COS10025

Technology in an Indigenous Context Project

Stakeholder Analysis

SWINBURNE UNIVERSITY OF TECHNOLOGY

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Swinburne think forward

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Acknowledgement of Country

Content

Stakeholder analysis:

- What it is…
- Why we conduct stakeholder analysis…
- How it is done and what it looks like in practice...
- Stakeholder analysis adapted for class projects

Stakeholder Analysis – The Fundamentals

What is stakeholder analysis?

- An evaluation process used to identify key stakeholders who have influence and/or vested interest in a project.

Why do we conduct stakeholder analysis?

- Analyse stakeholder needs, interests, and influence
- Enlist the help of key players and influencers
- Gain early agreement on goals and plans
- Identify and address conflicts or issues early in the project
- Predict stakeholder reactions to a project as it develops

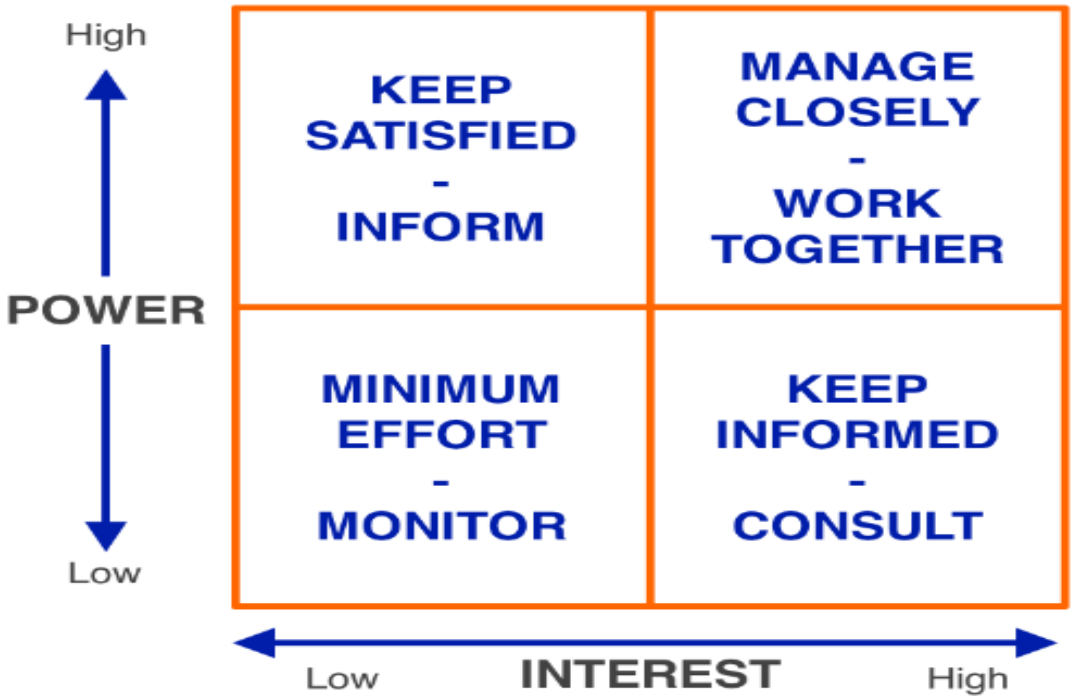
How to Conduct a Stakeholder Analysis

STEP 1: Identify Your Stakeholders

- **Individuals and families** that will use the services
- **Community agencies** that could provide support & awareness of services
- **Community elders** that make strategic community decisions
- Other relevant stakeholders, such as:
  - Local councils / Government / Not-for-profits
  - Corporations / Suppliers

Tools – Media or internet search / site visit / interview

STEP 2: Group & Prioritise Your Stakeholders



The 'Standard' Stakeholder Map
Reproduced from The Influence Agenda
by Dr Mike Clayton (Palgrave Macmillan)

STEP 3: Understand Your Stakeholders

- Find out their motivations and interests
- Who influences their opinions?
- What is the strength of their relationships with other stakeholders?
- Are they likely a friend, foe, or neutral to the project interests?

