

Project Busters

Designing a project

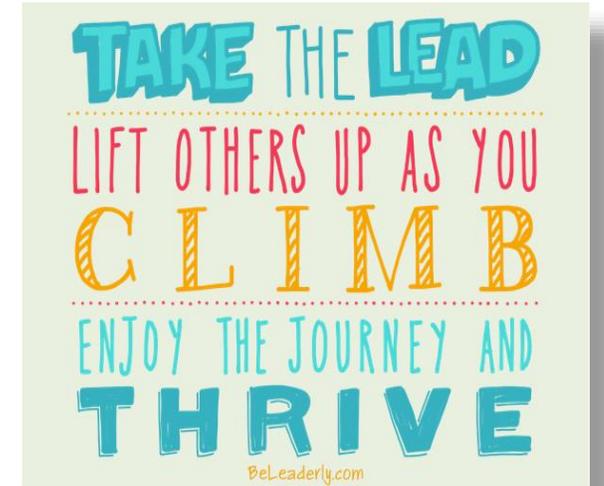


Class 7



Lesson 7 ... Decision making

15 minutes	Shaping follow-up	
15 minutes	Decision making	
15 minutes	Decision	
15 minutes	Skills	



Requirements for our project design

How are we going to judge our design?

- Ability to implement within the community
- Complexity
- Innovative
- Ability to measure and manage
- Cost

Essential Questions

What are we looking to do?

How would we judge success?

What do we have to design to solve this issue?

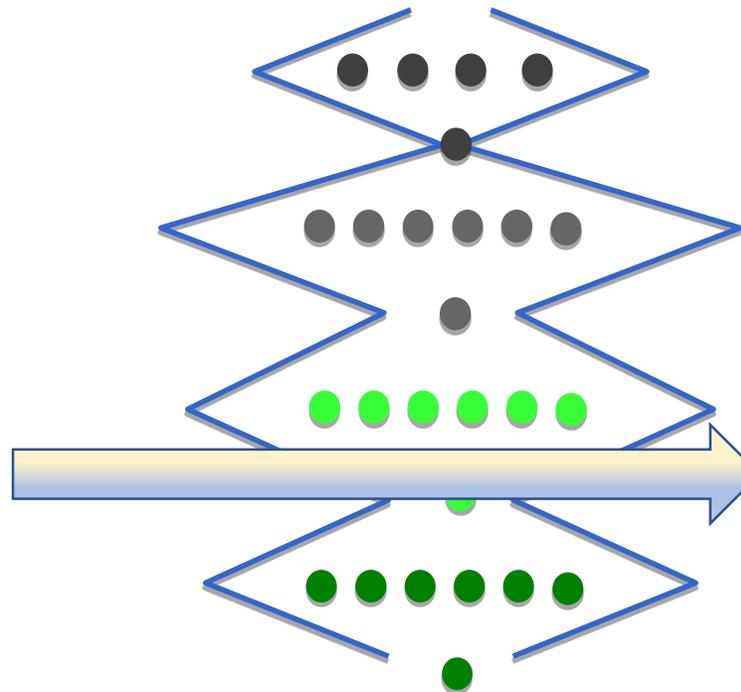
What is the purpose of this design?

What would the goals and objectives be?

Can we break the problem/design into parts?

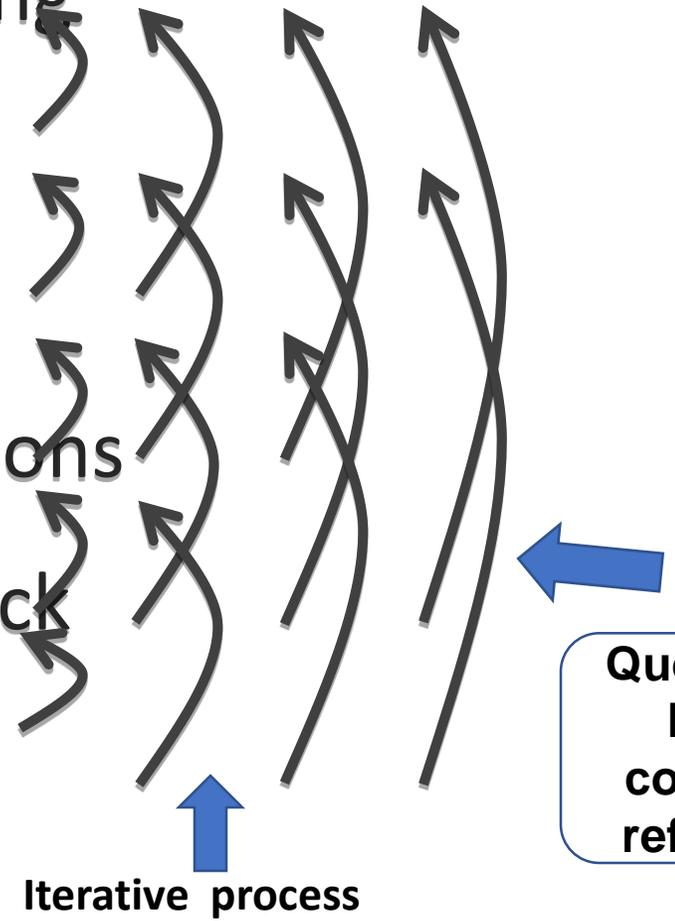
When we reach a road block, we will be able to decide an new path

