

**ual:** centre for  
circular design

# thinking beyond circles

developing visual research methods  
for circularity in design education

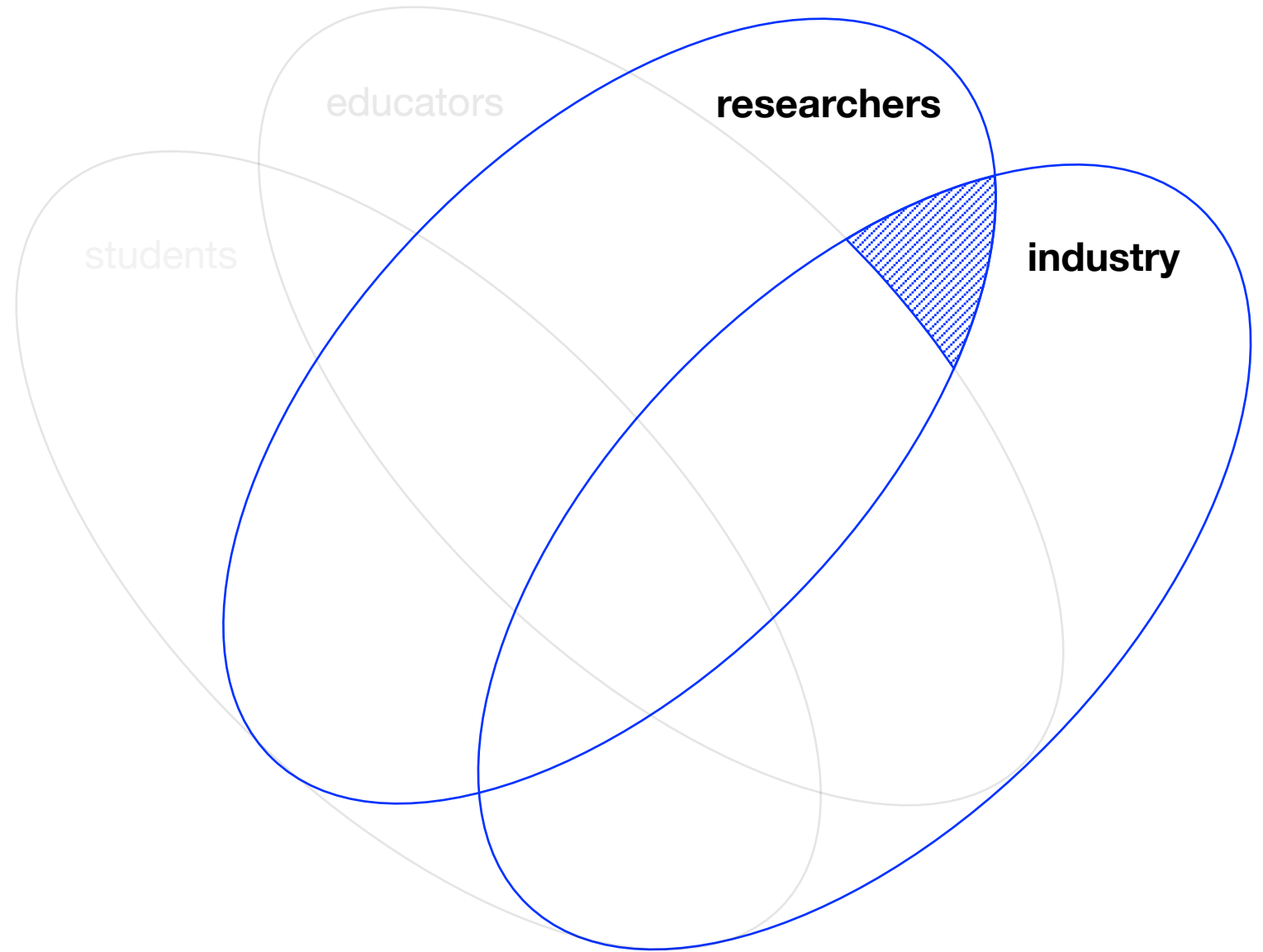
Design research for circular materials, models and mindsets.

**Laura Knight,  
Kate Goldsworthy,  
Sanne Visser,  
Cathryn Anneka Hall**

# project context

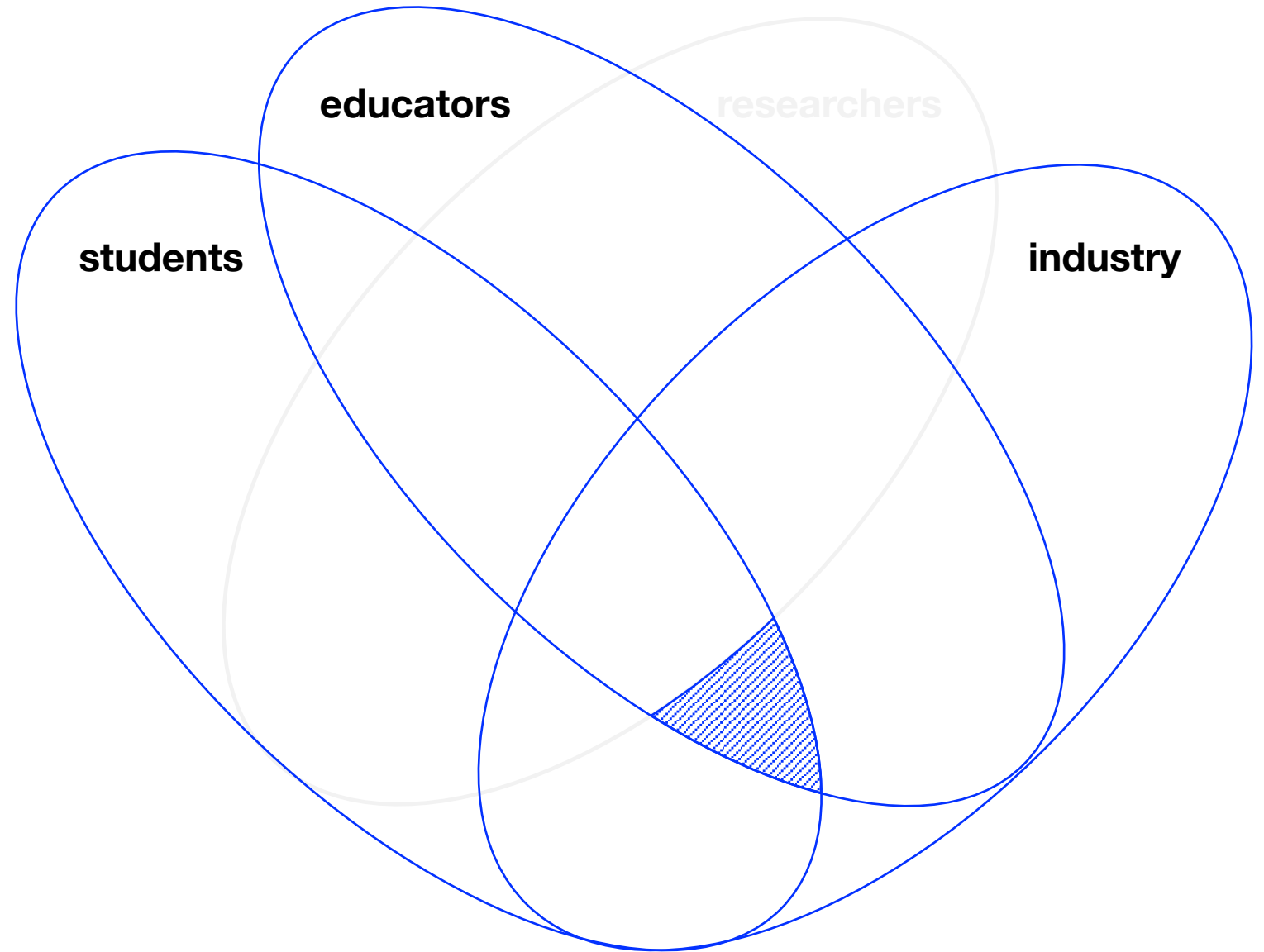
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**collaborative  
research**



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# live brief



# student as 'professional'

## role

student as  
professional



## focus

problem solving  
solutions-focused



## producing

creative visual  
solutions

“

**Innovations in contexts, methods  
and applications of design are calling  
for a new kind of designer, or at least  
an expanded capacity to undertake  
research**

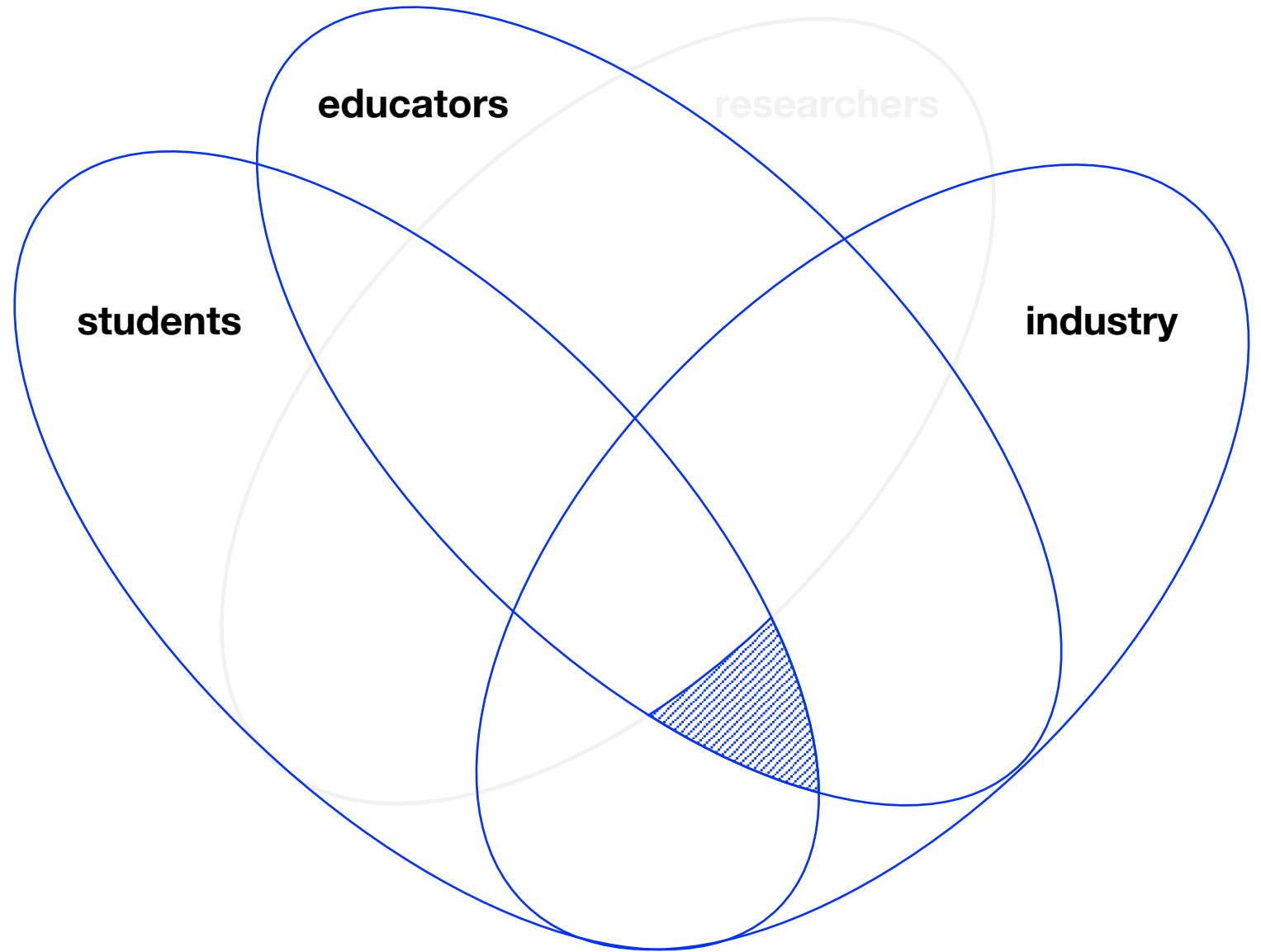
”