Tools – Media or internet search / detailed interview

STEP 3: Understand Your Stakeholders

Stakeholder	Relative influence (on a scale of 1-5, with 5 being the most influential	Friend, Foe, Neutral, Persuadable?	What They Bring to the Table?	How Might We Involve Them?
Families	4.5	Friend		
Community agencies	5	Friend	Public relations, referrals, donations.	Referrals, participation in special events
Council of elders	5	Neutral / Persuadable		Opportunities to participate as key drivers of project initiative
Local council / Government	4	Not sure / Persuadable?		
Telecom company	4	Foe?		
Suppliers	3	Neutral		

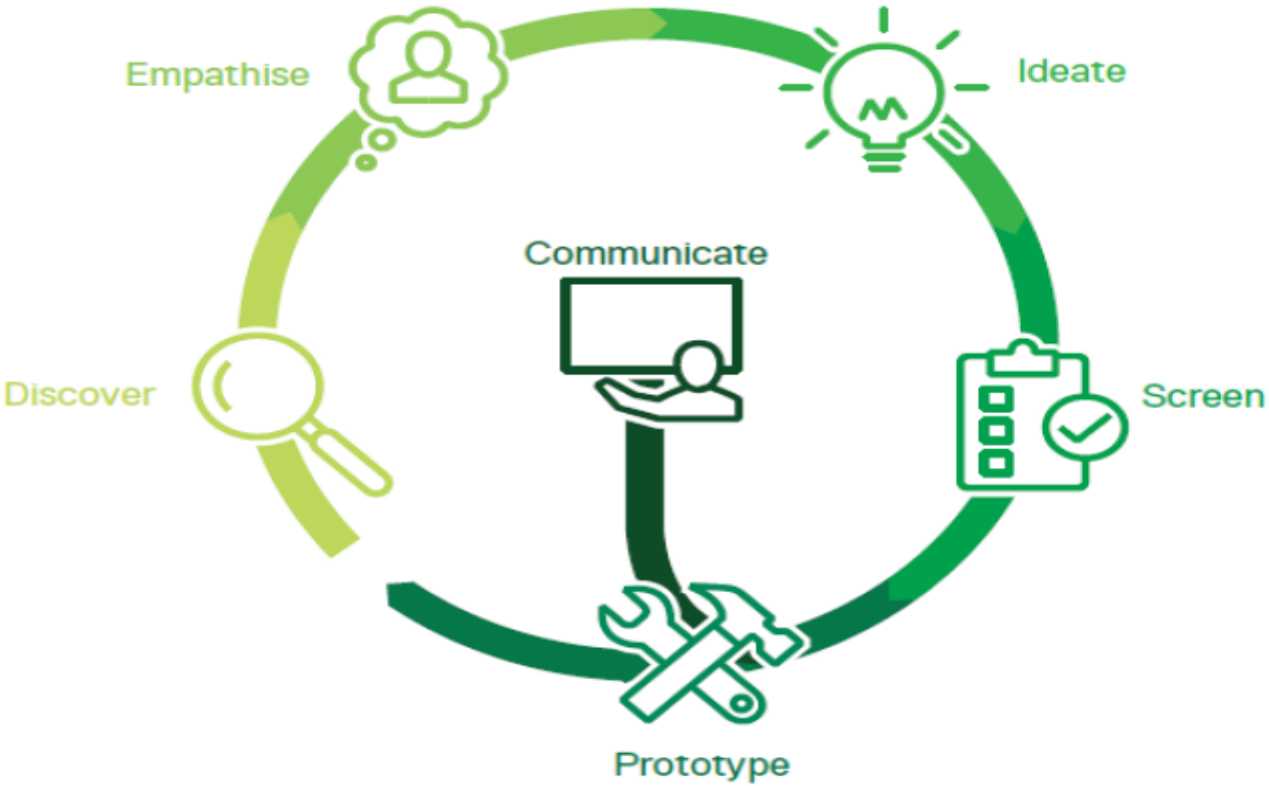
STEP 4: Develop Communication Strategies

- To win buy-in from all stakeholders
- Evidence-based process of documentation
  - Design ideas / concepts
  - Selection criteria
  - Implementation

