Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Yr Athrofa
Institute of Education
Addysg i Gymru Education for Wales

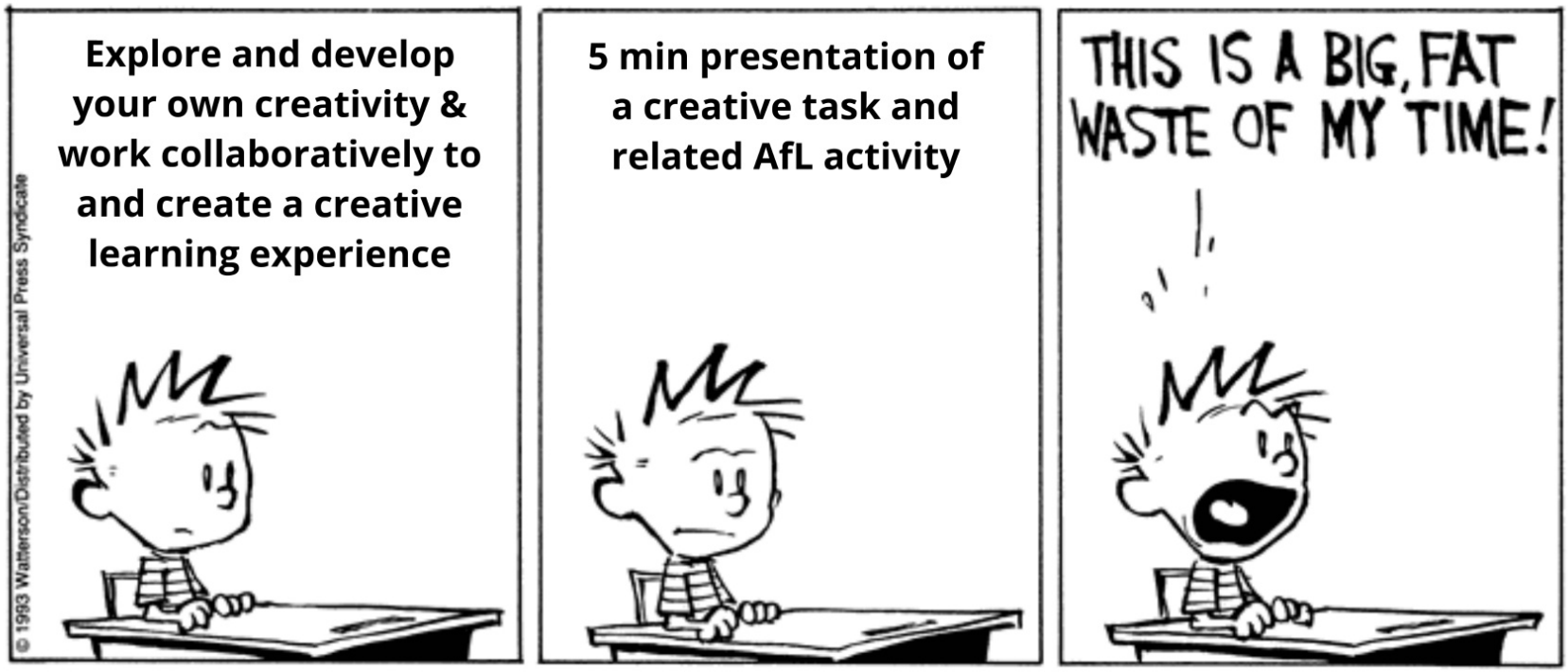
MICROTALK

Developing Creative AfL approaches

...some days you'll change the world, other days, you'll end up hiding under your desk eating the leftover skittles from a maths activity that looked good on paper!



So what's happening Tom?



CREATIVITY
Make it. Creative Cloud.






NO


FISKARS®

Creativity game 1



How could you use a children's board game/ toy in a different way in the class room?


Features original art & gameplay
The Classic Mystery Face Game
GUESS WHO?
Does your person have blue eyes?
Is your person wearing a hat?
Hasbro Gaming
Family
6+
WARNING:
CHOKING HAZARD Small parts
Not for children under 3 years
Bill
Richard
Eric
George
Maria




Classic
Jenga
HOW DO YOU STACK UP?
AGES 6+


1+2+4=
7+8-2=
4-1+10=
Jenga
7+3=
BONUS
6+5+3=



On demand creativity!

