

Design Thinking and Applied Ideation

- Thinking about problems
- Brainstorming and ideation
- Improv and collaboration
- Practice brainstorms
- Scenarios and storytelling
- Presentation and wrap



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E110 – 14 January 2010

Thinking about problems

Investigate
Observe
Record
Analyze
Understand

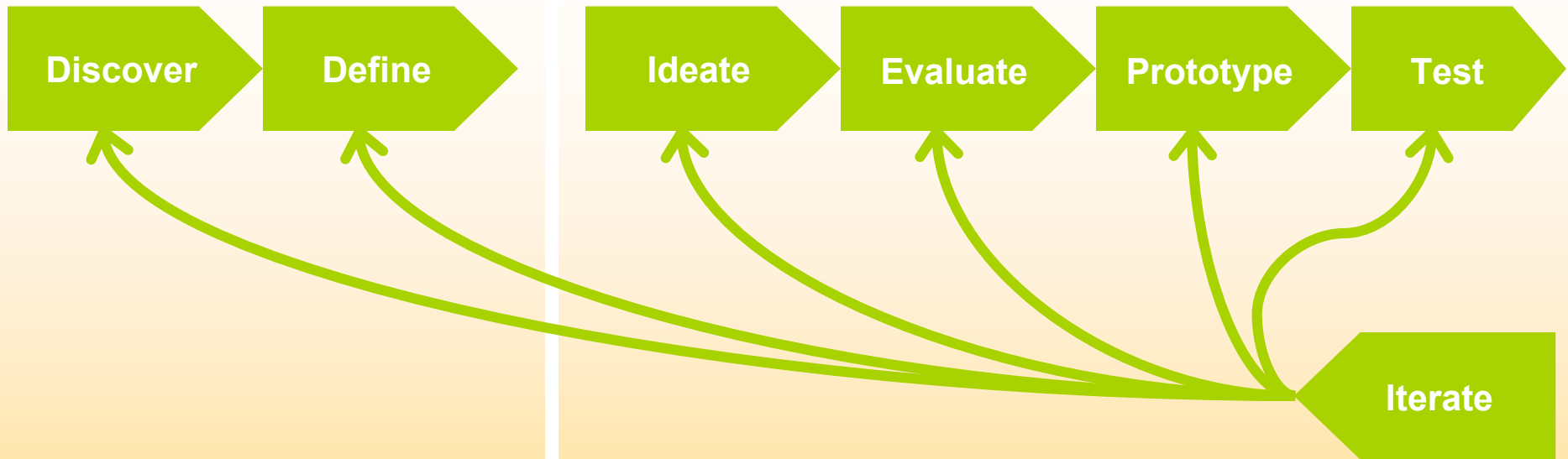
Contextualize
Substantiate
Diagram
Explain
Articulate

Brainstorm
Explore:
Alternatives
Possibilities
Choices

Cluster
Analyze
Prioritize
Eliminate
Elevate

Explain
Diagram
Mockup
Express
Build

Evaluate
Try out on
stakeholders
**Test with
users**



Problems

Solutions

Iterate

Reframe
Redefine
Reprioritize
Redirect
Replan

Ideation and inspiration

Genius is one percent inspiration
and ninety-nine percent perspiration.

Thomas Edison, inventor

Inspiration is for amateurs. The rest of us
just show up and get to work.

Chuck Close, artist

Brainstorming

Defined by Alex Osborn in 1939

“Storming a problem in a commando fashion”

- “Your Creative Power,” 1949
- “Applied Imagination,” 1953

Took on a life of its own

- BBDO - Alex Osborn
- MIT Creative Engineering Lab - John Arnold
- Stanford Design Division - Bob McKim

- IDEO
- d.school at Stanford and Potsdam

The Osborn Rules
for
Brainstorming

Osborn Rule #1

DEFER
JUDGEMENT

Say Yes!