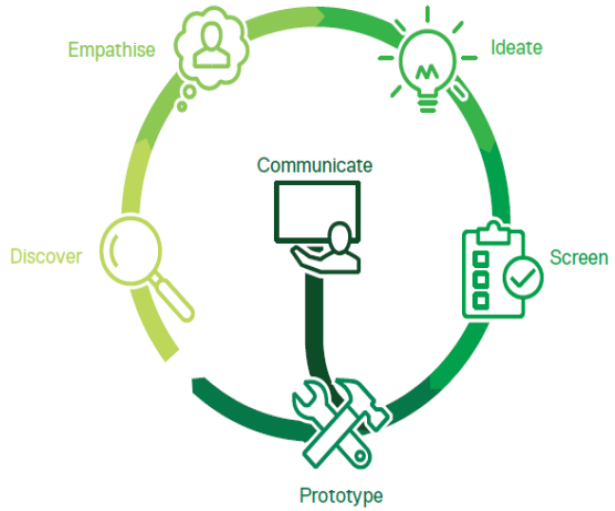
Tools – Sketching / drawing / prototyping / reporting

Case Study – EWB Student Projects in Local Communities

Human-Centred Design Approach



STEP 1: Discovery



(a) Gathering information (site visits)

Site visits / observations

Townhall meetings

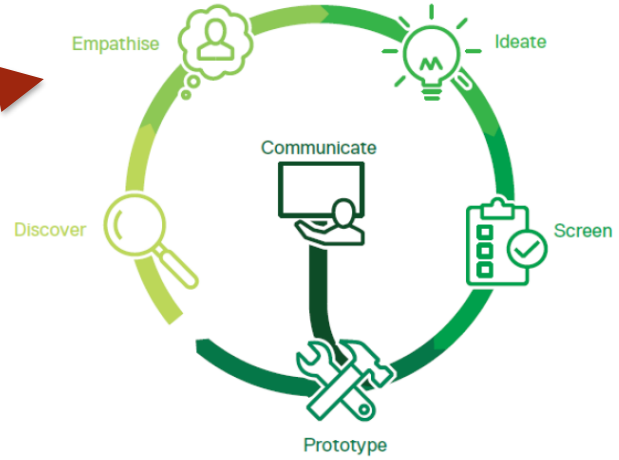
Affinity diagram

Townhall meetings

STEP 1: Discovery

(b) Downloading learning (Affinity Diagram)

