

Some ideas about design and design proposals

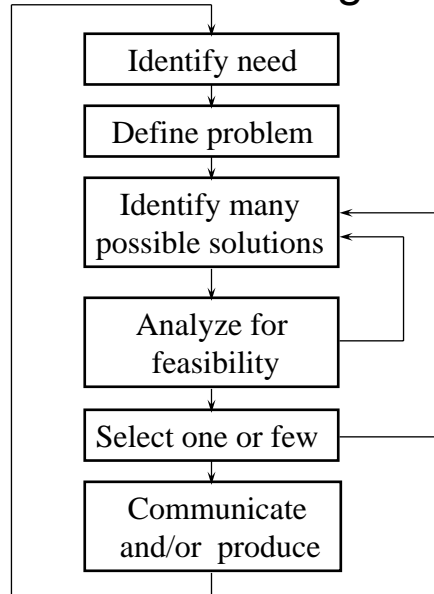
ESRM 462

Restoration Ecology Capstone: Introduction

October 26, 2007

Remember: *Design is generating
plans to “make” something that doesn’t
already exist*

Very Traditional Design Method

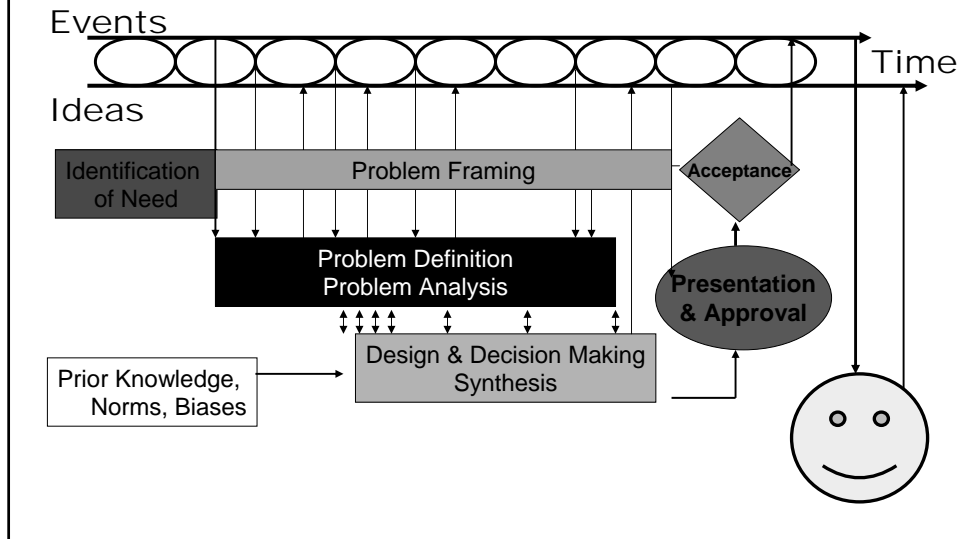


Source: Fridley's imagination
(used without permission)

Appreciative Design Model *Premises*

- Design is a Social Process
- Perspectives Change over Time
 - Result of Events and Ideas
 - Result of Mutual Learning
- Structured Decision Processes Support Communication

Appreciative Design Model



Restoration Design is

- Purposeful
- Constrained
- Based in theory
- Hierarchical
- Finite

It is critical that a restoration design proposal communicates all of the above

Purposeful

There is a clear and unambiguous goal

Constrained

There are clear boundaries that the final design must stay within

Based in theory

- *Outcomes* are predictable
 - You need to have a theory
 - You need to use the theory to predict the outcomes
 - Project execution
 - At completion of the installation
 - Subsequent ecosystem behavior (trajectories)
- We will come back to this slide later

It is critical that any proposal communicates that:

- “We really understand and appreciate the situation (problem, challenge, opportunities, whatever)”
- “We have a really great idea”
- “We have the wherewithal to bring the idea to fruition and (solve the problem)”

We really understand and appreciate the situation (problem, challenge, opportunities, whatever)

- Active listening
- Client Expectations (CE's)
- Stakeholder Expectations (SE's)
- Overall Goal
- Functional Requirements (FR's)
- Constraints (C's)

We have a really great idea

- Describe processes you use to develop and analyze ideas
- Explore the state of the art
- Show alternative ideas that you considered or will consider – lots of ideas are usually a good thing
- Use text, tables, maps, illustrations
- Elucidate your decision making process and criteria
- Explain and use sound theory

We have the wherewithal to solve the problem

- Team makeup
- Individual qualifications, skills and experiences
- Institutional assets (such as facilities, equipment, software)
- Project plan with tasks, responsibilities, timelines, budgets
- Quality of your work as evidenced by your entire proposal

We really understand and appreciate the situation (problem, challenge, opportunities, whatever)

- Active listening
- Client Expectations (CE's)
- Stakeholder Expectations (SE's)
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Client Expectations (CE's)

