15 Ideation

Wednesday, February 26, 2025   1:38 PM

yes clickers log in now please

Today

Max Van Cleave	Medieval architecture
Grant Thompson	Antoni Gaudi

Grad presentations
Ideation techniques
       Brainstorm brainstorming
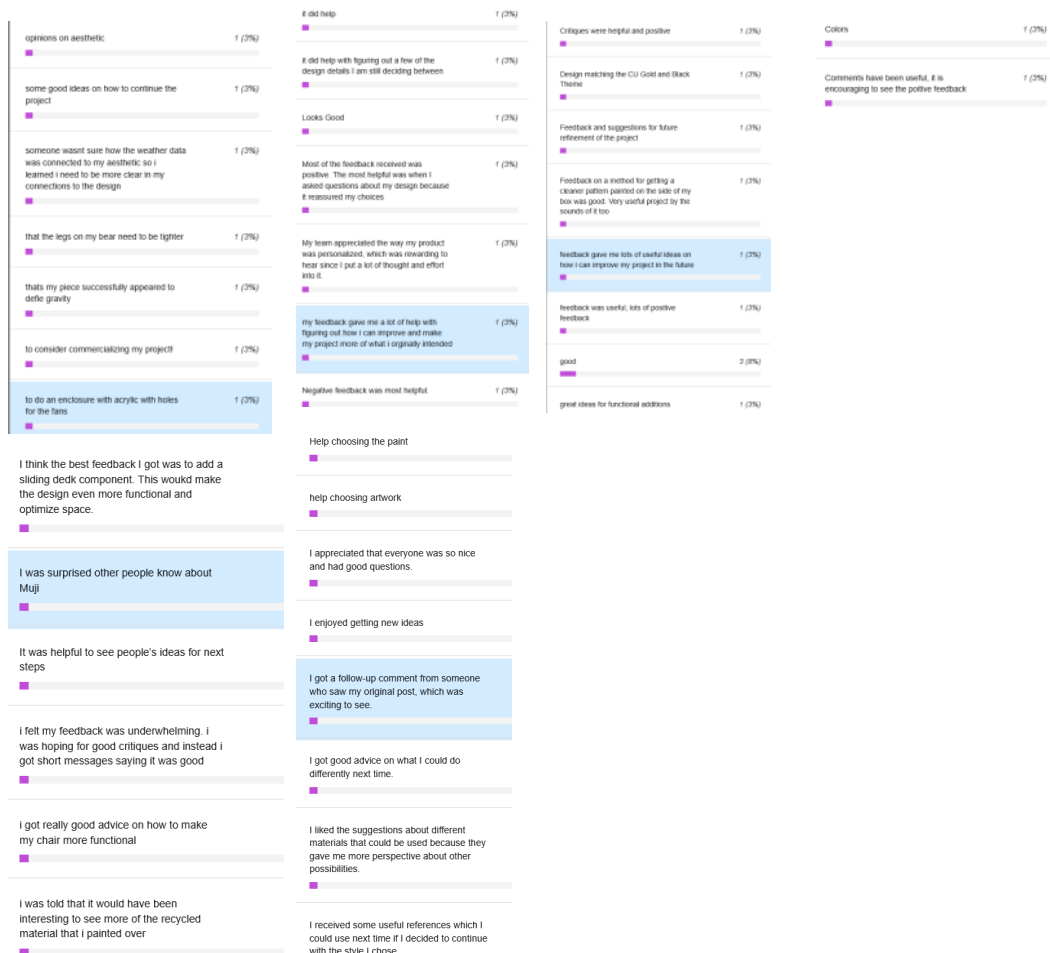   Linear techniques
       Intuitive techniques
       -or-
       International Style, Art Deco, Organic Design & Streamlining
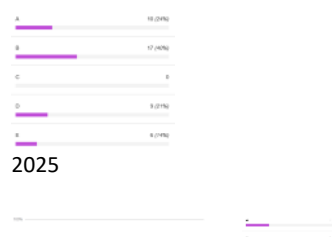Chat about your main project
Curves drawing practice

Everybody got feedback on Upcycle last week. Short answer in iclicker: What was best/most useful or the most important or surprising feedback you got?

opinions on aesthetic	1 (3%)	
some good ideas on how to continue the project	1 (3%)	
someone wasnt sure how the weather data was connected to my aesthetic so i learned i need to be more clear in my connections to the design	1 (3%)	
that the legs on my bear need to be tighter	1 (3%)	
thats my piece successfully appeared to defie gravity	1 (3%)	
to consider commercializing my project!	1 (3%)	
to do an enclosure with acrylic with holes for the fans	1 (3%)	

I think the best feedback I got was to add a sliding deck component. This woukd make the design even more functional and optimize space.