STEP 2: Empathise



Interaction with Locals

Strengths & Needs Analysis

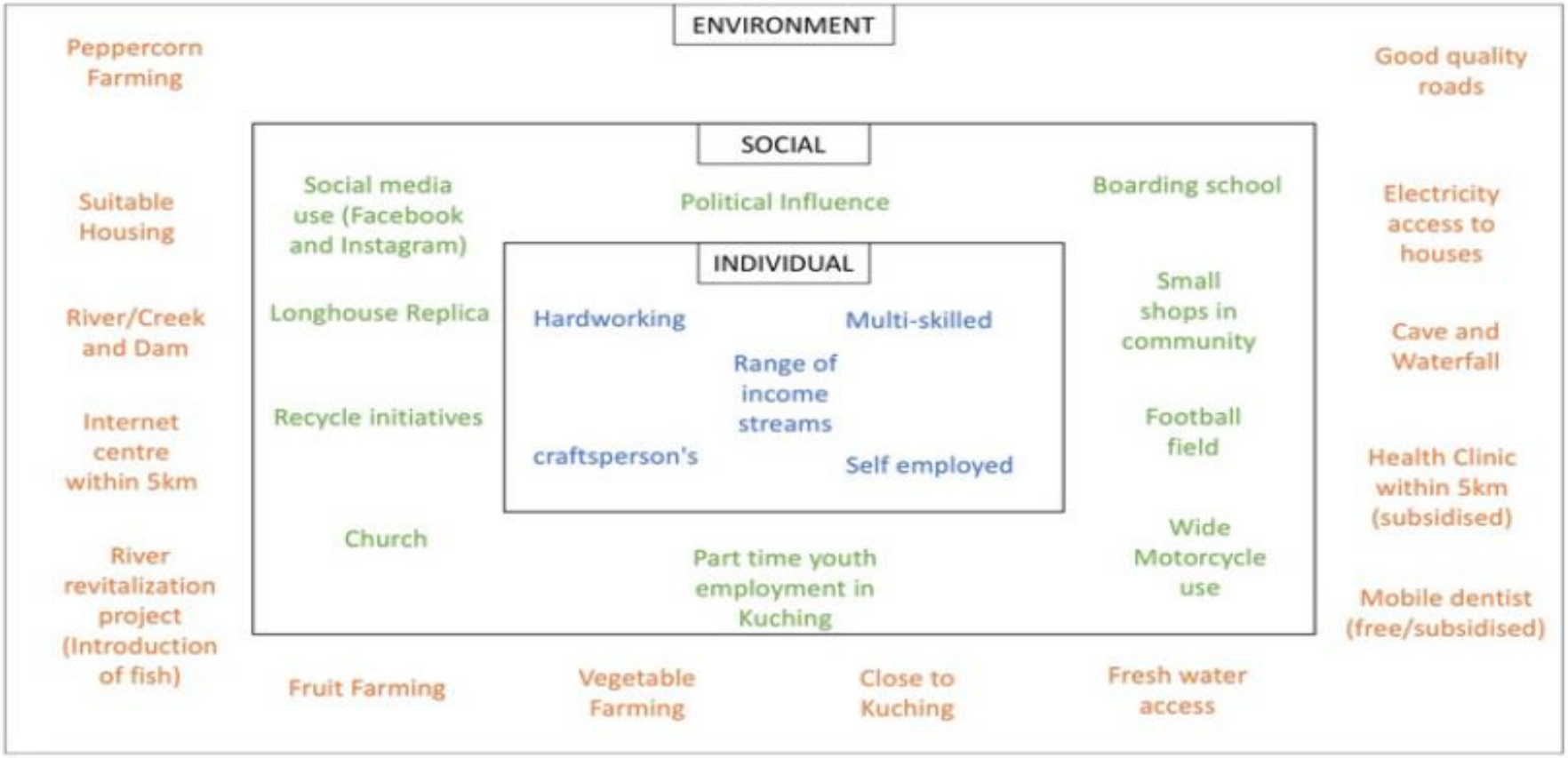
Empathy Maps

Asset Maps

Needs identified = Limited water storage

STEP 2: Empathise

Asset Map of Kampung Begu (Kuching Malaysia)



STEP 2: Empathise

Strengths and Needs Analysis

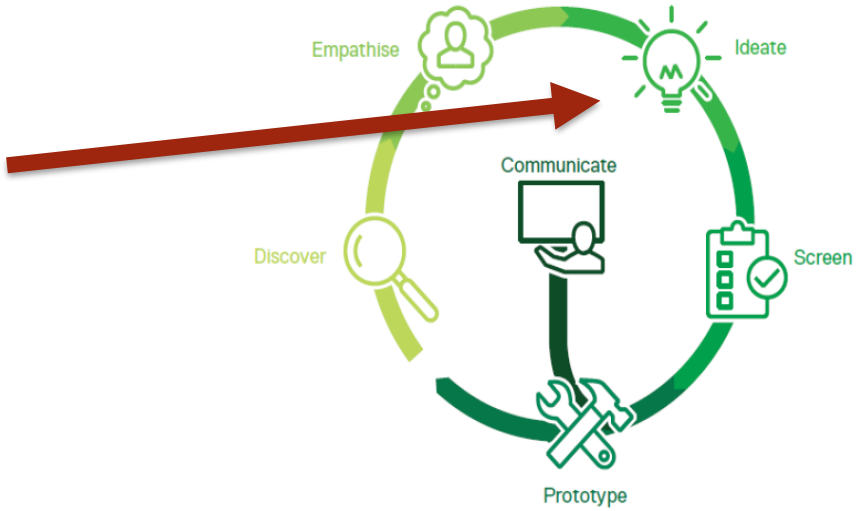
Strengths

- Electricity to entire village.
- Community seems happy.
- Strong sense of community.
- Community members are familiar with each other.
- Very little conflict – most people get along.
- Lack of money is not an issue.
- Water is sourced from mountains.
- Workload is manageable.
- Education is good – students are able to complete secondary.
- Healthcare is accessible – clinic nearby and dentist visits village monthly.
- Flushable toilets – suggest appropriate level of sanitation.
- Community does some recycling.
- Village has paved roads and easy access to Kuching.