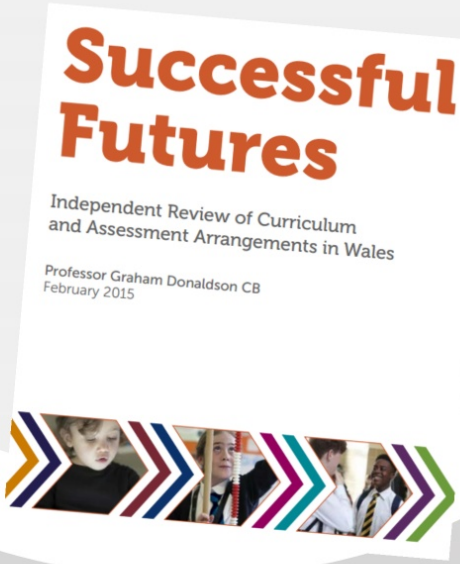
Four purposes

Ambitious, capable learners who are ready to learn throughout their lives.

Enterprising, creative contributors who are ready to play a full part in life and work.

Ethical, informed citizens who are ready to be citizens of Wales and the world.

Healthy, confident individuals who are ready to lead fulfilling lives as valued members of society.



2015

Ambitious, capable learne

Enterprising, creative con

Ethical, informed citizens

Ambitious, capable learne

'Seek and enjoy challenge'

Enterprising, creative con

Ethical, informed citizens

Ambitious, capable learne

'Seek and enjoy challenge'

'Apply skills and knowledge in different contexts'

Enterprising, creative con

Ethical, informed citizens

Ambitious, capable learne

'Seek and enjoy challenge'

'Apply skills and knowledge in different contexts'

Enterprising, creative con

Connect knowledge to create ideas, grasp opportunities, take measured risks, re-frame and solve problems

Ethical, informed citizens

Ambitious, capable learne

'Seek and enjoy challenge'

'Apply skills and knowledge in different contexts'

What does this child look like? How do you develop this? What specific pedagogy can I employ?

Enterprising, creative con

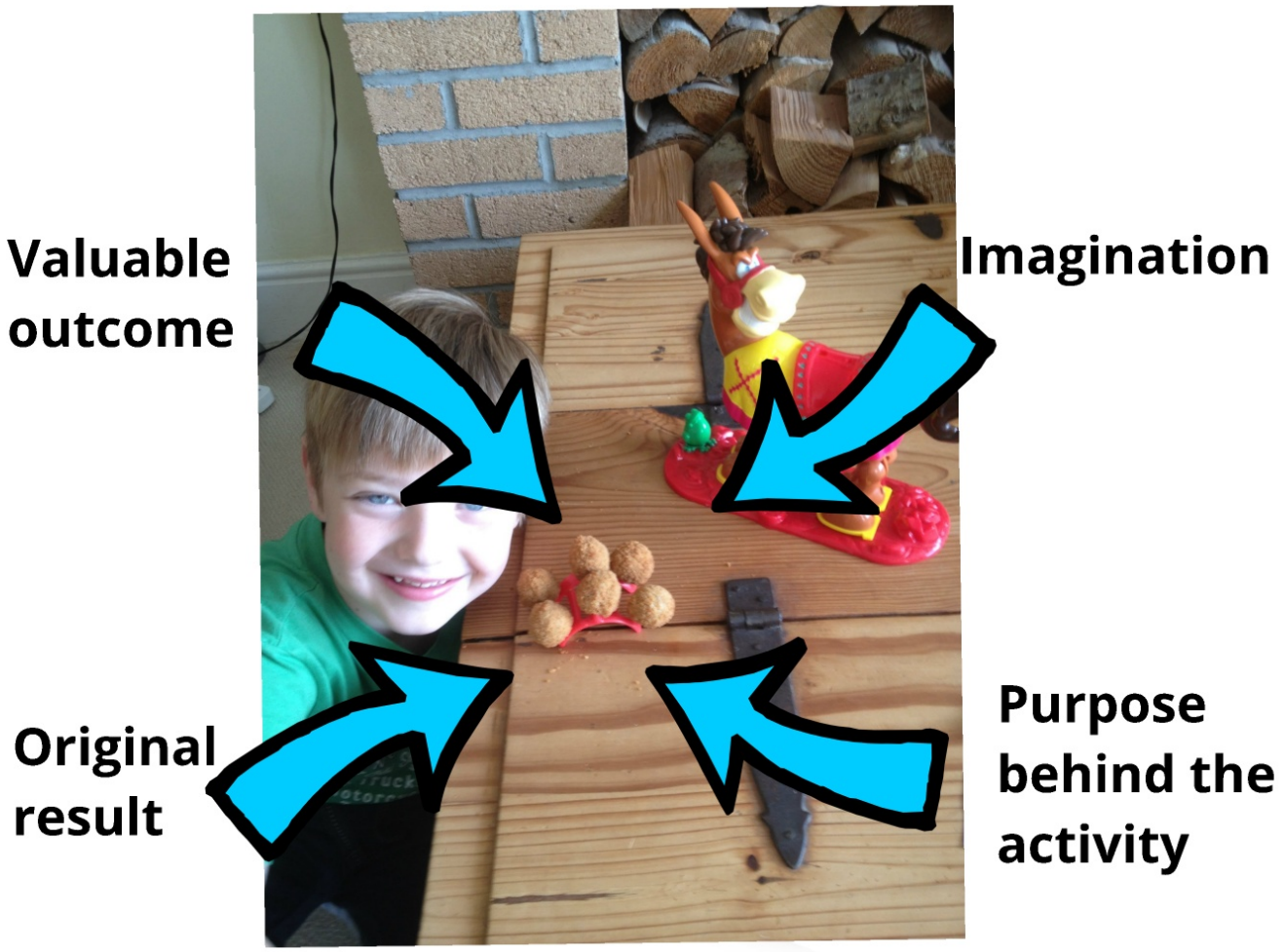
Connect knowledge to create ideas, grasp opportunities, take measured risks, re-frame and solve problems