“

**There is the need for design educators to transform their pedagogic capacities in order to contribute to the leadership of these exciting new domains**

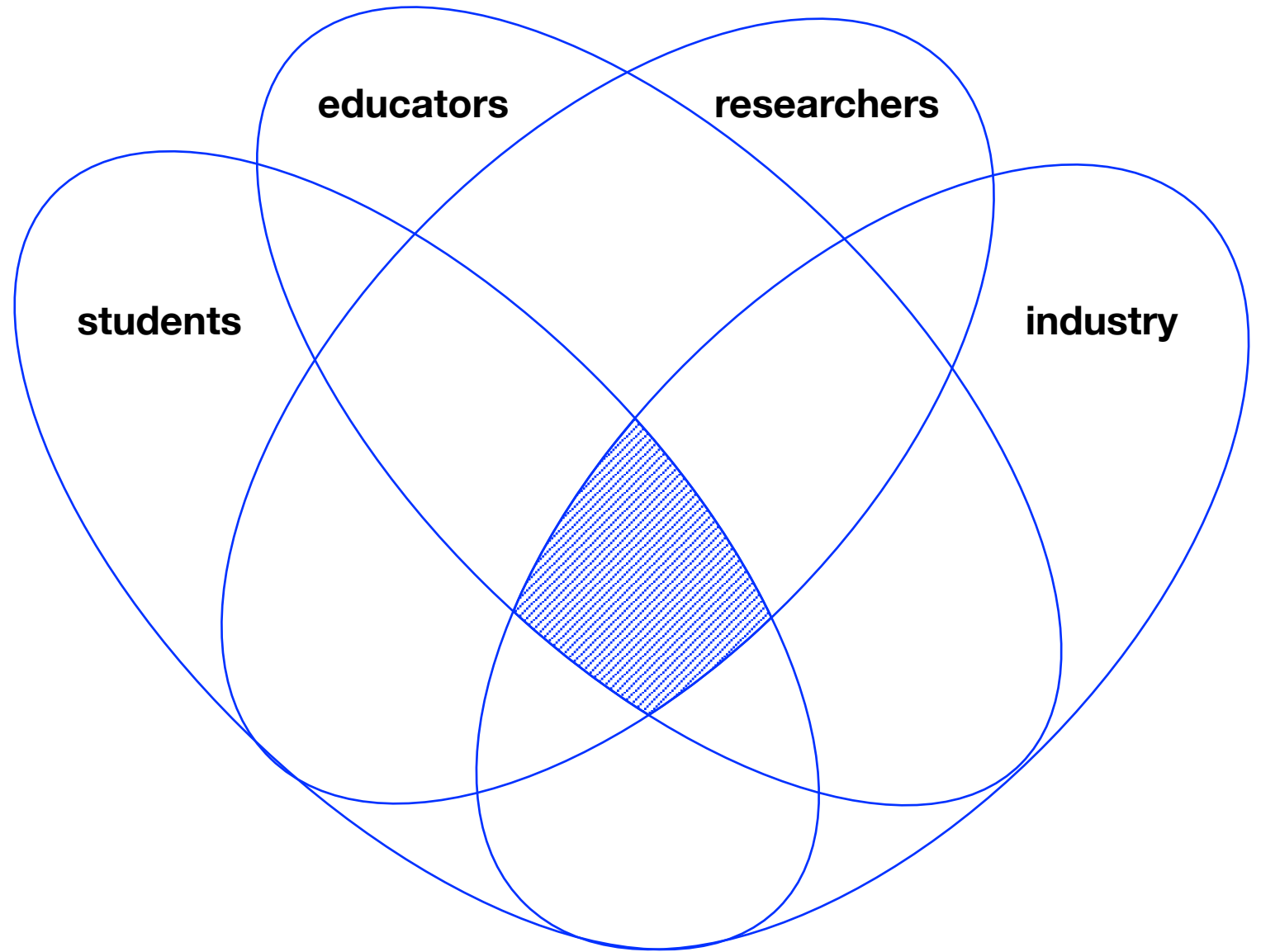
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# live brief

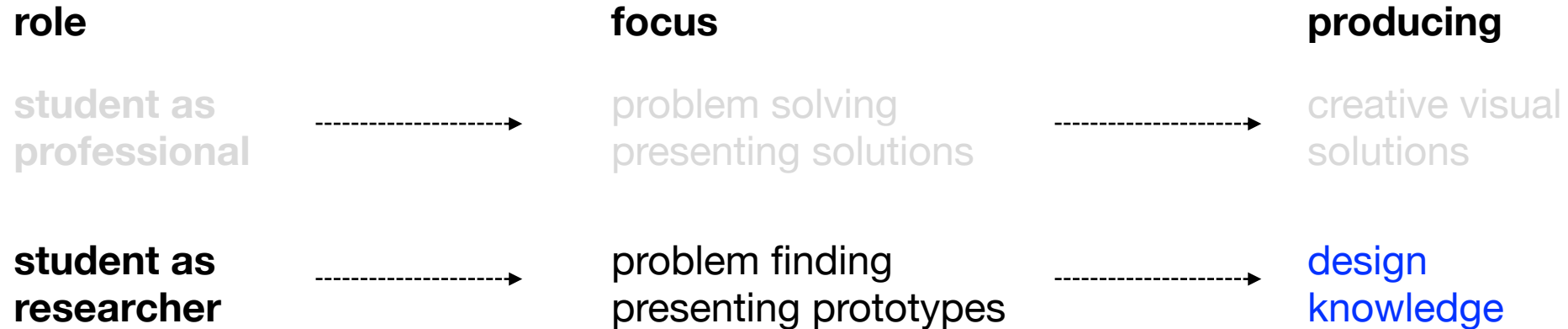




?



# student as researcher



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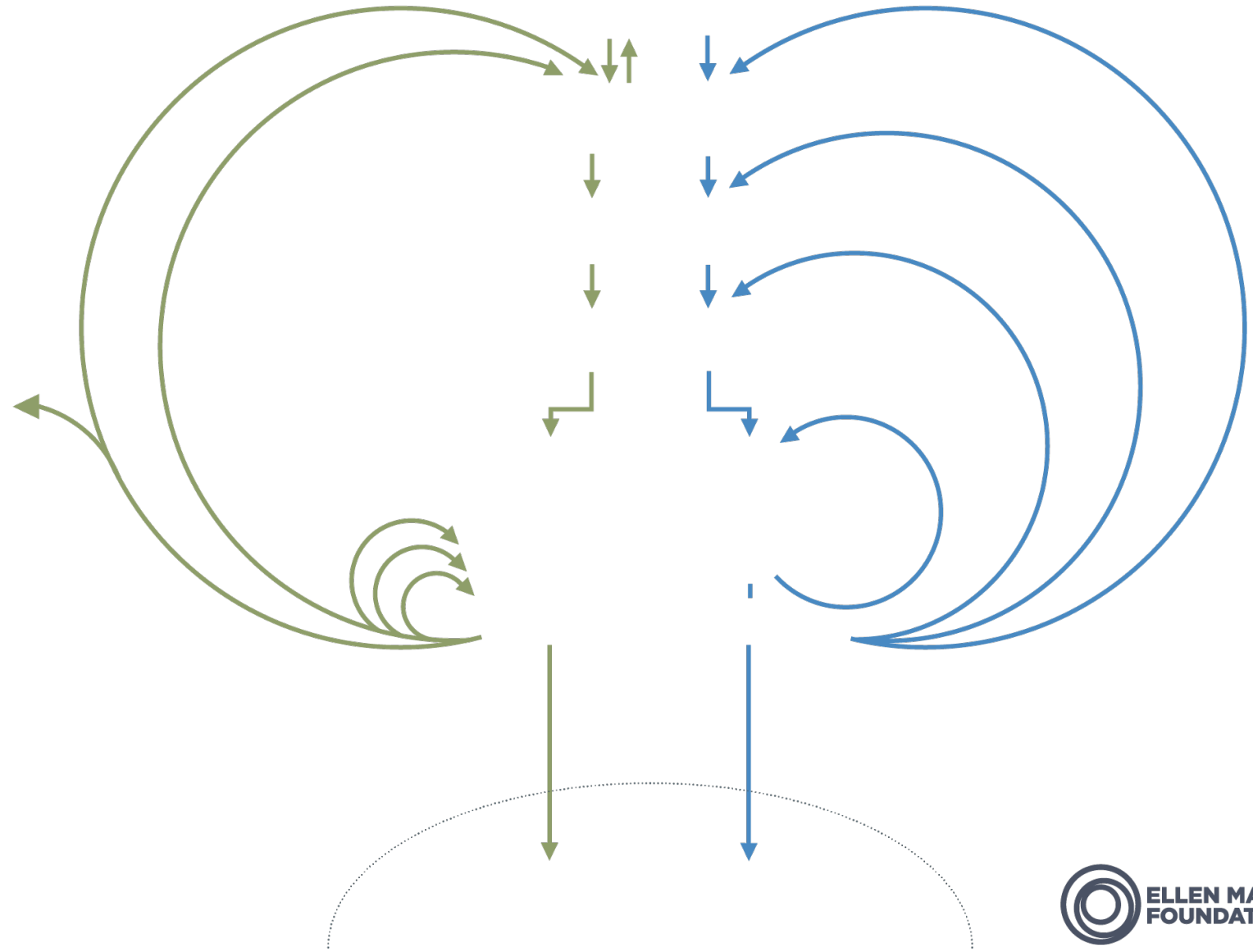
# project challenge

Thinking beyond circles: Developing visual research methods for circularity in design education