Needs

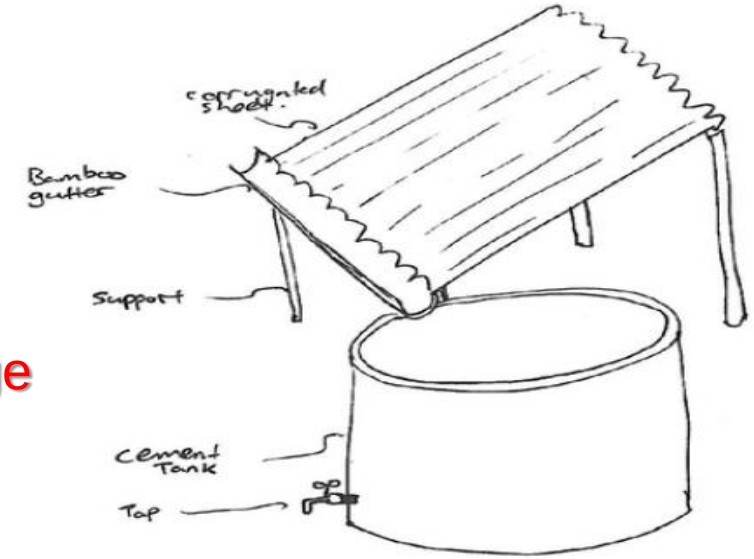
- Internet
- Mobile phone reception
- Increased quality of infrastructure.
- Modern farming equipment.
- Improved access to education and extra-curricular activities.
- Resources to complete projects – such as Town Hall, Church and houses.
- Reliable money stream – largely farming community and profits are shrinking.

STEP 3: Ideate



Brainstorming

Concept designs / sketches



Design opportunity =

Improved water collection and storage

(Civil / Construction Project)

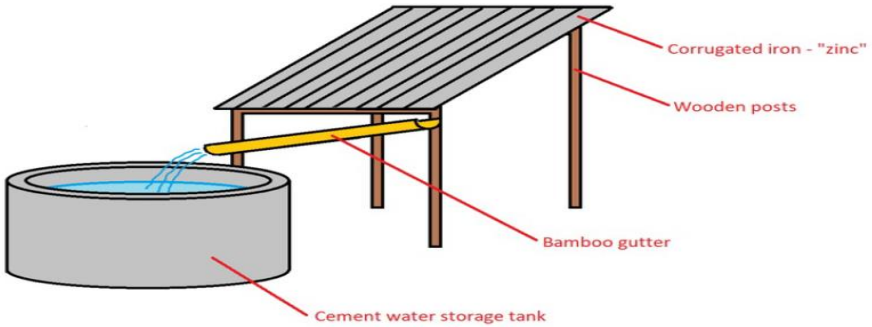
STEP 3: Ideate

Needs identified → Design opportunity → Learning issue

(a) Needs identified = Limited water storage for farming

(b) Design opportunity =

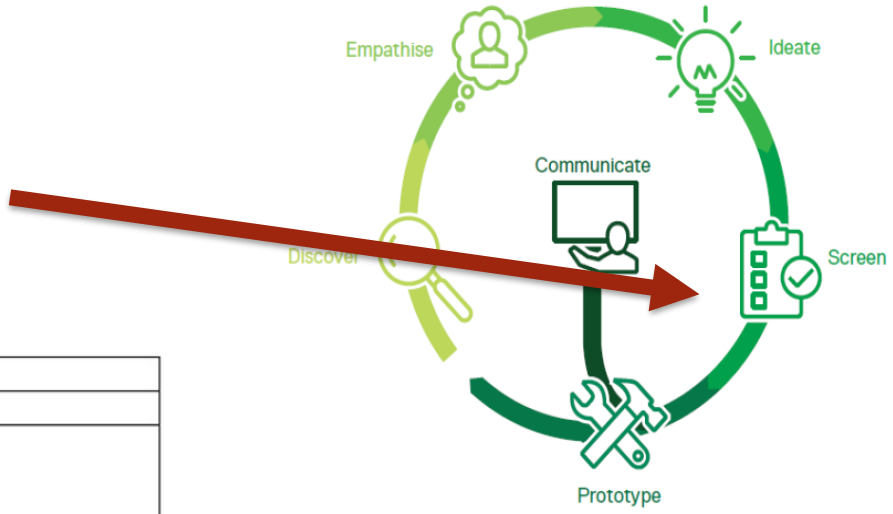
Improved water collection and storage



(c) Learning issue =

How might we design a ferrocement water tank and rainwater collection system?

