and Derby as a city of Makers… • We redefined the need to expand the theme of STEM to STEAM. • We looked at how and where the Maker Movement is influencing the need to develop skills, enabling meaningful experiences as well as facilitating telling stories.	How might we: • do it WITH our community as part of our public programme? • understand if the process of being active citizens in designing and making impacts on happiness and wellbeing? • become a more resilient organisation, by using resources more effectively and learning to understand each other better? • find a better way of working? • raise aspirations and increase the confidence/skills of participants/staff? • demystify and develop deeper understanding of material culture? • change the way people perceive us and use our spaces? • encourage people to be makers, not simply consumers?	How might we: • discover what is unique to Derby? • understand our audience needs and motivations? • actively discover what people like to create and make? • understand how an object can make you feel? • define our business needs? • solve issues around the display of our collections? • use our museum spaces to inspire creativity and making? • discover deeper stories and narratives? • experiment with our collective ideas? • explore who else needs to be involved?
METHODS we used	• Our 'How Might We' question: How might we use the making of the museum of making, to inspire the city of makers? • Experimental public programming. • Brainstorm sessions. • Recruited Makers-in-Residence.	• Project Lab to gather partners, volunteers and stakeholders thoughts and ideas. • Object stories and handling workshops. • Co-design Workshops. • Refurbishment of ground floor space and fit out of workshops with kit. • Re:Veal Preview.	• Project Lab for co-design workshops and object handling workshops. • Give/Get Model enabling participants to GIVE time, skills and knowledge in exchange for GETTING something back, which we could enable.
TOOLS we used	• How to develop a How Might We… • Social Media. • Empathy Mapping.	• Happy Museums Story of Change. • Empathy Mapping. • Life Survey. • Google Drive, Social Media. • Team Lab/Project Plan.	• Design Team Meetings. • Brainstorm Guidelines. • Social Media/Blog.
REFERENCES we looked at	• DM Vision/ Cause/ Principles. • Business Plan. • Maker Movement. • Happy Museum Project.	• STEM TO STEAM • The Participatory Museum - Nina Simon. • Institute of Making.	• Derby City Masterplan. • Regeneration Strategy.
PEOPLE who told us more or helped	• Exec Director and Exec Team. • Project Partners (Rolls-Royce, Make Media, Schools, etc).	• Bauman Lyons Architects. • Design Production Supervisor. • Makers in Residence. • Citizen curators. • Derby College students. • Filmmaker.	• Citizen makers & Audiences. • Bauman Lyons Architects. Design Production Supervisor. • Makers in Residence.
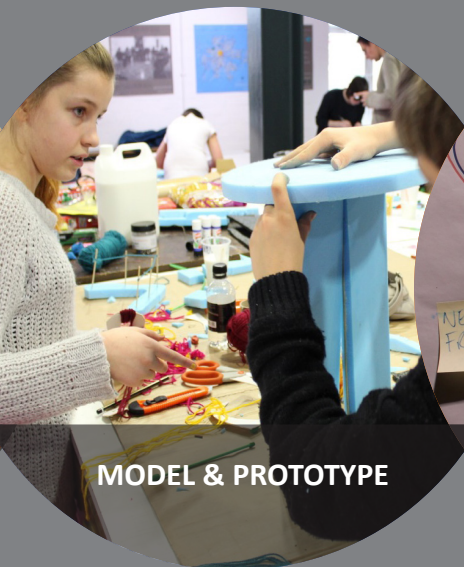
MODEL & PROTOTYPE
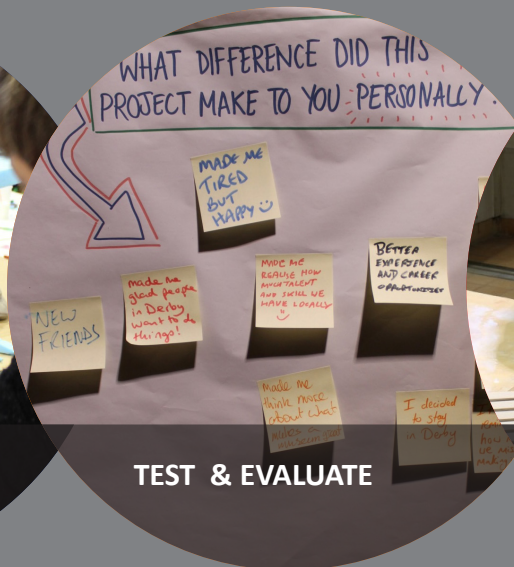
TEST & EVALUATE

PRODUCE & SHARE

How might we:
- take our strongest ideas into prototype form?
- bring new people into the project?
- test which materials might be best to work with?
- construct initial low cost models of the furniture/fittings?
- capture our progress?
- understand what other people think about these ideas and designs?
- capture whether this is making a difference to people's wellbeing?