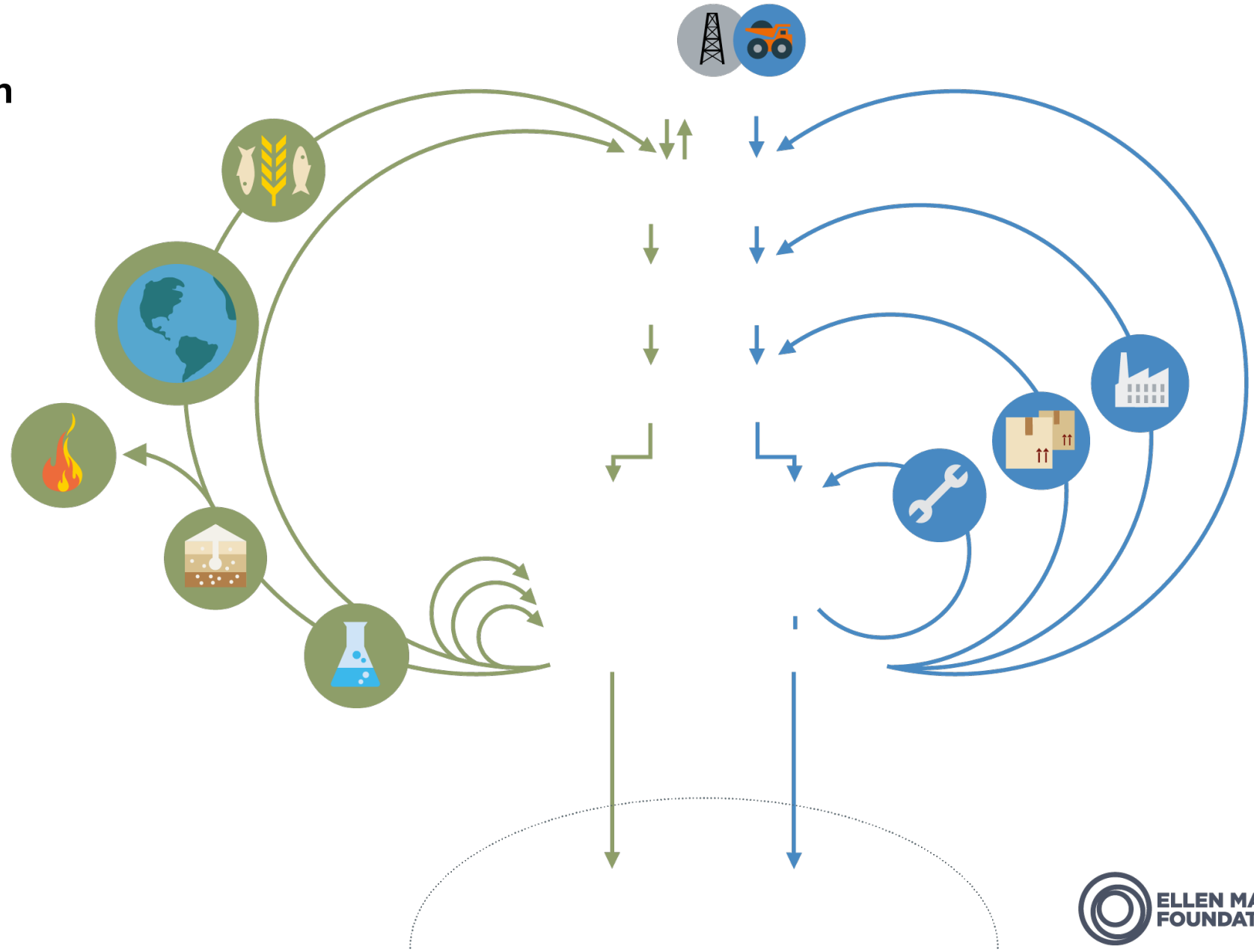
# anatomy

## 1. diagrams



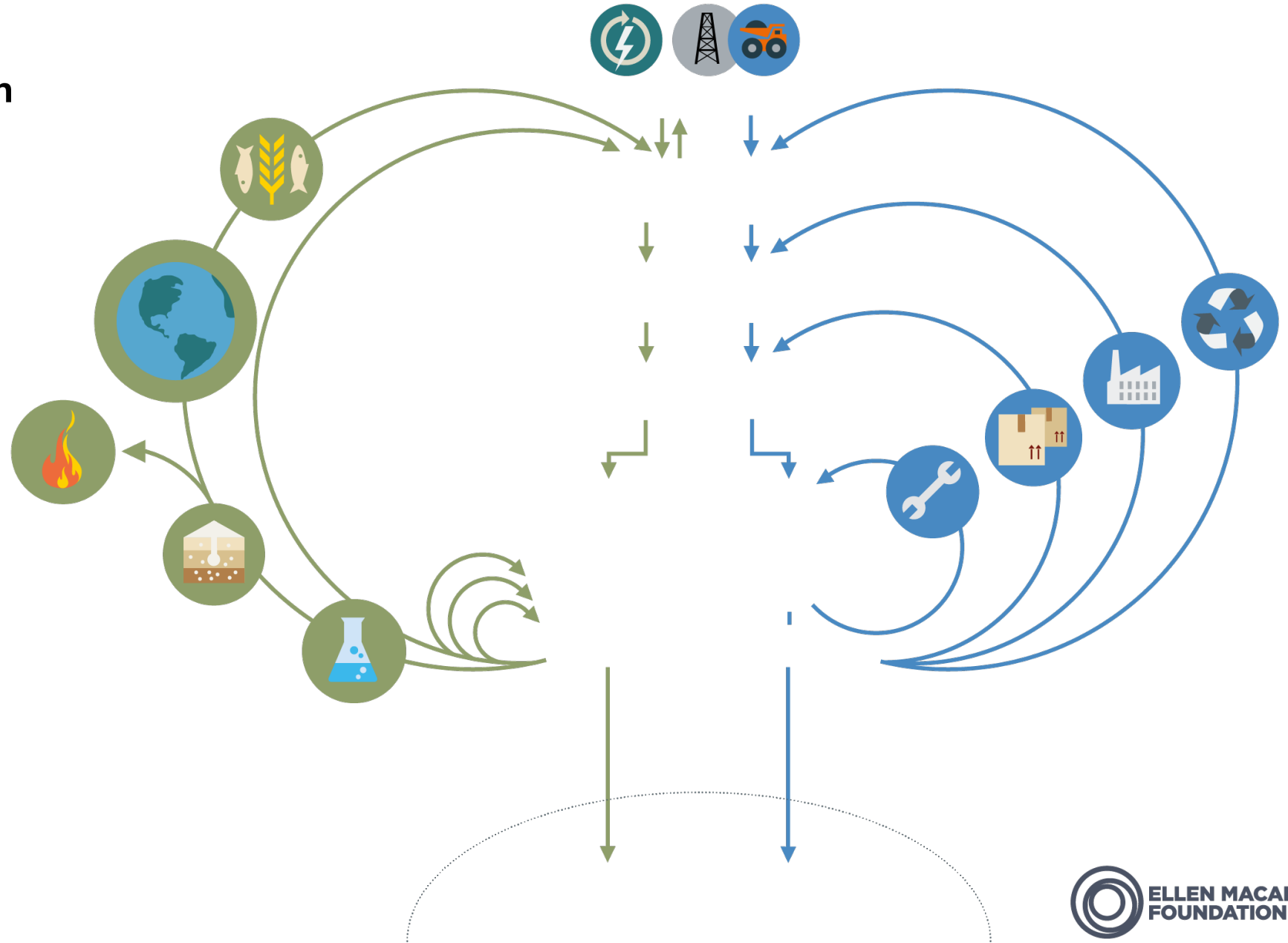
# anatomy

- 1. diagrams
- 2. icons



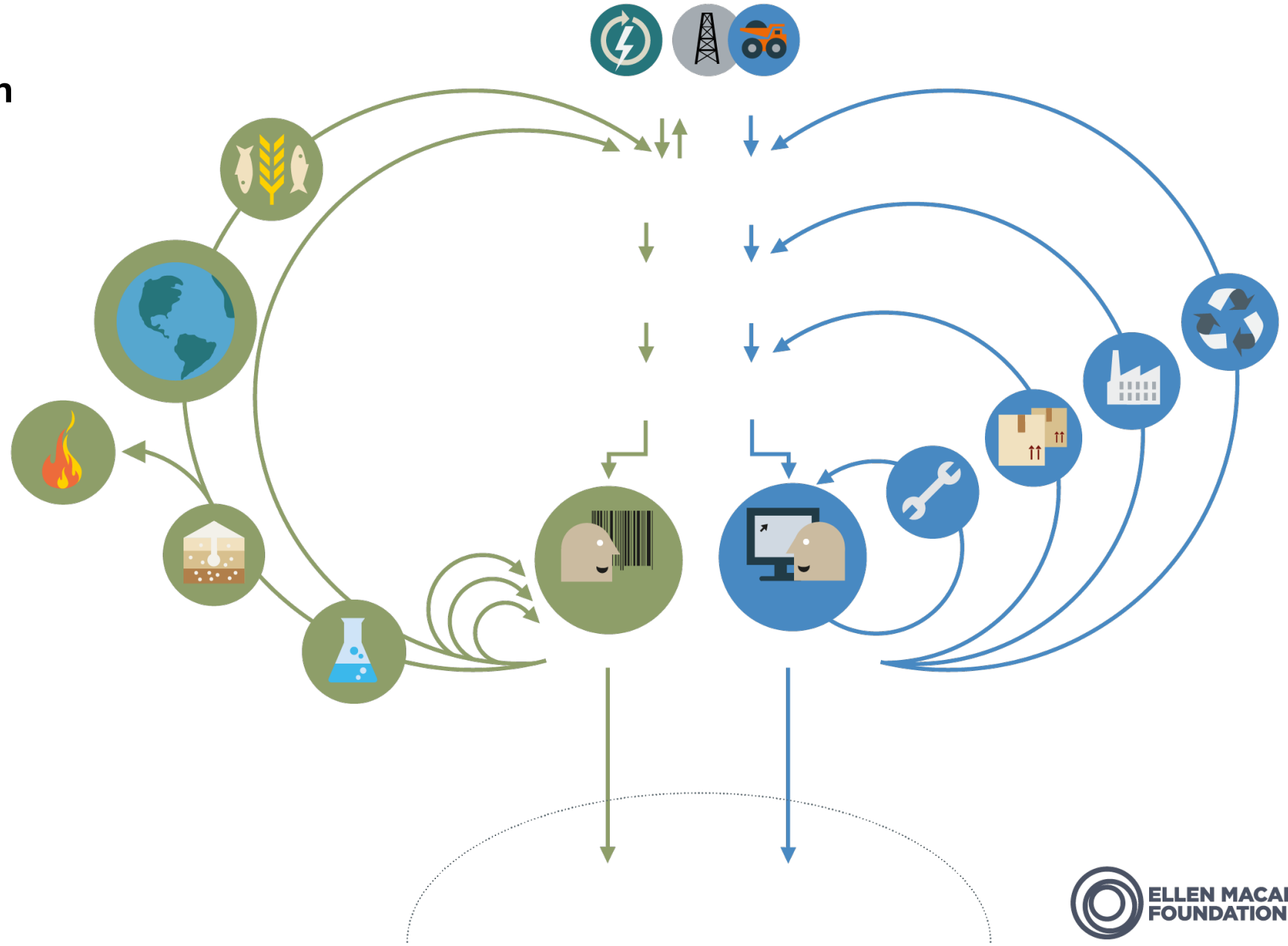
# anatomy

1. diagrams
2. icons
3. symbols



# anatomy

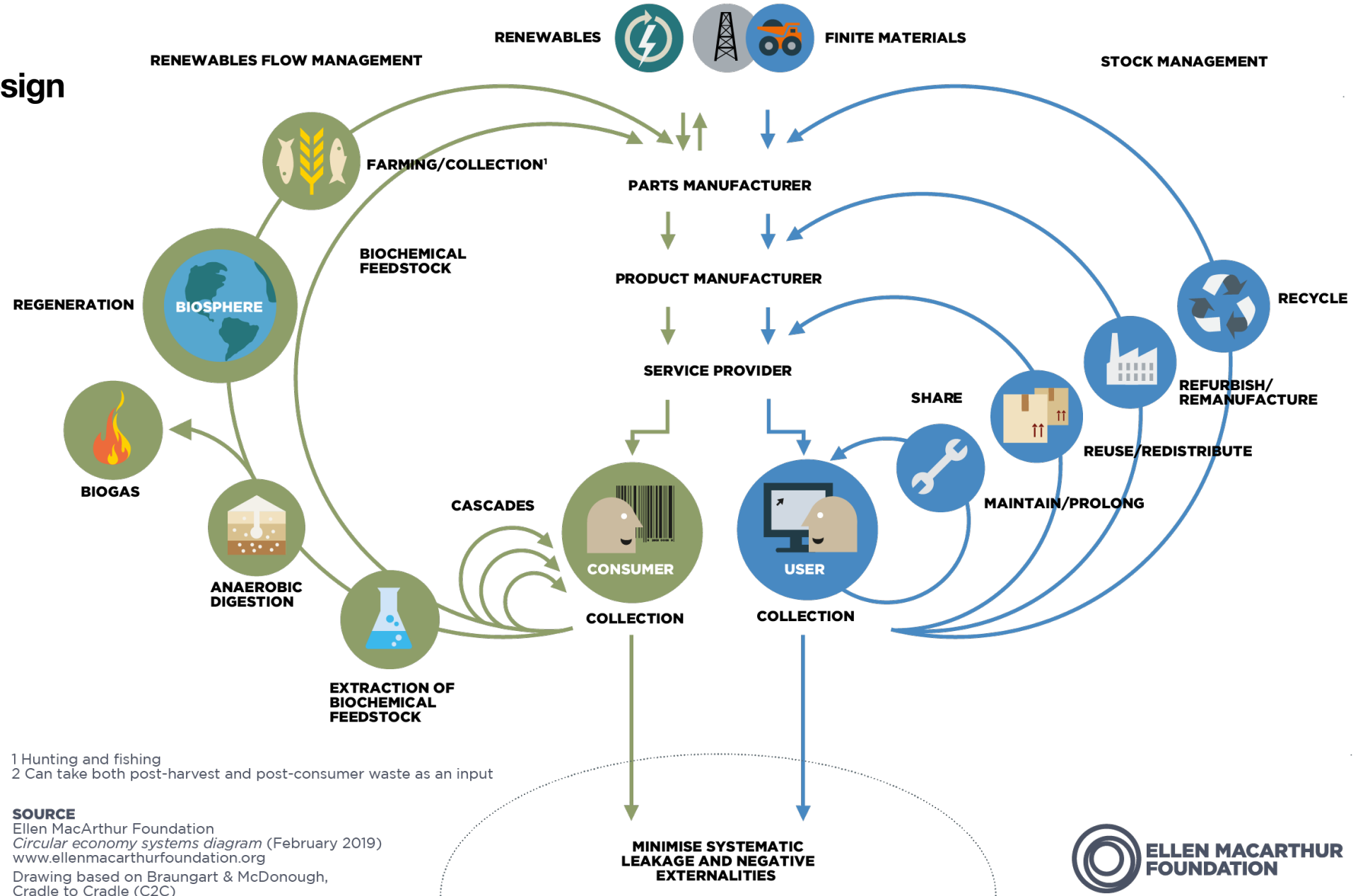
1. diagrams
2. icons
3. symbols
4. hybrids





# anatomy

1. diagrams
2. icons
3. symbols
4. hybrids
5. labels



1 Hunting and fishing  
2 Can take both post-harvest and post-consumer waste as an input

**SOURCE**  
Ellen MacArthur Foundation  
*Circular economy systems diagram* (February 2019)  
www.ellenmacarthurfoundation.org  
Drawing based on Braungart & McDonough,  
Cradle to Cradle (C2C)

“

**The challenge is to break the literalism of representational strategies and engage with innovations in interpretative and inferential modes that augment human cognition**

”

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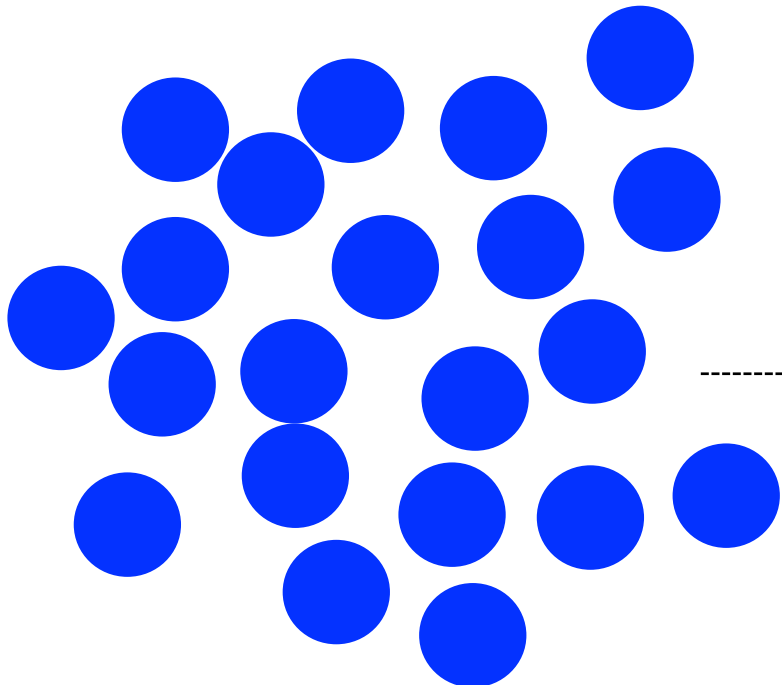
# methods

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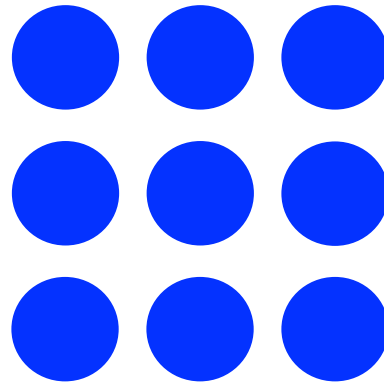


# practice-based iconic research

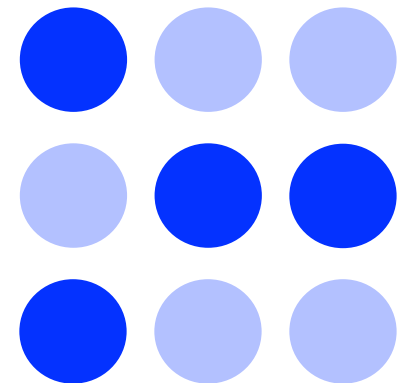
generates  
visual variations