STEP 4: Screen



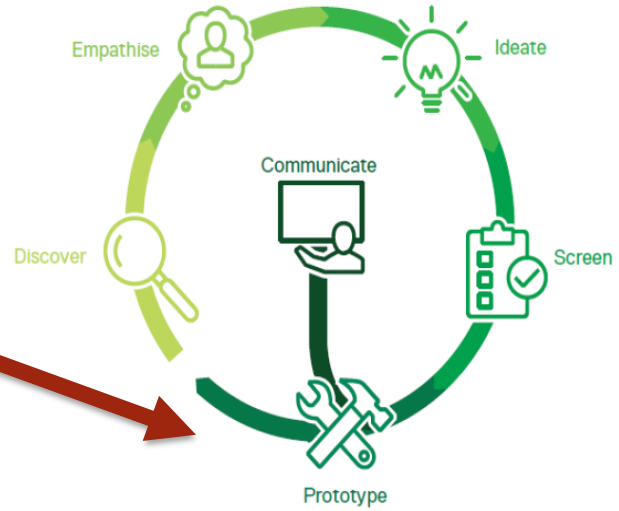
Design specification

Tank specifications	
500L Tank	1000L Tank
Diameter of tank h = 1.0m V = area x height 500L = $0.5m^3$ = area x 1m Area = $0.5m^2$ $0.5m^2 = (\pi d_i^2)/4 \Rightarrow d_i = 0.8m$ t_w = thickness wall ⇒ 0.075m $d_o = d_i + 2t$ d_o = 0.8m + 2(0.075m) d_o = 0.95m	Diameter of tank h = 1.0m V = area x height 1000L = $1.0m^3$ = area x 1m Area = $1.0m^2$ $1.0m^2 = (\pi d_i^2)/4 \Rightarrow d_i = 1.2m$ t_w = thickness wall ⇒ 0.075m $d_o = d_i + 2t$ d_o = 1.2m + 2(0.075m) d_o = 1.35m
Base t_b = thickness base ⇒ 0.1m d_o = outer wall diameter ⇒ 0.95m $A_{base} = (\pi d_o^2)/4 \Rightarrow (\pi \times 0.95^2)/4$ A_{base} = $0.709m^2$ $V_{base} = A \times t_b \Rightarrow 0.709m^2 \times 0.1m$ V_{base} = $0.071m^3$	Base t_b = thickness base ⇒ 0.1m d_o = outer wall diameter ⇒ 0.95m $A_{base} = (\pi d_o^2)/4 \Rightarrow (\pi \times 1.35^2)/4$ A_{base} = $1.43m^2$ $V_{base} = A \times t_b \Rightarrow 1.43m^2 \times 0.1m$ V_{base} = $0.143m^3$