Problem Solving



Divergent/Convergent thinking

- Problem Framing
- Requirements
- Many Designs
- Pick a few Solutions
- Testing/ Feedback
- Reporting



Iterative process

Questions,
Meta-
cognitive
reflection

Community



Decision Process

Convergent thinking ... Narrowing the # of ideas and making a selection

Discussion: During the design process or problem solving we need to apply

convergent thinking to narrow our option to a selection. When we have many options

For the items that we are going to judge one against another, we use a scale of 1-10 to rate them and then we multiple that number by the weight to get the total # for that cell.

Examples

Requirement

Weight

requirements
↓

Requirement	Weight		
environment			
simple			
low cost			
Total=			

Meta-Cognition / Reflection

- We must model the meta-cognition aspects on how we arrived at a learning point. By providing examples & engaging students in role playing, we can demonstrate how we arrived at a particular point.

Questions

- We need to focus on modeling for the students the way to ask questions based on the desired outcomes to demonstrate that learning is achieved by getting the students to understand how they gathered the data & use skillful thinking to make a conclusion.

How do we operate?

we will act as a facilitator using **questions** to get the students to design their process and operating ground rules.

- What is the definition of the process?
- How should it operate?
- How does it compare to a other processes?
- What are our roles?
- How am I successful?
- How do we communicate and collaborate together?

- The teacher can identify the expected outcome and question the students on how they achieved this outcome. In addition, the students will assess themselves on their compliance with the ground rules that were established in the beginning of the project.

What is Creativity?

Creativity

Bringing into existence an idea that is new to you

The practical application of creative ideas

Innovation

Creative Thinking

An innate talent that you were born with and a set of skills that can be learned, developed, and utilized in daily problem solving

What is Creativity?

Creative solutions are more than ideas - they must work in the real world. A creative solution has three attributes:

- It is *new* (otherwise it would not be creative).
- It is *useful*, in that it solves the problem (otherwise it would not be a solution).
- It is *feasible*, given the messy real world constraints like money and time.

Types of Innovation

- ***Business Model Innovation*** involves changing the way business is done in terms of capturing value e.g. HP vs. Dell, hub and spoke airlines vs. Southwest
- ***Process Innovation*** involves the implementation of a new or significantly improved production or delivery method.

Results & Outcomes

- **Supporting the community ... involvement(Civics)**
- **Fun Activity**
- **Quality & Feedback in Learning**
- **Learning thru doing and mistakes**
- **Presenting your solutions**
- **Building social & thinking skills**

Skills---

Students must be cognitively aware of skills they are using	
Dealing with conflict	
Listening	
Character traits	<ul style="list-style-type: none">• Self-management• Social awareness• Relationship management
Planning	<ul style="list-style-type: none">• Time management• Planning

Good mental habits

- Maintain the state of doubt and to carry on systematic and protracted inquiry --- these are the essentials of thinking
- Wonder is the mother of all science (Curiosity)
- Constant challenging your ideas with curiosity is what makes solving a problem fun.

John Stuart Mill: "To draw inferences has been said to be the great business of life. ... It is the **only occupation in which the mind never ceases to be engaged."**

Learning skills

Questioning	Creative thinking
Critical thinking	Reflection
Decision making	System thinking

End

Next Class

- Doing the project



Thank You