producing  
field of options



enabling  
evaluation  
by comparison



“

**How can the practical knowledge  
of visual communication contribute  
to our understanding of how images  
generate meaning?**

”

## live brief

- explore **alternative** visualisations of a product lifecycle

## live brief

- explore alternative visualisations of a product lifecycle
- work from a [written description](#)

## live brief

- explore alternative visualisations of a product lifecycle
- work from a written description
- focus on the **nine key stages** of the process;  
harvesting, extraction, purification, meshing, coating, finishing,  
degrading, shredding and recycling.



# online sprint

**mon**

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**project briefing**

**tue**

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**methods 1**  
mark making

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**methods 2**  
icons/symbols

**wed**

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**methods 3**  
diagramming

**thu**

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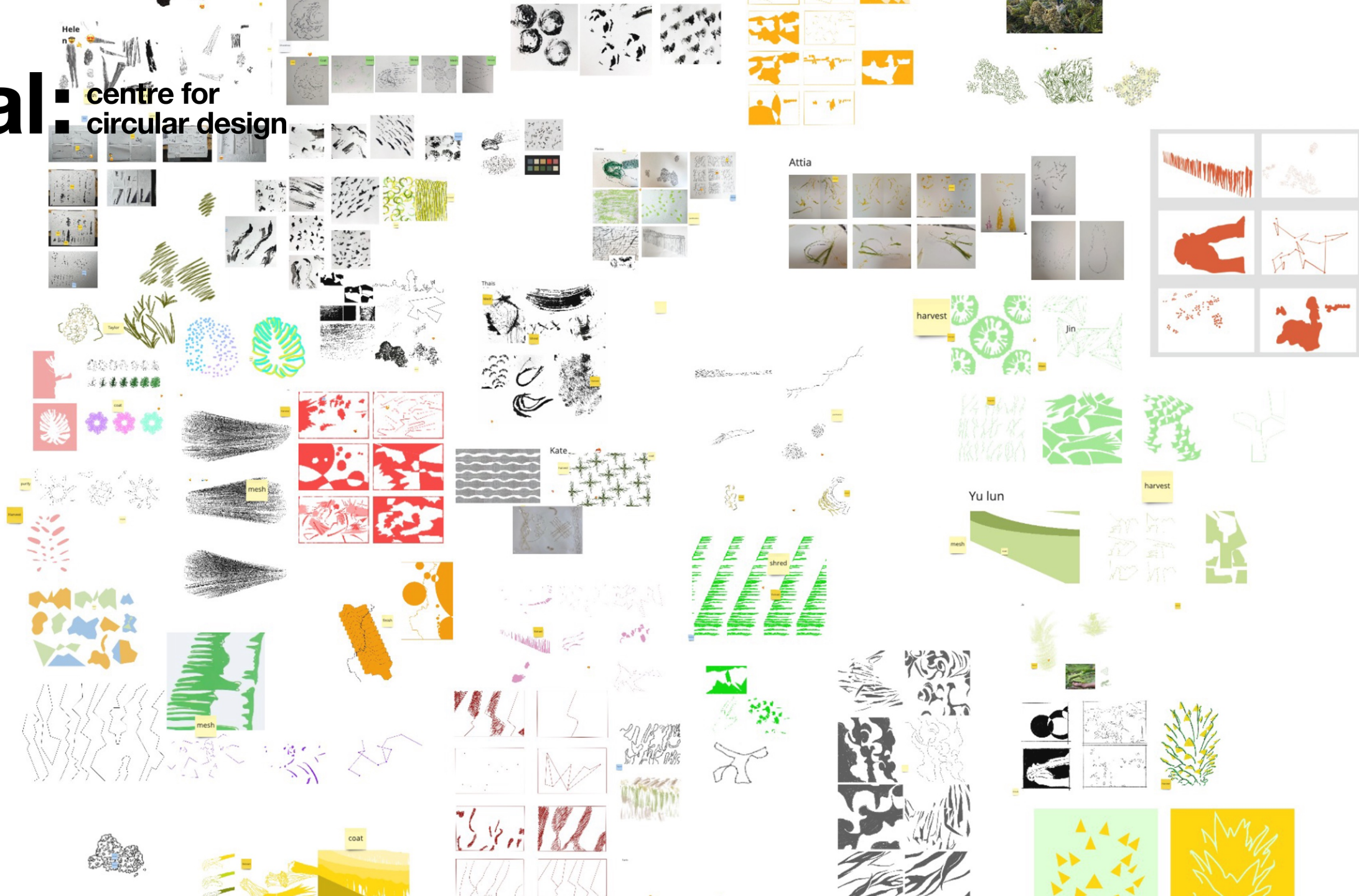
self-directed  
development