I was surprised other people know about Muji

It was helpful to see people's ideas for next steps

i felt my feedback was underwhelming. i was hoping for good critiques and instead i got short messages saying it was good

i got really good advice on how to make my chair more functional

i was told that it would have been interesting to see more of the recycled material that i painted over

It did help	1 (3%)	
It did help with figuring out a few of the design details I am still deciding between	1 (3%)	
Looks Good	1 (3%)	
Most of the feedback received was positive. The most helpful was when I asked questions about my design because it reassured my choices	1 (3%)	
My team appreciated the way my product was personalized, which was rewarding to hear since I put a lot of thought and effort into it.	1 (3%)	
my feedback gave me a lot of help with figuring out how I can improve and make my project more of what i orginally intended	1 (3%)	
Negative feedback was most helpful	1 (3%)	

Help choosing the paint

help choosing artwork

I appreciated that everyone was so nice and had good questions.

I enjoyed getting new ideas

I got a follow-up comment from someone who saw my original post, which was exciting to see.

I got good advice on what I could do differently next time.

I liked the suggestions about different materials that could be used because they gave me more perspective about other possibilities.

I received some useful references which I could use next time if I decided to continue with the style I chose

Critiques were heplful and positive	1 (3%)	
Design matching the CU Gold and Black Theme	1 (3%)	
Feedback and suggestions for future refinement of the project		
Feedback on a method for getting a cleaner pattern painted on the side of my box was good. Very useful project by the sounds of it too	1 (3%)	
feedback gave me lots of useful ideas on how i can improve my project in the future	1 (3%)	
feedback was useful, lots of positive feedback	1 (3%)	
good	2 (6%)	
great ideas for functional additions	1 (3%)	

Colors	1 (3%)	
Comments have been useful, it is encouraging to see the poitive feedback	1 (3%)	

On to Main Project

2025

Poll:
A) I know what I'm making for my main project
B) I've got some ideas, but still need to narrow it down
C) Too many ideas right now
D) Not enough ideas, nothing feels right
E) Haven't started thinking about it yet

B) I've got some ideas, but still need to narrow it down
C) Too many ideas right now
D) Not enough ideas, nothing feels right
E) Haven't started thinking about it yet.

Do you want to see ideation techniques in class today?
Ideation techniques
      Brainstorm brainstorming
      Linear techniques
      Intuitive techniques

A) Yes please!!
B) Sure. Can't hurt
C) whatever
D) No thanks, let's move on.
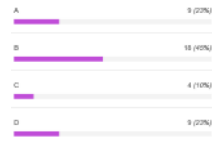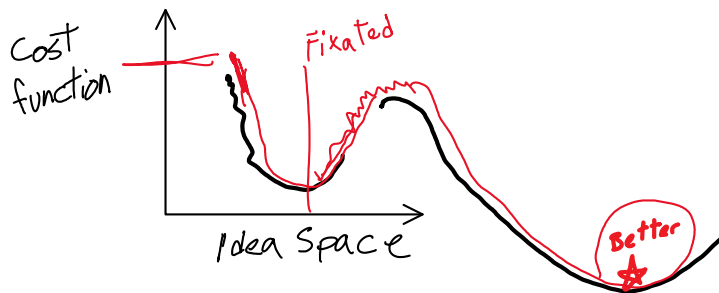
2025

2024   2023   2021

2025

2024   2023   2021

Ideation/Brainstorming

Your initial idea may be good, but you may get a better one if you press on,
and keep generating ideas

Benefits of ideation
      Never hurts
      Can lead to new solution
      Can lead to better solution
      Can lead to an awesome solution for some *other* problem
      Even if nothing comes of it, can add meaning to your original solution

Ideation Techniques

Brainstorming: What have you been exposed to?