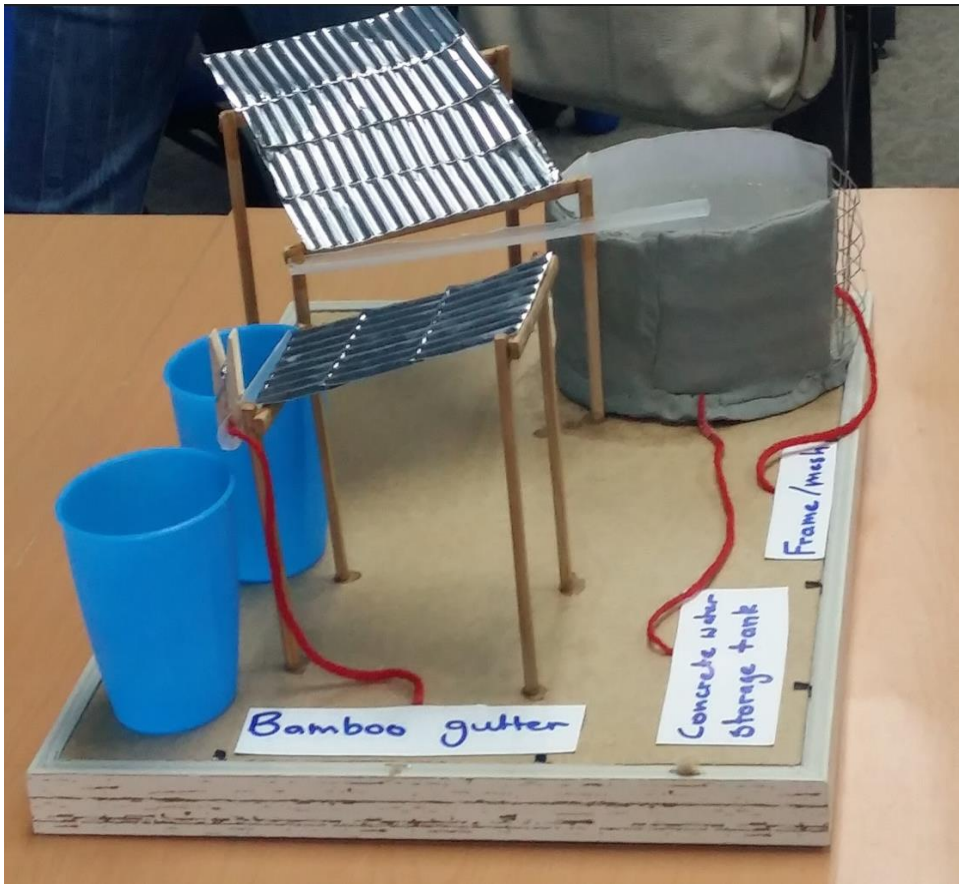
Selection criteria

Criteria	Concept 1	Concept 2	Concept 3
Easy to Build	0	1	-1
Long Lasting	0	1	1
Cheap to implement	1	1	-1
Accessibility – physical location	0	0	1
Accessibility – to resources required	1	1	-1
Usability	-1	1	1
Large capacity	0	1	0
Scalable	1	1	1
	2	7	0