**fri**

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**submission  
of prototypes**

# ual centre for circular design





JOY



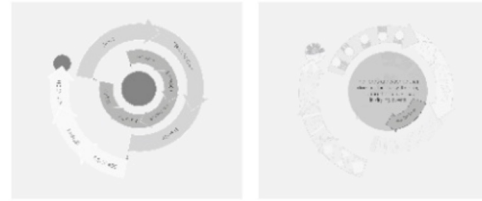
Jasmine



Tina



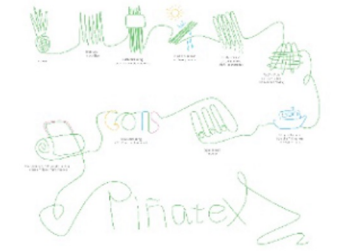
Faith:



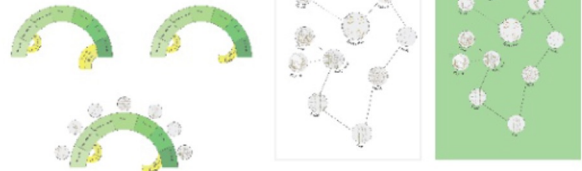
Nero



BIN:



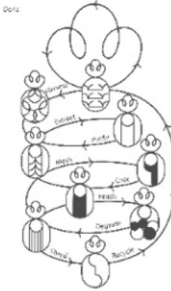
Attia



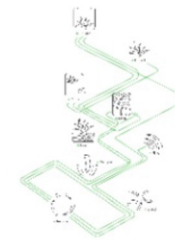
Zoe



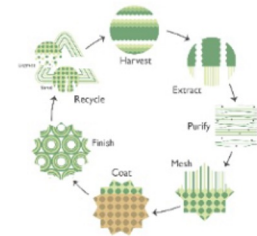
Oris



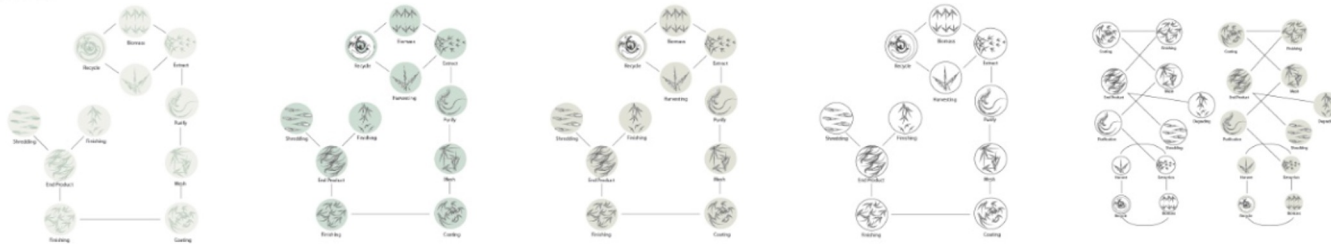
Iris



Yue



Dhanshree



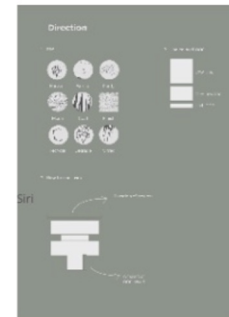
Chris



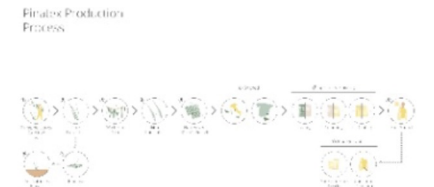
Lucas



Shadew



Christopher



## after action review

- to reflect on the **process** and the **insights** generated

## after action review

- to reflect on the process and the insights generated
- focused on what was **specific** or **unique** about the ways that participants had approached the brief

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# findings

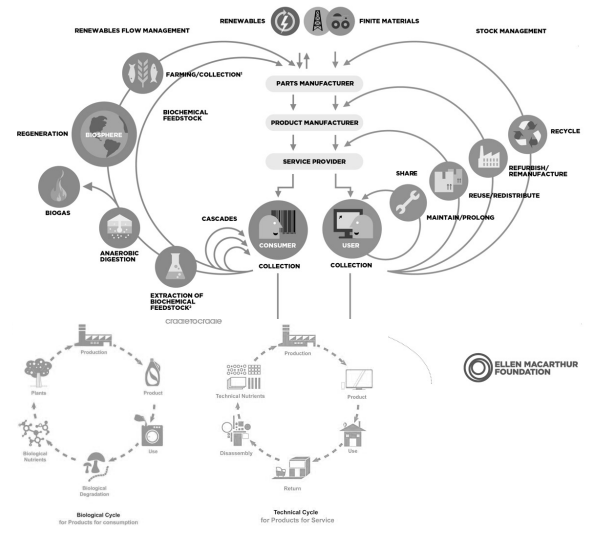
Thinking beyond circles: Developing visual research methods for circularity in design education