Look around at surrroundings
Think of big interests, what might help out
Look at tools, resources
Discuss with roomates
Thumbnail sketching
Group brainstorms, whiteboard
Sticky notes
Keep going!
Different from individual brainstorming
Concept mapping
Look at youtube, pinterest
Look at other products.

Previous years:

No idea is bad, can still provide something useful

Build on other ideas

Don't settle on any idea until you have at least 100 to choose from. First 15 are good, 50 are meh, after 70 ideas really opened up

Fail early and fail often

Write out obvious ideas first to clear space for the next

Talk to myself

Sketching can give ideas and insights

Keep a list for later. Always have ideas ready

Making word webs, yes-and

Sticky notes on a wall

Start with broad concepts, go to Pinterist , camera roll, for shapes and colors. Gather from various media, Google images, follow rabbit holes

Collaboration, bounce ideas off others

Relax:
- Let ideas simmer, then take a shower
- Running or hiking, being in motion and not thinking helps. Music can help
- Salvatore Dali: fall asleep with a plate, then use the adrenaline rush from crash to get ideas
- Being receptive while falling asleep
- Reading any book, just sitting and reading

Looking at something from as many perspectives as possible, even unrelated ideas

Combining requirements to make a single prompt

Suggestion cards. Eno's Oblique Strategies, IDEO, Instagram ads, Design Heuristics

Bounce similar words: Cardboard to cardstock ….

Create a roadmap: list specifications and goals

Think of materials, then the object, and vice versa

Questionstorming. Helps you decide what's important, can guide brainstorming, open you to other considerations. Start with a statement, then generate open questions.

Define constraints or concepts. I.e. dynamic is current constraint.

Break task up into smaller parts

Consider your audience, then come up with tone words about what they want

Come up with user personality profiles, be empathetic

APD: Pain points of clients

Design Heuristics

Prompts to help spark alternatives. Good for early in design process.

1 Add levels	20 Change geometry	39 Incorporate environment	58 Scale up or down
2 Add motion	21 Change product lifetime	40 Incorporate user input	59 Separate functions
3 Add natural features	22 Change surface properties	41 Layer	60 Simplify
4 Add to existing product	23 Compartmentalize	42 Make components attachable/detachable	61 Slide
5 Adjust function through movement	24 Contextualize	43 Make multifunctional	62 Stack
6 Adjust functions for specific users	25 Convert 2-D material to 3-D object	44 Make product recyclable	63 Substitute way achieving function
7 Align components around center	26 Convert for second function	45 Merge surfaces	64 Synthesize functions
8 Allow user to assemble	27 Cover or wrap	46 Mimic natural mechanisms	65 Telescope
9 Allow user to customize	28 Create service	47 Mirror or array	66 Twist
10 Allow user to rearrange	29 Create system	48 Nest	67 Unify
11 Allow user to reorient	30 Divide continuous surface	49 Offer optional components	68 Use common base to hold components
12 Animate	31 Elevate or lower	50 Provide sensory feedback	69 Use continuous material
13 Apply existing mechanism in new way	32 Expand or collapse	51 Reconfigure	70 Use different energy source
14 Attach independent functional components	33 Expose interior	52 Redefine joints	71 Use human-generated power
15 Attach product to user	34 Extend surface	53 Reduce material	72 Use multiple components for one function
16 Bend	35 Flatten	54 Repeat	73 Use packaging as functional component
17 Build user community	36 Fold	55 Repurpose packaging	74 Use repurposed or recycled materials
18 Change direction of access	37 Hollow out	56 Roll	75 Utilize inner space
19 Change flexibility	38 Impose hierarchy on functions	57 Rotate	76 Utilize opposite surface
			77 Visually distinguish functions

Daly, Shanna R., Seda Yilmaz, James L. Christian, Colleen M. Seifert, and Richard Gonzalez. "Design Heuristics in Engineering Concept Generation." *Journal of Engineering Education* 101, no. 4 (2012): 601–29. https://doi.org/10.1002/j.2168-9830.2012.tb01121.x.

https://www.youtube.com/watch?v=JPwxlwaUpi0
Neurological perspective on creativity. Practice, but then let it flow.