How might we:
- refine our prototypes?
- test the longevity of the materials?
- improve on what we've created?
- improve the process of making?
- decide what we will take forwards?
- measure our emotional responses to
- designing and making?

Are people happier as a result of being involved in these activities?
What have we learned?

How might we:
- use the most efficient processes to make the furniture?
- procure additional resources do we need?
- bring new people into the project?
- share the skills and techniques we've learned with others?

Who should we be telling about what we are doing and why?
How should we be telling them?

How can the processes and learning from this project feed into our future work and the work of others?

- Half scale prototyping workshops.
- Full scale prototyping workshops.
- Explored collection needs and design solutions.
- Designed a clinical evaluation programme with University of Derby.

- Used evaluation framework - including University of Derby study and meet-up sessions with participants/volunteers.
- Project lab for testing and evaluating the prototypes.
- Shared via social media and tumblr for feedback.

- Co-make workshops.
- Full design frameworks created.
- Efficient making processes were exchanged and shared.
- Hosting visits.
- Value of the Arts for Health report.
- Conference sessions nationally and internationally.

- Brainstorming Guidelines.
- Workshop kit, equipment and materials.
- Health and Wellbeing Assessment tool.

- Happy Museum Evaluation
- Workshop equipment and software
- Brainstorming Guidelines
- Empathy Mapping

- Marketing/Interpretation materials
- Workshop Equipment and software.
- Social Media
- Film - bit.ly/remake10, Tumblr
- In-person!

- Large variety of Health and Wellbeing Assessment guidelines.
- Happy Museum SROI.

- Original How Might We questions.

- University of Derby.
- Citizen makers & Audiences.
- Bauman Lyons Architects.
- Design Production Supervisor.
- Makers in Residence.

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- Citizen makers & Audiences.
- Bauman Lyons Architects.
- Design Production Supervisor.
- Makers in Residence.
- Museums Journal/MuseumNext/Museum ID
- AAM conference/MA conference 2015
- Jasper Visser/Nina Simon.