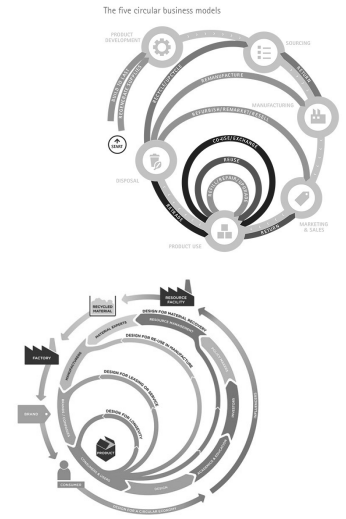
symbolic



iconic



ELLEN MACARTHUR FOUNDATION

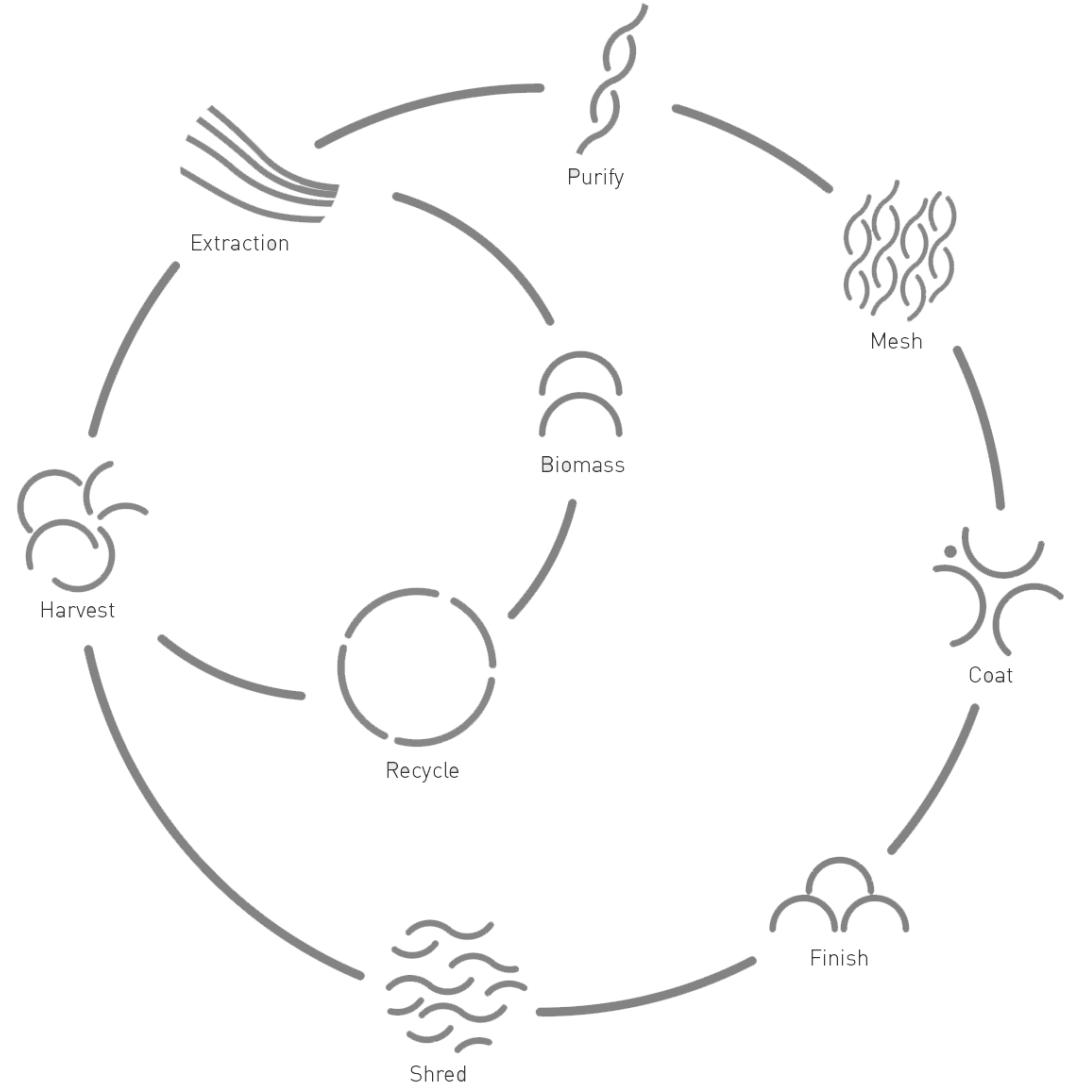






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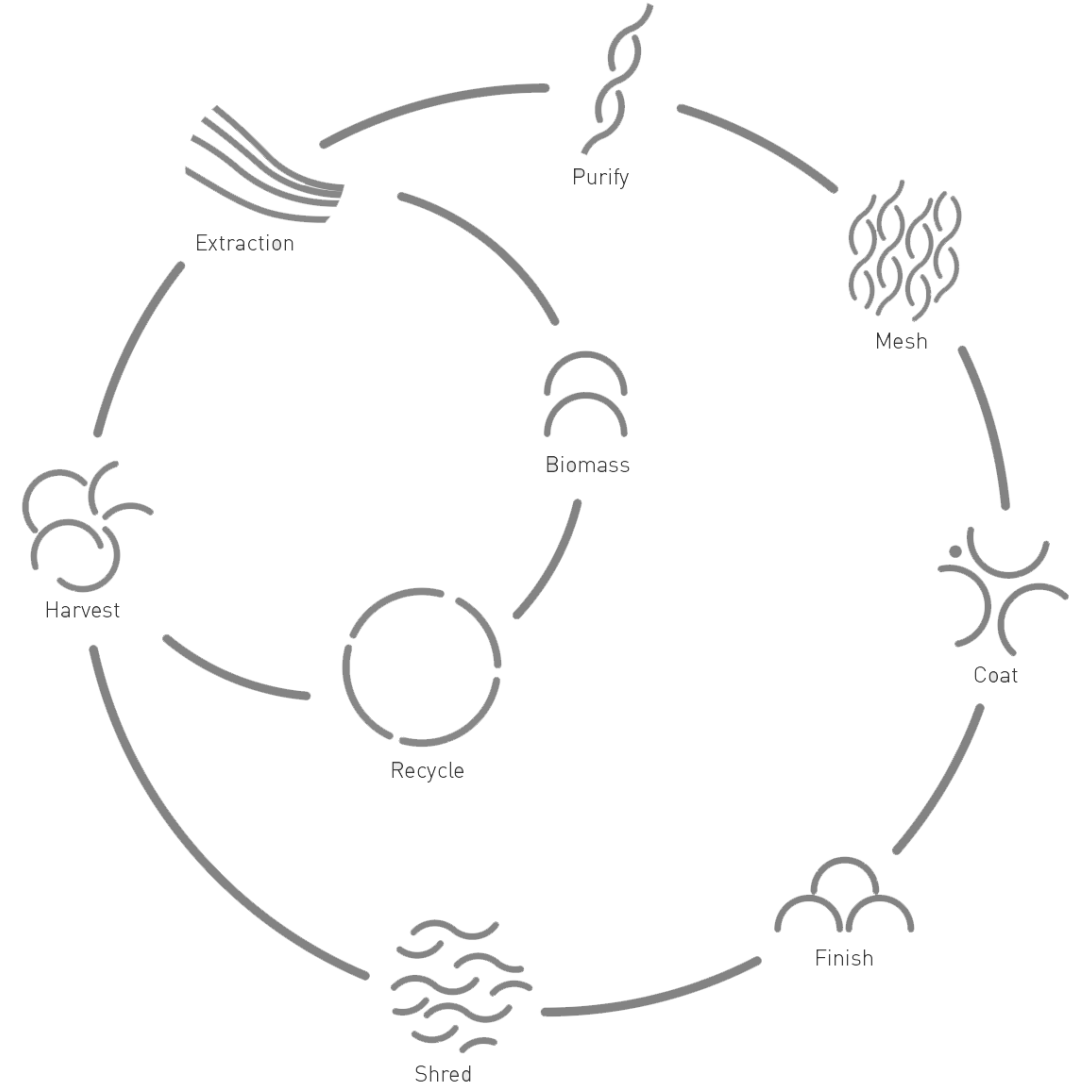
**symbol / icon**



# symbol / icon

still 'readable'

What opportunities are afforded by  
simplified symbolic forms?  
Particularly with specific audiences...



**symbol / icon**

Harvest



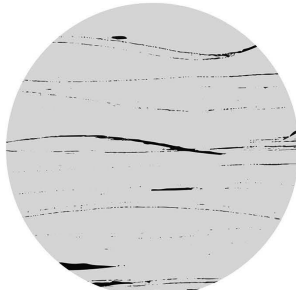
Shred



Purify



Extract



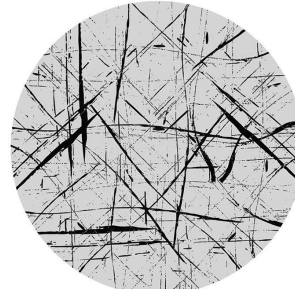
Degrade



Coat



Mesh

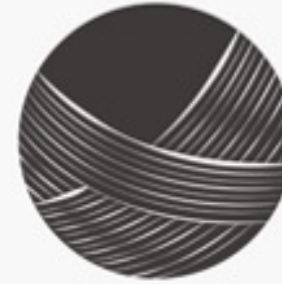


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**symbol / icon**



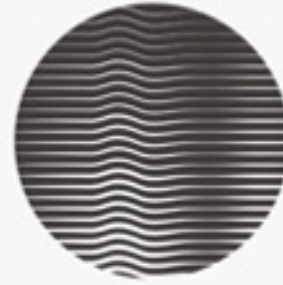
Extract



Purify



Mesh



Coat



Finish



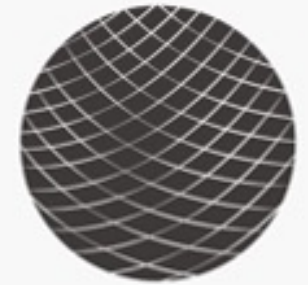
Degrade



Shred



Recycle

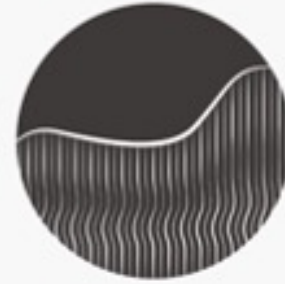


Harvest

## symbol / icon

infographics = homogenising?

How might visuals better communicate the connections between application and context?



Extract



Purify



Mesh



Coat



Finish



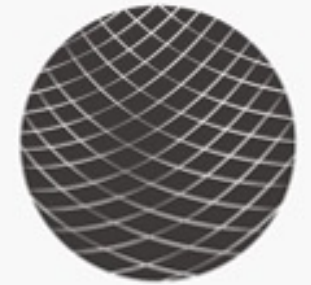
Degrade



Shred



Recycle

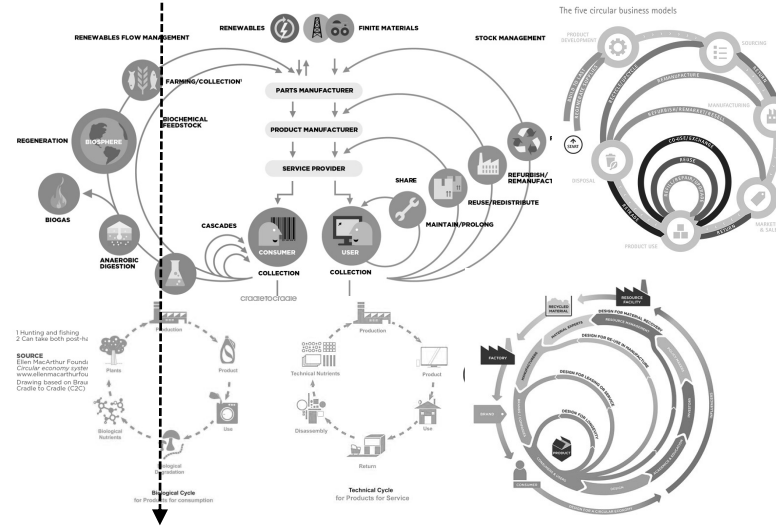


Harvest

linear

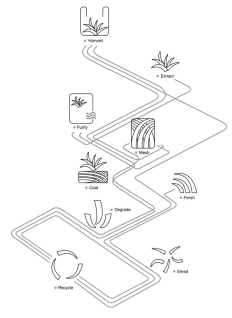
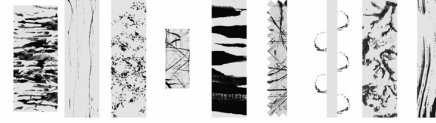
symbolic

iconic

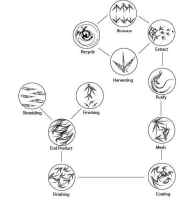
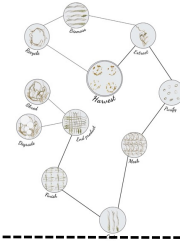
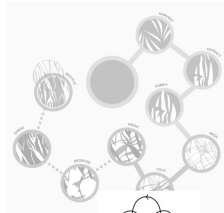
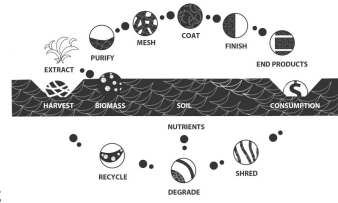


circular

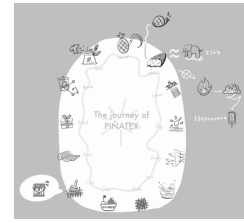
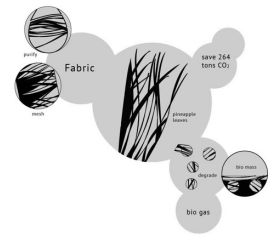
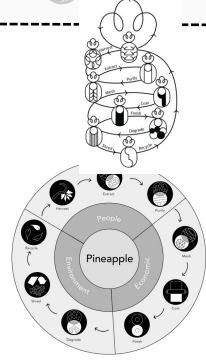
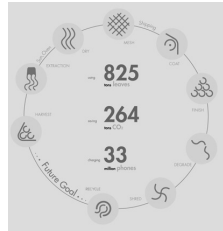
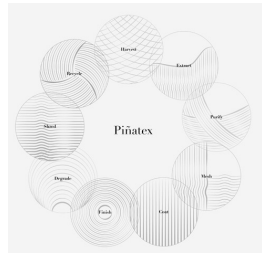
linear