Source: Doré

Osborn Rule # 2

GO FOR
QUANTITY

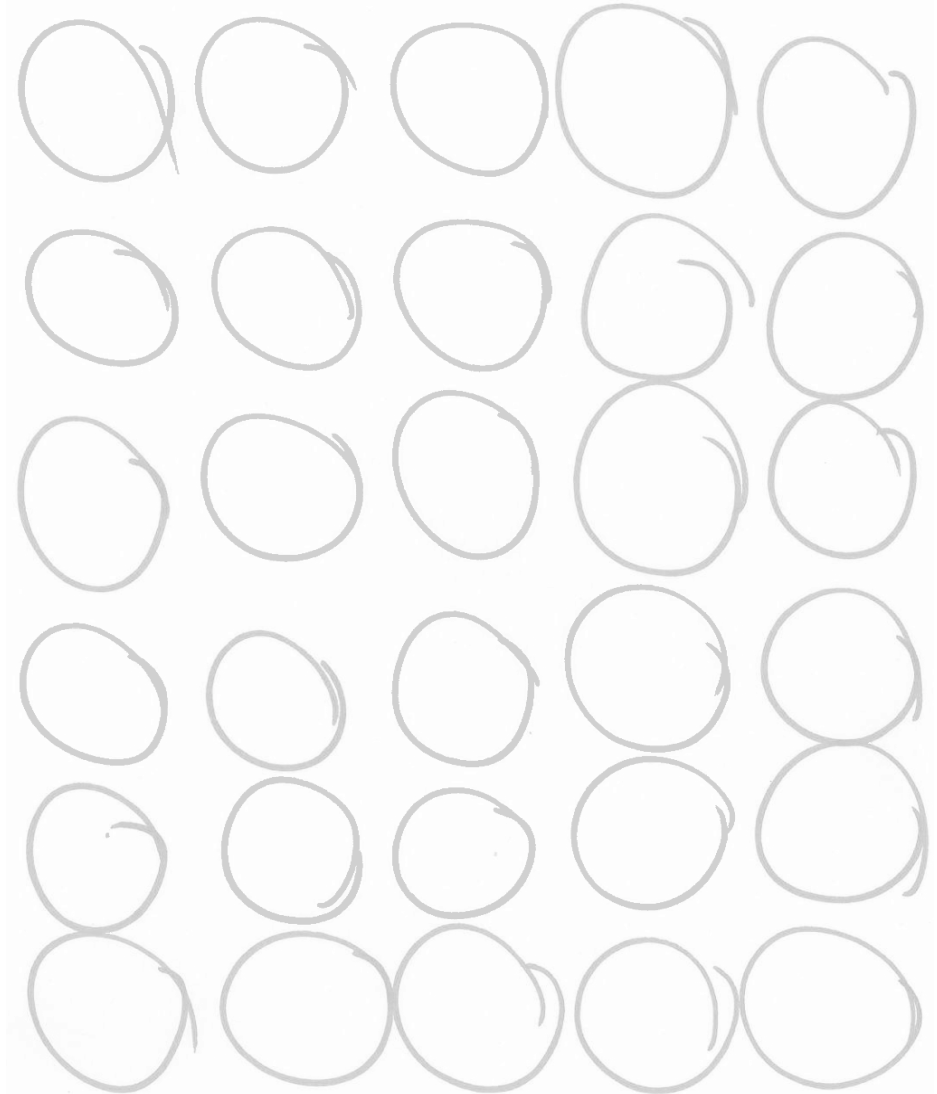
FLUENCY + FLEXIBILITY

Thirty Circles

Exercise – Thirty Circles

You have a sheet with 30 circles

1. When we say GO!
Transform each circle into something recognizable, such as a ball, a planet, bicycle wheels, etc.
2. It's OK to draw outside the lines.
3. The goal: transform all **30** circles in **TWO** minutes.



Osborn's checklist for transforming ideas

Put to other uses?