Example - Notice Nature, Feel Joy
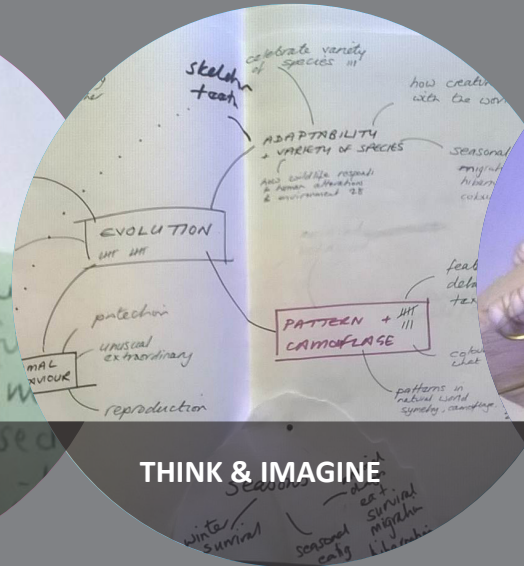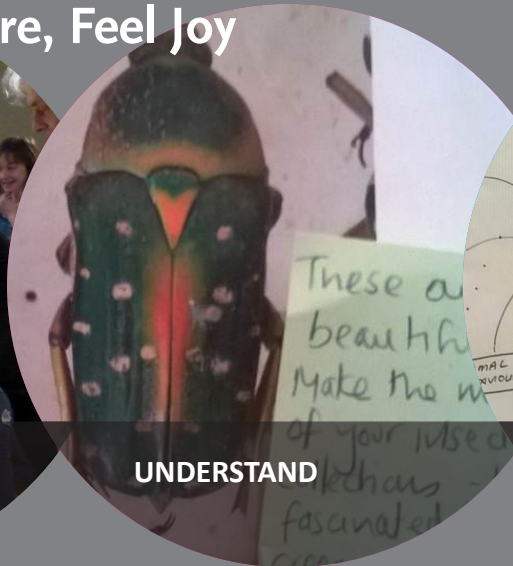
| PHASE	DEFINE	UNDERSTAND	THINK & IMAGINE
QUESTIONS we asked	How might we: • co-produce our natural history collection to ignite curiosity and the desire to find out more– engaging people emotionally and creatively as well as historically and scientifically to connect with their 'own natural world'? • gather opinions from visitors near and far to shape and inform the exhibition? • ascertain what people would like to see, feel, think and do in the gallery?	How might we: • synthesize responses into a workable set of layout/interpretation options? • best populate the space, ensuring key sight lines and optimum flow? • embed wellbeing and connectivity with nature to underpin the project? • ensure we select the best specimens without an in-house natural history curator? • emphasise the collection as a creative as well as scientific/historical resource?	How might we: • translate Project Lab ideas to support draft layouts? • change the pace of the gallery to make it dynamic, encouraging active looking? • engage visitors who told us they had no access to nature? • design fixtures/fittings to reflect collections they hold, encouraging people to take notice? • show relevance of historic taxidermy to contemporary scientific study? • engage people's hearts?
METHODS we used	• Created stimulating, playful Project Lab space with images papered to walls and sequence of questions that changed weekly e.g. 'What themes would you like to explore?' • Behaviour mapping to record experience. • Taxidermy specimens in the space to encourage response/debate. • Focused questioning to analyse broad responses. • Take-over day to saturate the space with visitor likes and dislikes.	• Mind map Project Lab feedback to understand responses. • Grouped themes. • Gathered critical friends via invitations and specilialist days. • Challenged assumptions by cross-referencing the data collected. • Co-produced handling sessions with volunteers to upskill. Recruited student conservators/photographers. • Fine tuned Project Lab questions and shared ideas.	• Volunteer team created. • Draft layout options created, considering flow/sightline/dwell. • Store visits with co-producers to select specimens. • Call-out for 5 creative commissions. • Ideation sessions. • Set-up 5 work placements. • Invited specialist personal responses. • Gathered materials and samples to decide on palette. • Recruited student scientists. • Set up DNA project with University.
TOOLS we used	• How to develop a How Might We... • Social Media/tumblr • Empathy Maps, Behaviour Maps • Questionnaires	• Mind maps. • Give/Get agreements.	• Social media. • Commission templates. • Brainstorming guidelines. • Modes. • Entymology toolkit.
REFERENCES we looked at	• Previous project learning, inc Re:Make. • New York trip resources/experiences. • Nina Simon 'The Participatory Museum'	• Five ways to wellbeing. • 'Art as Artefact' by James Putnam	• 'The Popularity of Museum Galleries' - Jenesy Associates 2013
PEOPLE who told us more or helped	• Volunteers to map behaviour. • Manchester Museum Natural Sciences team to share learning from their natural science gallery. • Visitors and volunteers throughout...	• Initial cohort of volunteers. • New Economics Foundation. • University of Derby Psychology & Science Departments. • 28 Regional specialists. • Lincoln University Conservation Course. • University of Nottingham Science and Heritage Teams. • National Museums	• Theatre sound technician. • Makers, painters, sanders, assemblers, finishers. • Uni of Notts Natural History team. • Notts CC Natural Hist researcher. • RSPB and local wildlife groups.
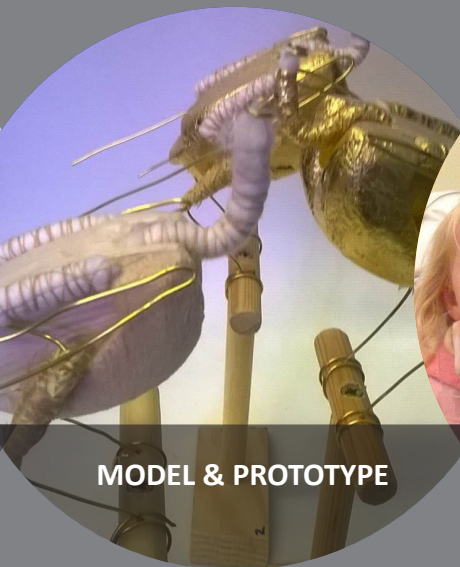
MODEL & PROTOTYPE

TEST & EVALUATE

PRODUCE & SHARE

How might we:
- share each stage openly, from design, test and making of mock ups and maquettes to early interpretive frameworks in order to involve more people and improve quality?
- provide practical opportunities to design students to work with us on live briefs to co-design and co-produce fixtures or interpretation?
- provide tactile experiences?

