

16 Ideation. Curve sketching

Friday, February 28, 2025 12:45 PM

Admin

Today

Grad presentations

Finish ideation

Choice:

Pod time

Sketching

Modern/Minimalists -International Style, Art Deco, Organic Design

clicker

Grad presentation today

Jules Fischer-White	TBD
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Some content from Thinkertoys by Michael Michalko

Business/entrepreneur oriented

Lots of stories, some references

Assortment of techniques

Very positive-thought oriented

Ideation, particularly new ideas, comes from shifting your perspective, your point of view



Linear techniques

Explore idea space systematically

Intuitive techniques

Your subconscious already has an answer, you just have to ask it nicely

Linear Techniques

False Faces

- 1) State your challenge
- 2) List your assumptions
- 3) Challenge your fundamental assumptions
- 4) Reverse each assumption; write down the opposite of each one
- 5) Record differing viewpoints that might prove useful to you
- 6) Ask yourself how to accomplish each reversal. List as many ideas for each as you can.

Scamper

From Alex Osborn, 1940, pioneer of brainstorming techniques. Memonic by Bob Eberle
Substitute something

Combine it with something else
 Adapt something to it
 Modify or Magnify it
 Put it to some other use
 Eliminate something
 Reverse or Rearrange it

Design Heuristics

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

Intuitive

<https://www.youtube.com/watch?v=JPwXlwaUpi0>

Neurological perspective on creativity. Practice, but then let it flow.

Not Kansas

Guided visualization. Similar to 'go to your happy place'; imagine experiencing all 5 senses: sight, touch, smell, taste, hearing. Entwine receiving mysterious messages, then look at them and write them down.

STORM

You had never seen such a sunset. The sun was like a dying coal, ringed with black long before it neared the horizon. After the sunset, the rim of the earth was blood-red for a few minutes, then the red was streaked with black. When you looked at the eerie sky, it seemed as if the world had turned upside down and the road that ought to be beneath your feet was now above your head. And then the sky turned black.

You are surprised by a flicker of light to the west—so quick that you do not recognize it as lightning. But it flickers again and again and soon is almost constant. Then comes the thunder, with a sound that seems to roll

over you like boulders. The lightning begins to drive into the earth, with streaks as big as poles and terrible sounds.

The rain begins, pelting down in big scattered drops that at first feel good, but the drops grow bigger and soon the rain is falling in sheets, blown this way and that by the fitful wind. In a bright flash of lightning, you see something run in front of you. What is it? Study it and then let it go, but remember what you saw.

The water beats down more heavily, pounding you and running in streams off your hat brim. The rain is now so heavy that you begin to think you might be drowned. A stream of water pours down in front of your nose while another runs down your back. You are so cold and wet that you feel you might never get warm again.

The ground is covered with water and there is nothing to do but splash along. Suddenly, you begin to slide—you have stepped into a hole and you feel water rising up to your hips. You climb out and squish along again.

Soon you get too tired to think and can only hope for morning. But the night goes on and on. Finally, the lightning dies and the hard rain slows to a drizzle. You stop to empty your shoes of water. You drop one. When you stoop down to pick it up, you notice a bottle with a slip of paper in it. You pick up the bottle and put it in your pocket.

A little while later, dawn breaks and the rain stops completely. The sky is cloudless. The first sunlight sparkles on the wet trees and bushes and on the hundreds of scattered puddles. Cold and damp, you bend over a puddle and wash the mud off your clothes. Now that the sun is beginning to warm things up, you find a grassy hill that isn't too wet and start a small fire. Starved, you fry up some eggs and thick slices of bacon. Breaking the fried eggs with your knife, you eat them with slices of bacon as you warm your body by the fire.

Remembering the bottle, you take out the note and read it slowly. What are the images? Open your eyes and write or draw your impressions and images. Write whatever comes to mind.

If the images are cloudy, repeat the exercise daily until you are comfortable with it and the images grow vivid. Begin to imagine that you are going to experience a breakthrough and the images will flow.

... who was trying to find a new business niche experienced

set up a
cook stove
substitute
favorite
protein

- a) I got nothing
- b) Kinda cool, but nothing specific
- c) A couple of ideas
- d) Bingo! Something useful



2024



2021

X	2020	2019
A	21%	3

Clicker:

B	61	37
C	14	47
D	4	13

Next:

- A) Pod time, talk about your project ideas
- B) Sketching practice
- C) Modern design movements: Art Deco, International style



Sketching Practice