symbolic



iconic

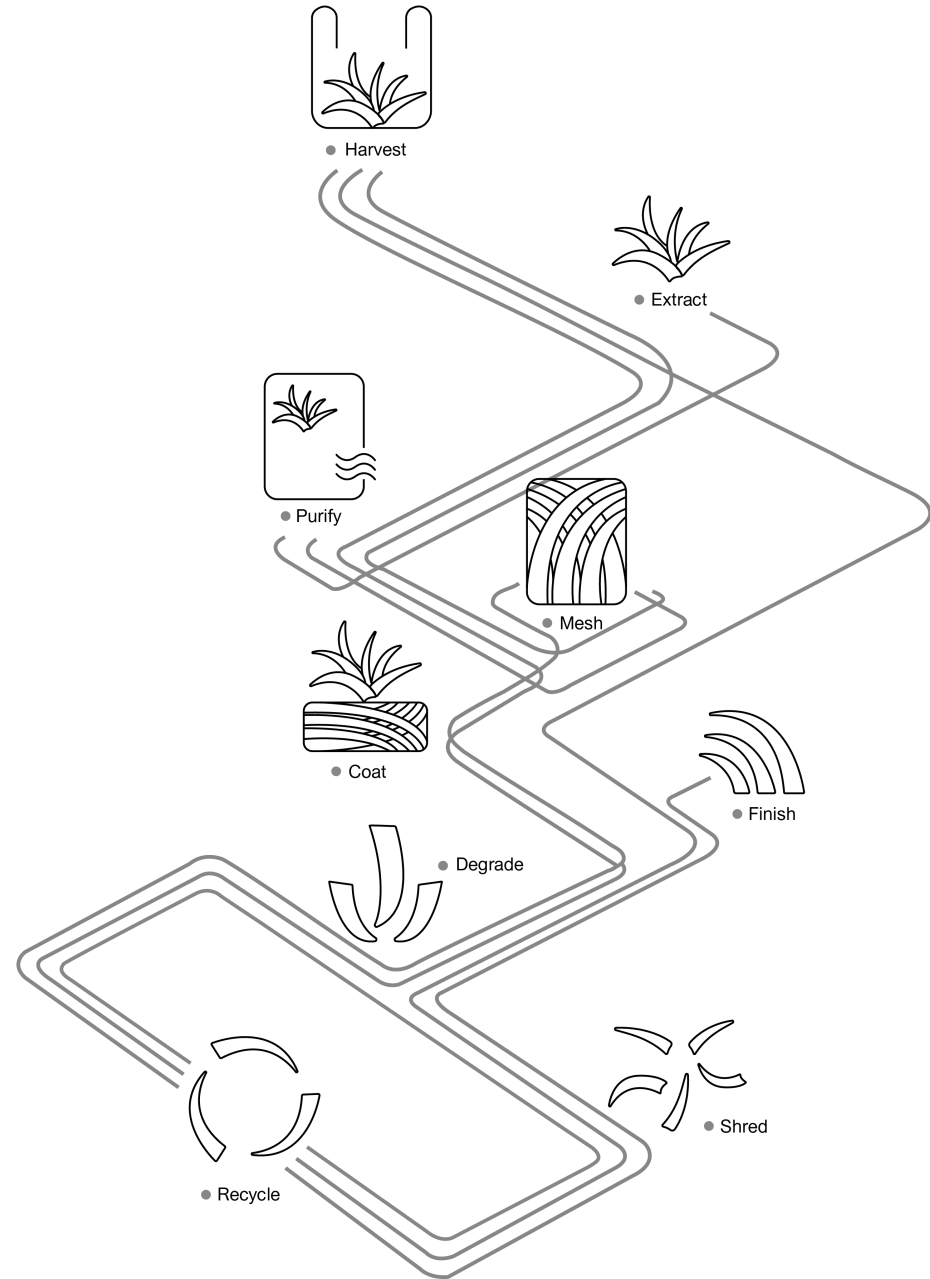


circular





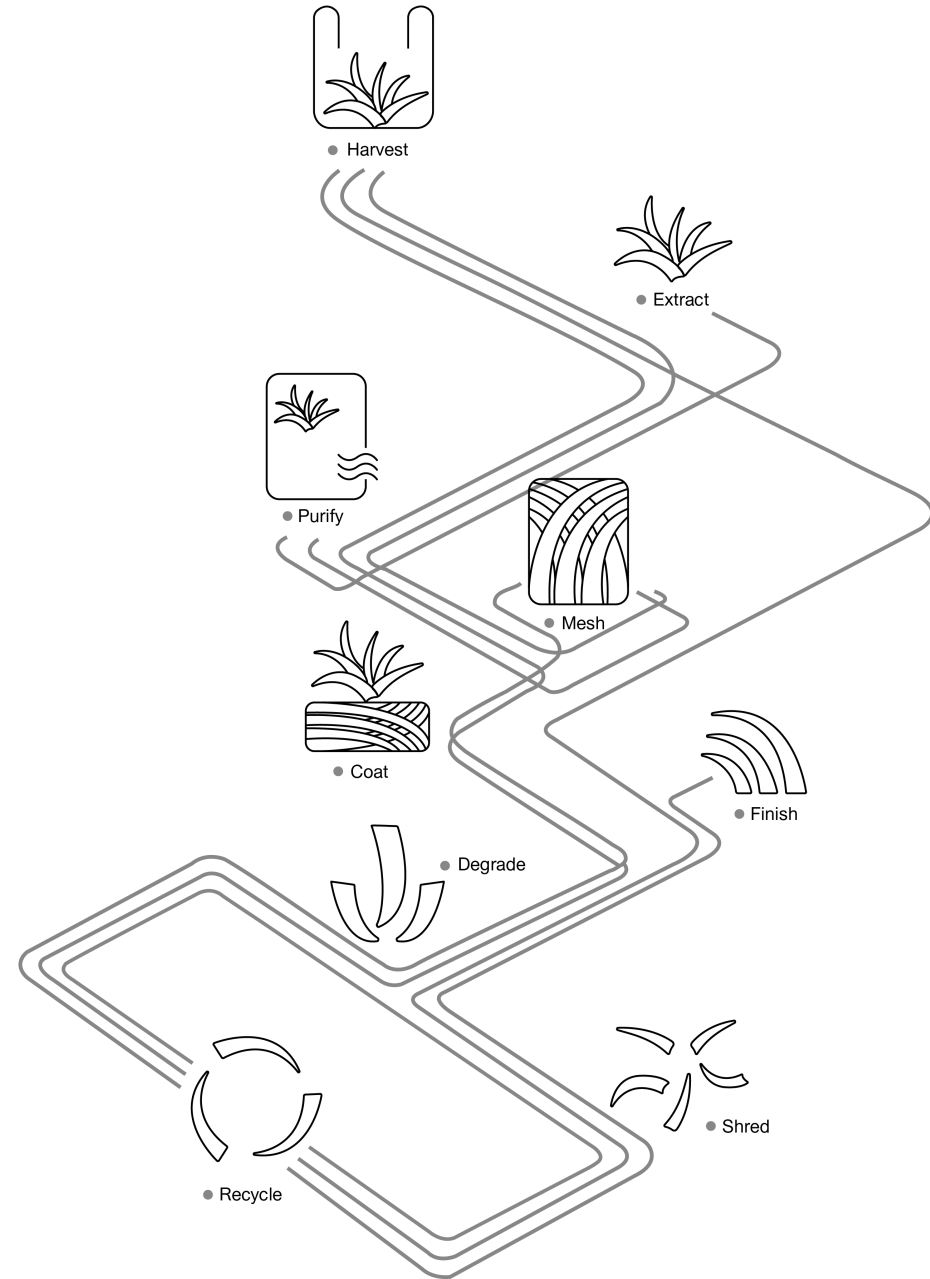
# linear /circular

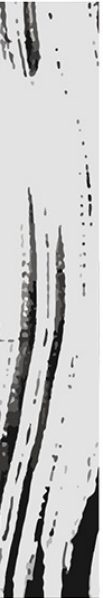


# linear /circular

It's not always a circle....

How might we balance the complexity of a circular process with the complexity of the visual?





# quantification

## important area of innovation

Where can needs be served  
by existing visual forms?

Where might new approaches be  
needed to meet the requirements  
of different contexts?