- Are there any 'think, feel or do' gaps?

- Are tools we designed robust enough to last for three years?
- Are the sightlines enticing?
- Have we enlivened the cold spots?
- Have we presented the collection in a way that will engage peoples' heads/hearts/hands?
- Are we on track to stimulate scientific/historic/creative interest?
- Do we have the skills and materials to go the next stage?
- What do we need to tweak or change?

How might we:
- continue to share visitors' responses and creative outputs to the gallery offer and impacts?
- keep the space fresh and add a verbal layer of interpretation that was so vital during installation?
- launch gallery and share our approach and process to achieving it!
- develop Super Nature volunteer role to support/enhance the visitor experience when gallery is open.

- Project Lab evolved to show early ideas and models - gallery open throughout.
- Graphic designers recruited to co-produce interpretive guides.
- Call-outs for sounds/photos/drawings.
- Soundscape walks to collect sounds.
- Ensure commissioned artists and students embraced approach through openly sharing their works in progress.
- Shared materials & palettes in gallery.
- Student conservator started work in gallery.
- Placed prototype fixtures to test.

- Continually asked visitors and volunteers through the open approach and exposure of project in gallery.
- Product testing with volunteers and visitors.
- Analysed robustness, feedback of protoypes to inform final designs.
- Tested evaluation approaches to see if we can measure impact on people's attitude to their own natural world.
- Review meetings with team and co-production partners.
- Interpretation fact & sense checked.

- Developed reflect and respond area in the gallery to encourage ongoing dialogue and increase dwell time.
- Adjusted and finalised fixtures for production.
- Hosted visits from sector partners.
- Finalised artist commissions.
- Created marketing strategy.
- Engaged Michaela Strachan as VIP for launch.
- Specialists and volunteers provided copy-writing and proof-reading.
- Networks fact-checked.

- Templates/to-do lists.
- Cardboard/paper/pens, etc.
- Social Media. Workshop equipment.
- Photographic & RTI equipment.
- Conservation tools.

- Sound equipment for soundscape.
- Tech for 'teeth selfies'.
- Digital microscopes.
- Games design software.
- Vinyl cutter.

- Workshop equipment.
- Photography equipment.
- Sound equipment.
- Modes.
- Social Media and Marketing materials.

- 'Art as Artefact' by James Putnam

- Psychology Evaluation Methods.
- Connectivity with nature academic papers.
- Risk Assessments for Health & Safety.

- University of Derby Graphic Design, Illustration and Product Design students.
- Super-nature volunteers.
- Silk Mill workshop supervisor.
- Networks from National Museums who read interpretive drafts.
- Local poets.

- University of Derby Programming and Games Design Team.
- East Midlands Museum Service.
- Surf the City (Derby City Council tech team)

- Cafeteria Design Company.
- Specialist and volunteers.
- Chris Packham (tweeted lots!)
- Michaela Strachan
- Museums Journal
- Local Media
- NATSCA/RSPB etc.

Project Plan Elements

Questions to ask in planning for delivery	Related headers in a Project Plan
What is our How Might We (HMW) question?	Project Definition
Why is this necessary?	Rationale/Mandate/Background/Objectives
What do we know so far?	Assumptions
How are we going to know more?	Consultation
How are we going to do it?	Approach/Task list
What resources do we have?	Resources
Who will be part of it?	Project Board
How are we tracking success and learning?	Evaluation & Learning Log
Who should we be telling about what we are doing? **and How** should we be telling them?	Communications
How does this feed into our other work or areas?	Project interactions
When is it going to happen?	Timescale & Delivery Schedule
What could stop it from happening?	Risk Register

Tools and references - where to find them

Human Centred Design Tools and Case Studies - T-Drive > Human-Centred Design

Derby Museums Vision/Cause/Principles - T-Drive > Business Handbook > Business Planning

Derby Museums Business Plan - T-Drive > Business Handbook > Business Planning

Evaluation Framework - T-Drive > Evaluation

Audience Development Strategy - T-Drive > Audience Development

Volunteer Strategy - T-Drive > Business Handbook > Volunteering

Project tumblr sites -   www.derbysilkmill.tumblr.com

www.remakemuseum.tumblr.com

www.dmnature.tumblr.com

www.dmusa.tumblr.com

www.wrightusa.tumblr.com

Questions to ask

How will we know if the project has been successful? What difference has it made? What did people think, feel and do? What do we need to change? What happened that was unexpected?