- New ways to use as is?
- Other uses if modified?

Adapt?

- What else is like this?
- What other idea does this suggest?
- Does the past offer parallel?
- What could I copy?
- Whom could I emulate?

Modify?

- New twist?
- Change meaning, color, motion, sound, odor, form, shape?
- Other shapes?

Magnify?

- What to add?
- More time?
- Greater frequency?
- Stronger?
- Higher?
- Longer?
- Extra Value?
- Plus ingredient?
- Duplicate?
- Multiply?
- Exaggerate?

Combine?

- How about a blend, an alloy, an assortment, an ensemble?
- Combine units?
- Combine purposes?
- Combine appeals?
- Combine ideas?

Minify?

- What to subtract?
- Smaller?
- Condensed?
- Miniature?
- Lower?
- Shorter?
- Lighter?
- Omit?
- Streamline?
- Split up?
- Understate?

Substitute?

- Who else instead?
- What else instead?
- Other ingredient?
- Other process?
- Other place?
- Other approach?
- Other tone of voice?

Reverse?

- Transpose positive and negative?
- How about opposites?
- Turn it backward?
- Turn it upside down?
- Reverse roles?
- Change shoes?
- Turn tables?
- Turn other cheek?

Rearrange?

- Interchange components?
- Other pattern?
- Other layout?
- Other sequence?
- Transpose cause and effect?
- Change pace?
- Change schedule?

Osborn Rule #3

GET RADICAL

WILD WEIRD ABSURD STUPID

Easier to tone down than pump up



Source: Obey the Pure Breed

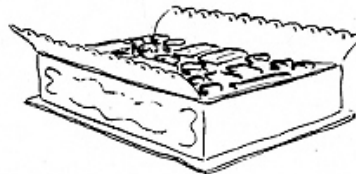
Transformation cards

PRESENTED TO YOU BY THE
M.I.T. CREATIVE ENGINEERING LABORATORY
JOHN F. ARNOLD, PROF. IN CHARGE

"CHECK LIST SOLITAIRE"
ADAPTED FROM "APPLIED IMAGINATION"
BY ALEX F. OSBORN

DRAWINGS BY AUSTIN E. BAER
RESEARCH ASSISTANT

COMBINE!



HOW ABOUT AN ASSORTMENT?

COMBINE!



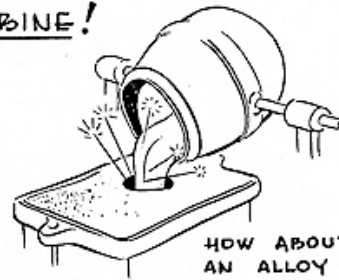
COMBINE IDEAS?

REVERSE!

REVERSE ROLES?



COMBINE!



HOW ABOUT AN ALLOY?

SUBSTITUTE!



OTHER APPROACH?

PUT TO OTHER USES!



OTHER USES IF MODIFIED?

MODIFY!



CHANGE SHAPE?

REVERSE!



CHANGE SHOES?

LEAPFROG

Piggy-back

Tag on

Let go



Ground Rules Recap

Four content rules

1. Defer Judgment

- Say Yes!
- Save analysis and evaluation for later

2. Go for quantity

- Fluency - lots of ideas
- Flexibility - lots of *different* ideas

3. Get radical

- Encourage wild, eccentric, improbable ideas
- Easier to tone down than pump up

4. Leapfrog

- Build on others' ideas
- Let yours go into the mix

Four process rules

5. Stay focused on topic

- A loose thread can throw you off
- Turn it around to something that relates

6. One conversation at a time

- Let everyone get their idea out
- Bring side discussions onto the table

7. Headline it

- Express the essence and move on
- Maintain flow

8. Be visual

- Get the right brain working

And, for best results...

Explicitly agree

- “Let’s brainstorm!”
- “Yeah!”

Facilitate

- “What else...?”

Record

- Capture the thought

Time box

- Define the play period