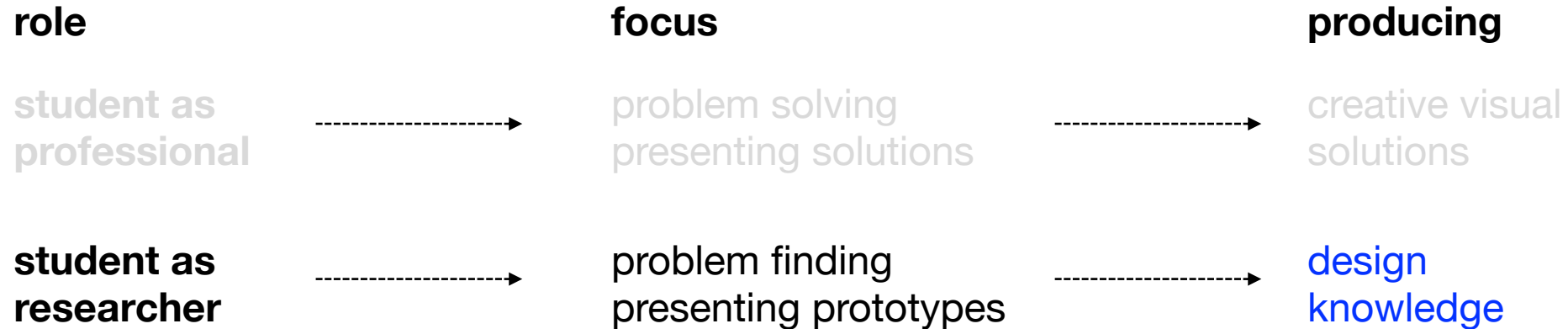


# discussion

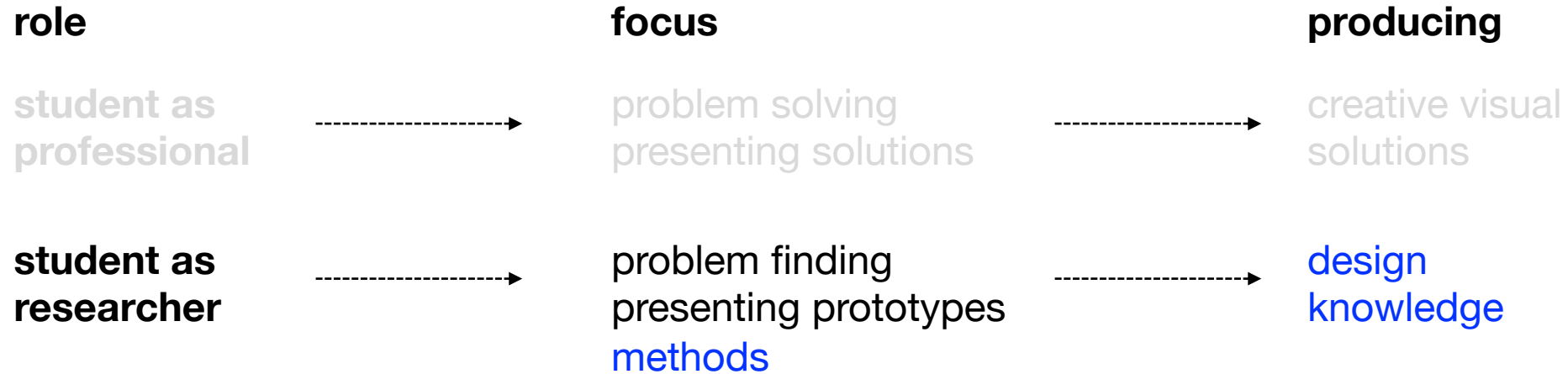
## **discussion**

- the value of the non-expert perspective

# student as researcher



# student as researcher





## **discussion**

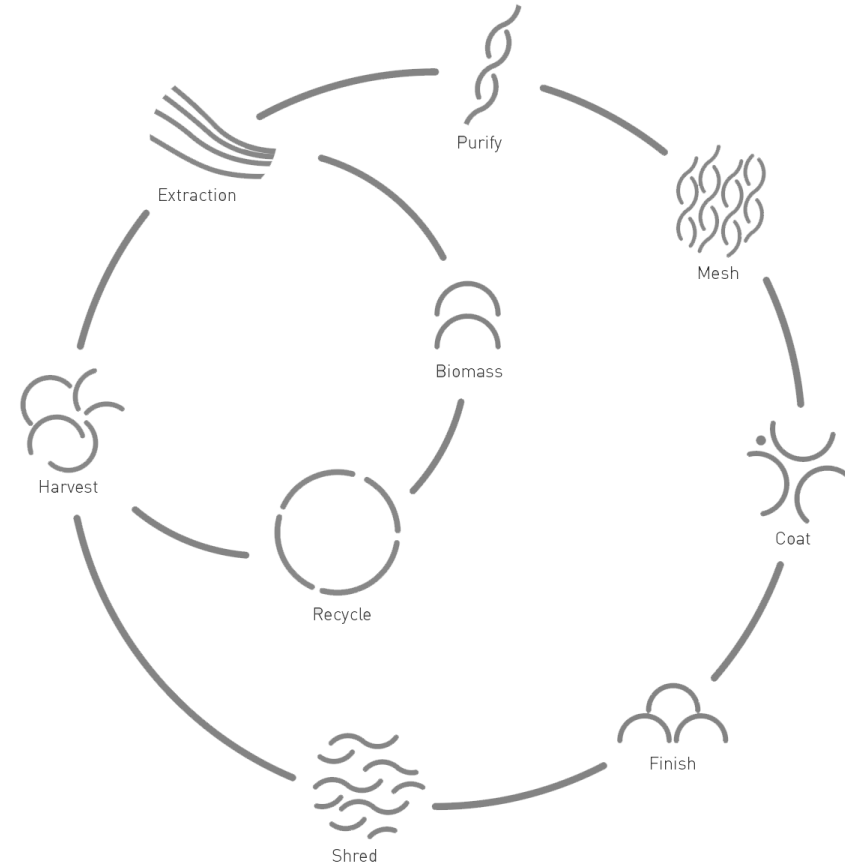
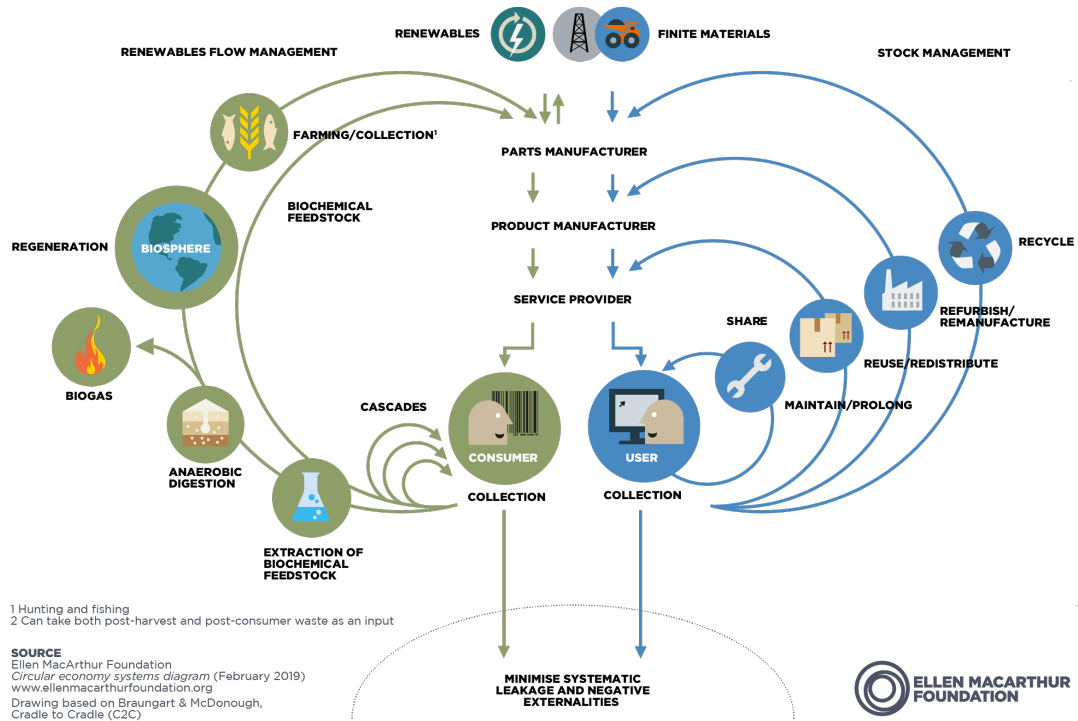
- the value of the non-expert perspective
- the potential value of the methods

## **discussion**

- the value of the non-expert perspective
- the potential value of the methods
- new visual languages

## **discussion**

- the value of the non-expert perspective
- the potential value of the methods
- new visual languages
- specific audiences?



## **discussion**

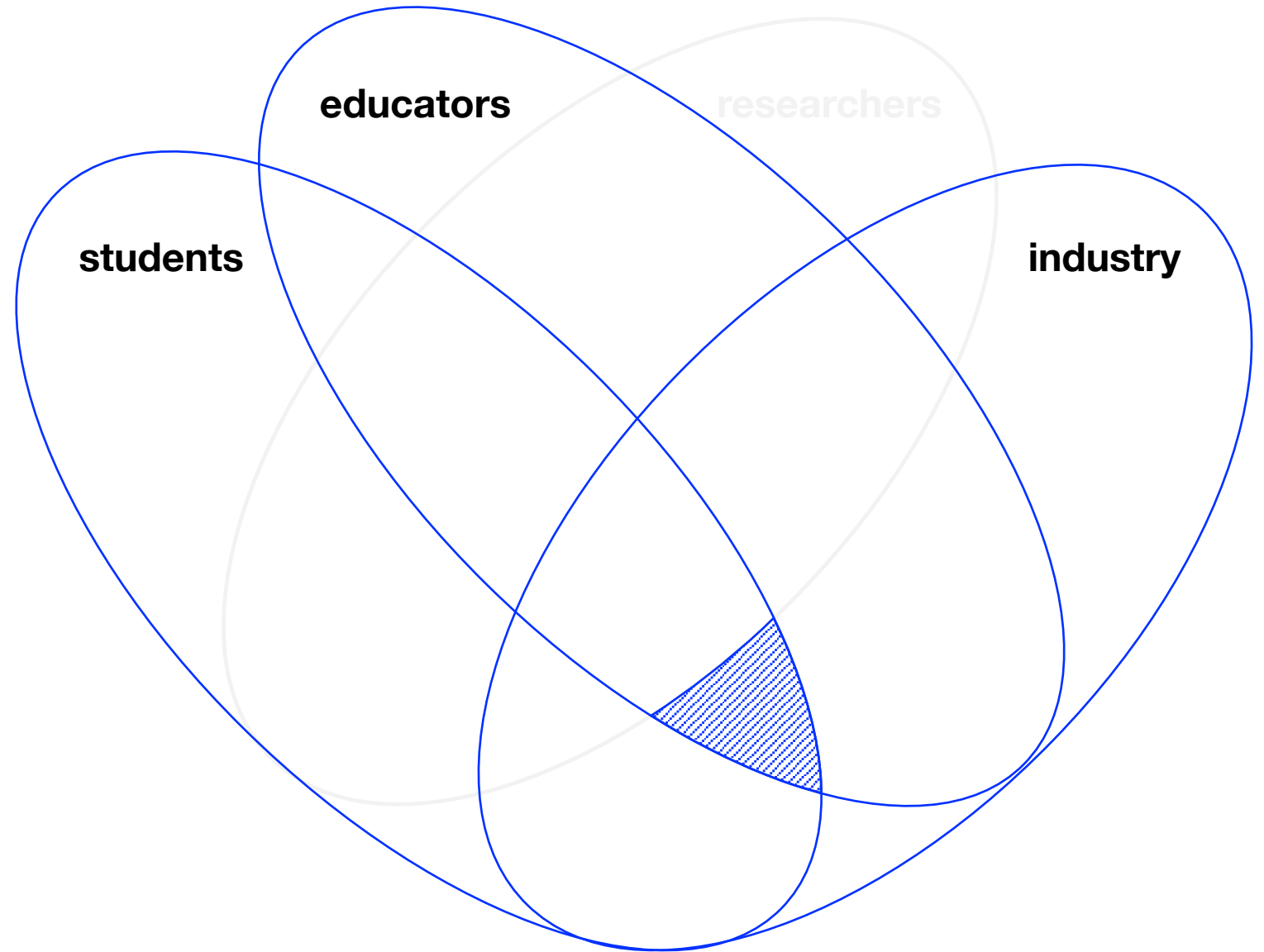
- the value of the non-expert perspective
- the potential value of the methods for expert practitioners?
- new visual languages
- specific audiences?
- interdisciplinary collaboration

## **discussion**

- the value of the non-expert perspective
- the potential value of the methods for expert practitioners?
- new visual languages
- specific audiences?
- interdisciplinary collaboration
- new pedagogies?

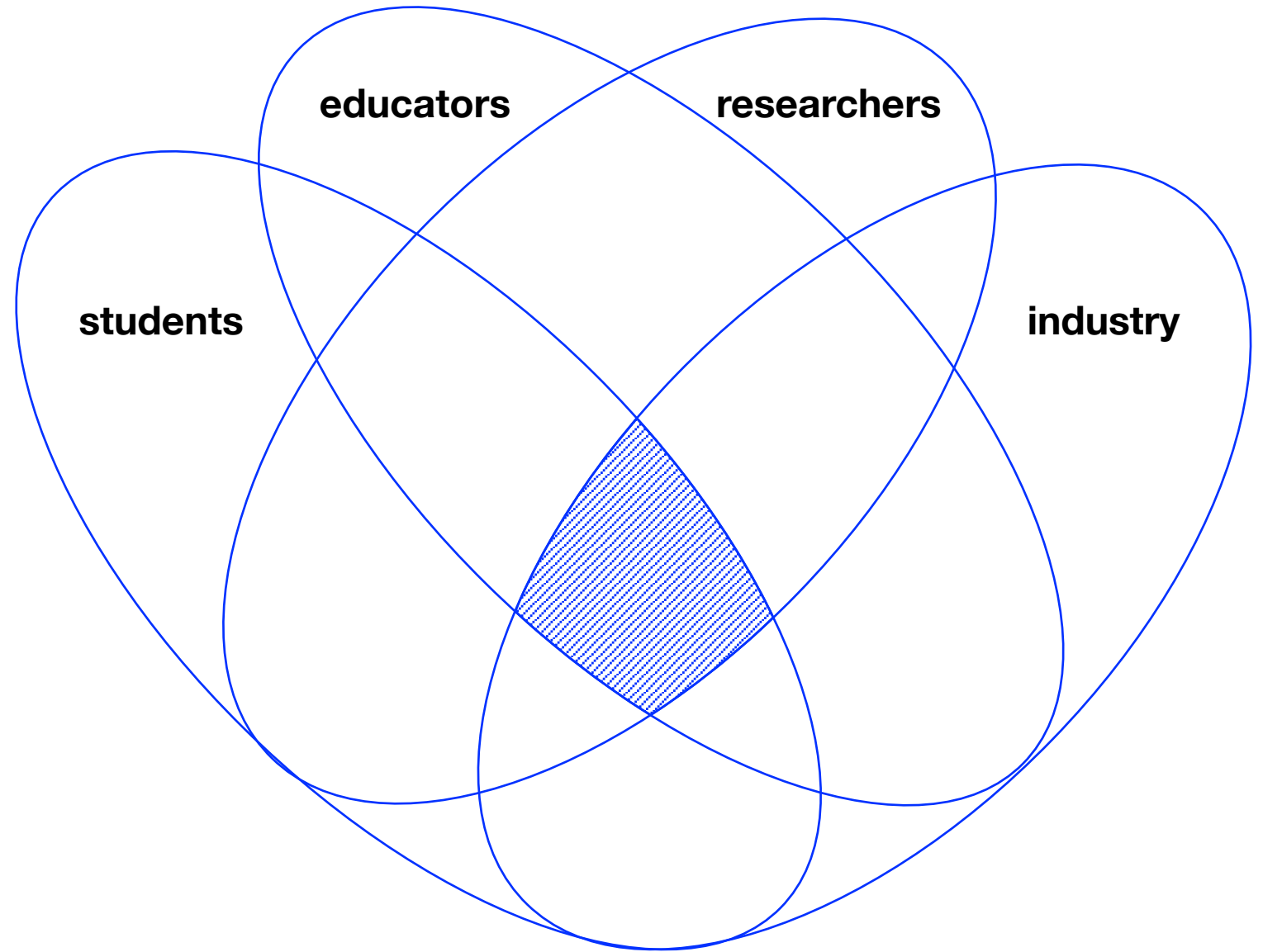
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# live brief



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**knowledge  
exchange**





“

Innovations in contexts, methods and applications of design are calling for a new kind of designer, or at least an expanded capacity to undertake research with increasing sophistication

”



## **Laura Knight**

**Course Leader:** MA Communicating Complexity,  
**Associate Researcher:** Centre for Circular Design

University of the Arts London

[l.h.knight@arts.ac.uk](mailto:l.h.knight@arts.ac.uk)