There is no one best way to evaluate a project, however in order for it to be a useful and meaningful process, evaluation should ideally:
• be considered at the start of a project.
• be in place over the lifetime of a project be flexible and capable of adapting to changes in a project.
• relate to the objectives of the project and be appropriate for the audiences involved.
• be a source of useful learning and evidence for the project team and stakeholders.
• be used to inform and develop future projects/ activities and to understand your audiences.

Key questions to ask and answer with the project team when planning an evaluation strategy:
• What matters about this project? Why are you doing it?
• What do you want to measure?
• How will you measure it?
• What will you do with the information?

We have been utilising the Inspiring Learning for All Framework (ILFA)[1] to assess and evidence the impact of our activities. Within this framework there are five areas known as Generic Learning Outcomes (GLOs) which encompass a holistic and inclusive definition of learning.

Attitudes and Values
*Skills*
Knowledge and Understanding
Enjoyment, Inspiration, Creativity
Activity, Behaviour, Progression

Learning outcomes for activities are identified across the five GLO areas and measured in a range of different ways, appropriate to the audience and to gain both qualitative and quantitative data. The information gathered is then analysed and followed up with the creation of a plan for any responses and actions to be implemented as a result, by the project team. The outcomes and learning from the project can then be shared in a number of ways with project staff, audiences, stakeholders and disseminated more widely within the museum sector.

[1] *The ILFA framework is currently undergoing a refresh and will be available on the Arts Council website from summer 2016.*

What difference
will you make
and how will
you know?
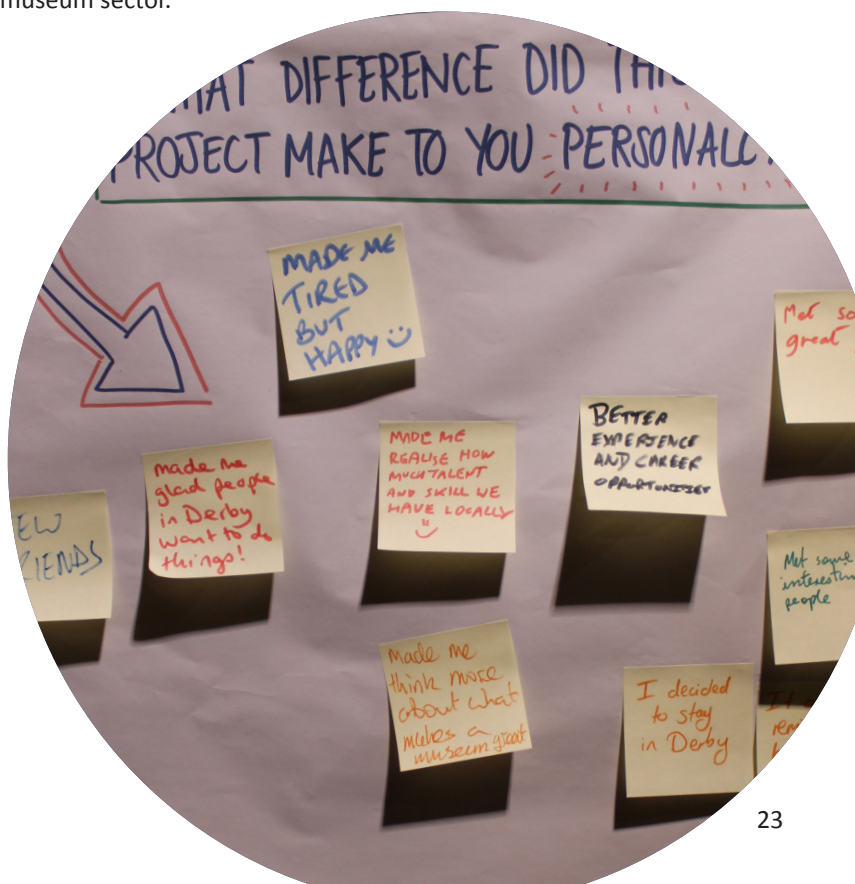
DERBY MUSEUMS

A WHOLE HISTORY OF FORWARD THINKING

DERBY MUSEUMS
Human-Centred Design
& Co-production
HANDBOOK

Written and produced
by Derby Museums

Version 4
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