- Use your client's own words and generate a list of their expectations
- Transfer the ones you think "most critical" to an overhead projector slide



Stakeholder Expectations (SE's)

- Stakeholders are all the folks that are either:
 - Affected by the outcome of your project; or
 - Can affect the outcome of your project
- Who are your project's stakeholders?
- What are their expectations? (write in the client's or stakeholders' own words)

Overall Goal

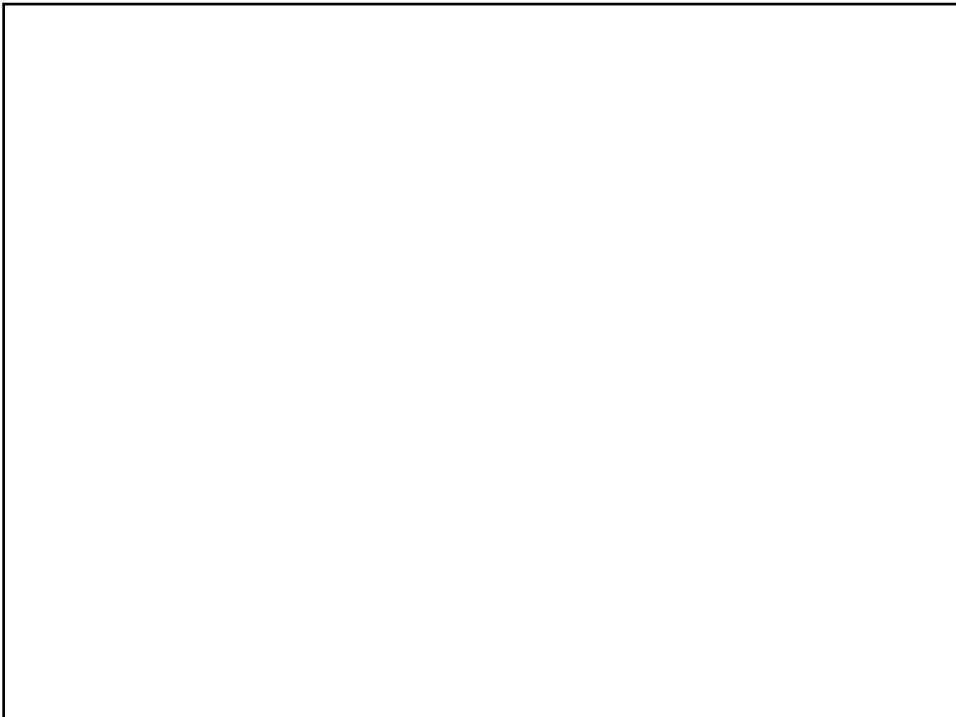
- The overall goal must accurately reflect the client's expectations
- It may (but doesn't have to) reflect some of the stakeholders' expectation
- It must be technically accurate
- Write a draft "overall goal" for your project and transfer it to a chart board sheet.

student written response

Functional Requirements (FR's)

- Needed functions or functionality (or possibly structure)
- In R.E. often drawn from ecological function, process, structure
 - Examples?
- Technical (R.E. Designer's) interpretation of the CE's (must map to CE's)
- Unbounded (doesn't limit "how")
- Write FR's for your project
- Transfer "best of" to a chartboard sheet

student written response



Constraints (C's)

- Limitations on how the FR's are met
- Brought to the table by stakeholders
- May be:
 - Natural
 - Legal
 - Political
 - Ethical
 - Economic
 - Irrational
- Who are the stakeholders for your project?
- What are the constraints they bring?

student written response

Based in theory

- *Outcomes* are predictable
 - You need to have a theory
 - You need to use the theory to predict the outcomes
 - Project execution
 - At completion of the installation
 - Ecosystem behavior (trajectories)
- You use the outcome predictions to make your design decisions

Based in theory (2)

- One important collection of theory is “restoration ecology”
- Other potentially important areas of theory are:

Hierarchical

- Big picture comes before the details
- Details can elucidate the bigger picture
 - Moving targets!
 - Perhaps design is inherently iterative
 - Soft Systems methodology
- Specifying *Design Parameters* (DPs = physical things you can directly specify) spawns new FRs and/or makes new Cs relevant

Hierarchical

- Example – Bicycle
 - DP of a derailleur is selected before the dimensions of the cogs (little sprockets) are specified
- Example – Restoration
 - DP of mulch is selected before a particular commercial fabric is specified (over perhaps cardboard)

Finite

(when is “the design” done?)

- **The design is a “plan”**
- Who must approve the plan?
- Who will execute the plan?
 - A “person of ordinary skill” in the art
- Who will approve the installation?
 - Does it match the plan
 - Is ambiguity good or bad?
- How will disputes likely be resolved?
- **This lecture is finite too!**