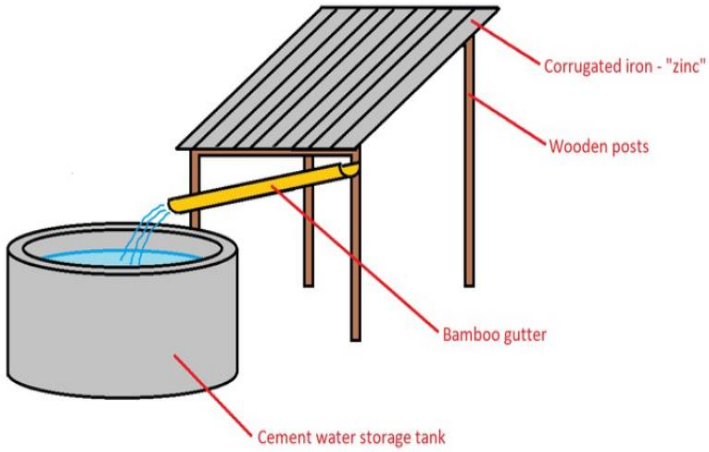
STEP 5: Prototype

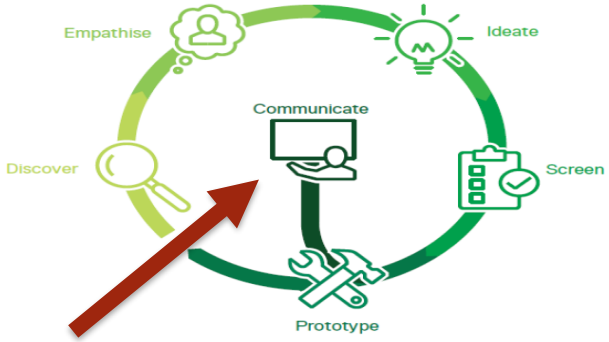


Low-fidelity Prototype



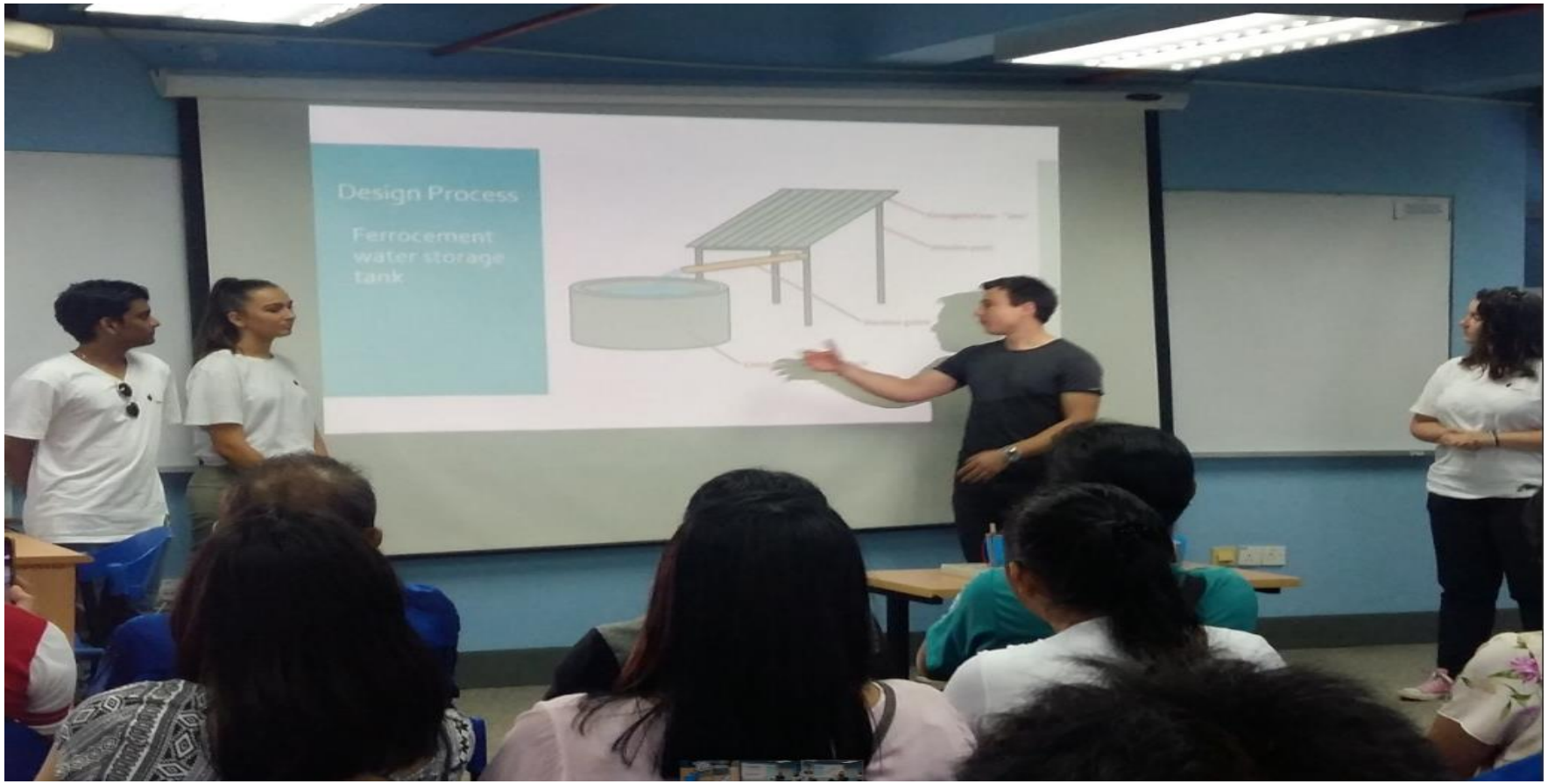
Engineering Drawing





STEP 6: Communicate

Ideas presented to Stakeholders



Adapting stakeholder analysis to a class project

- Use literature and media articles (information gathering)
- Make informed assumptions (gaps in knowledge)
- Clarify assumptions with facilitator (authenticity)
- Identify and apply a systematic design process (e.g., agile, scrum, human-centred design)
- Use design tools to support ideas generation & selection
- The end-goal should always be a community-centred solution

For more community-based design ideas:

- EWB Australia https://ewb.org.au
- IDEO.ORG https://www.ideo.org/work

Acknowledgements

Student participants in the EWB Study Tours, Kuching 2017-18.

Hasta la vista !!!

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Seminar (Week 06)

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