Ethical, informed citizens




Ice Max
Fresh Room
Easy Slide

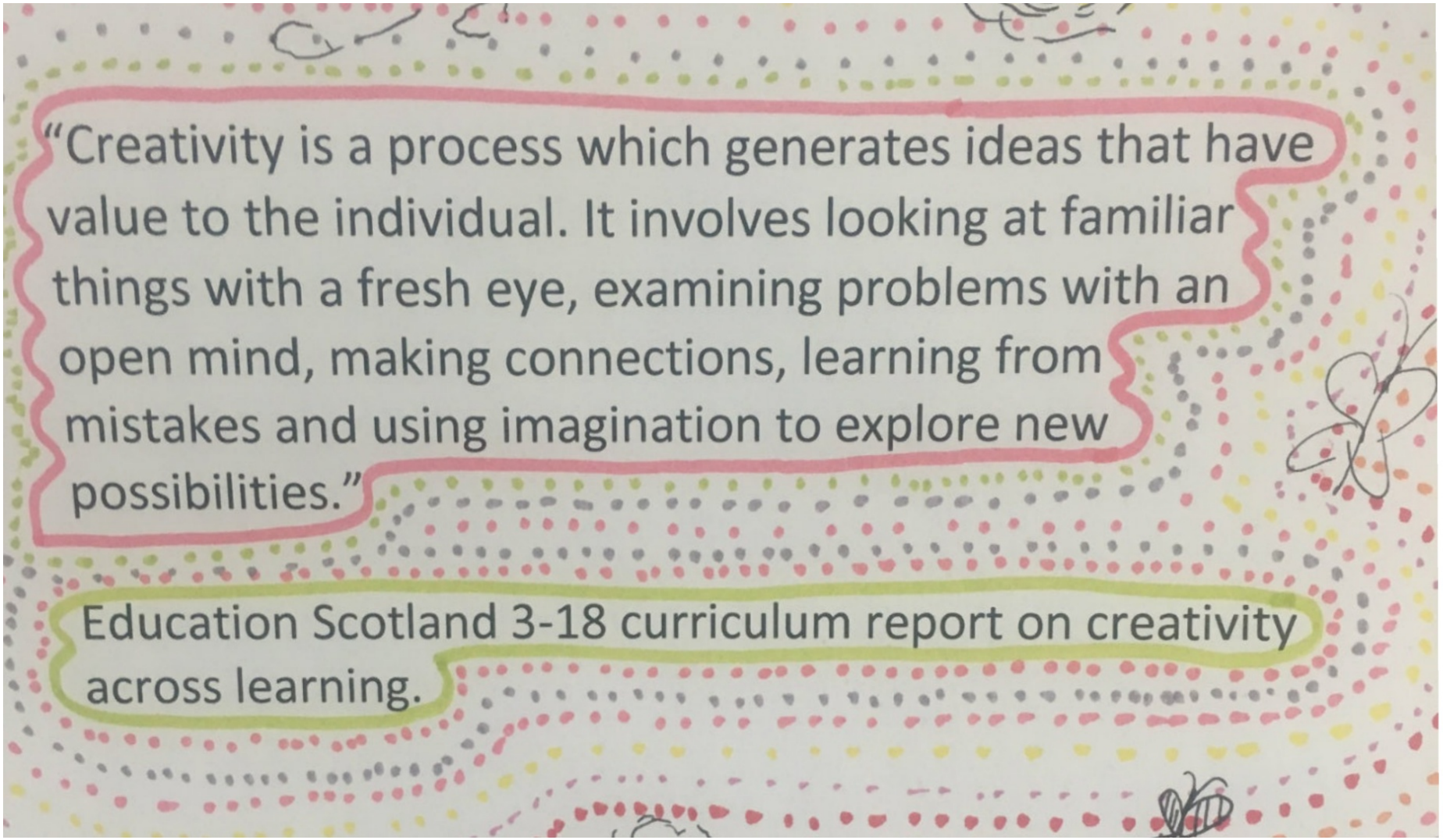


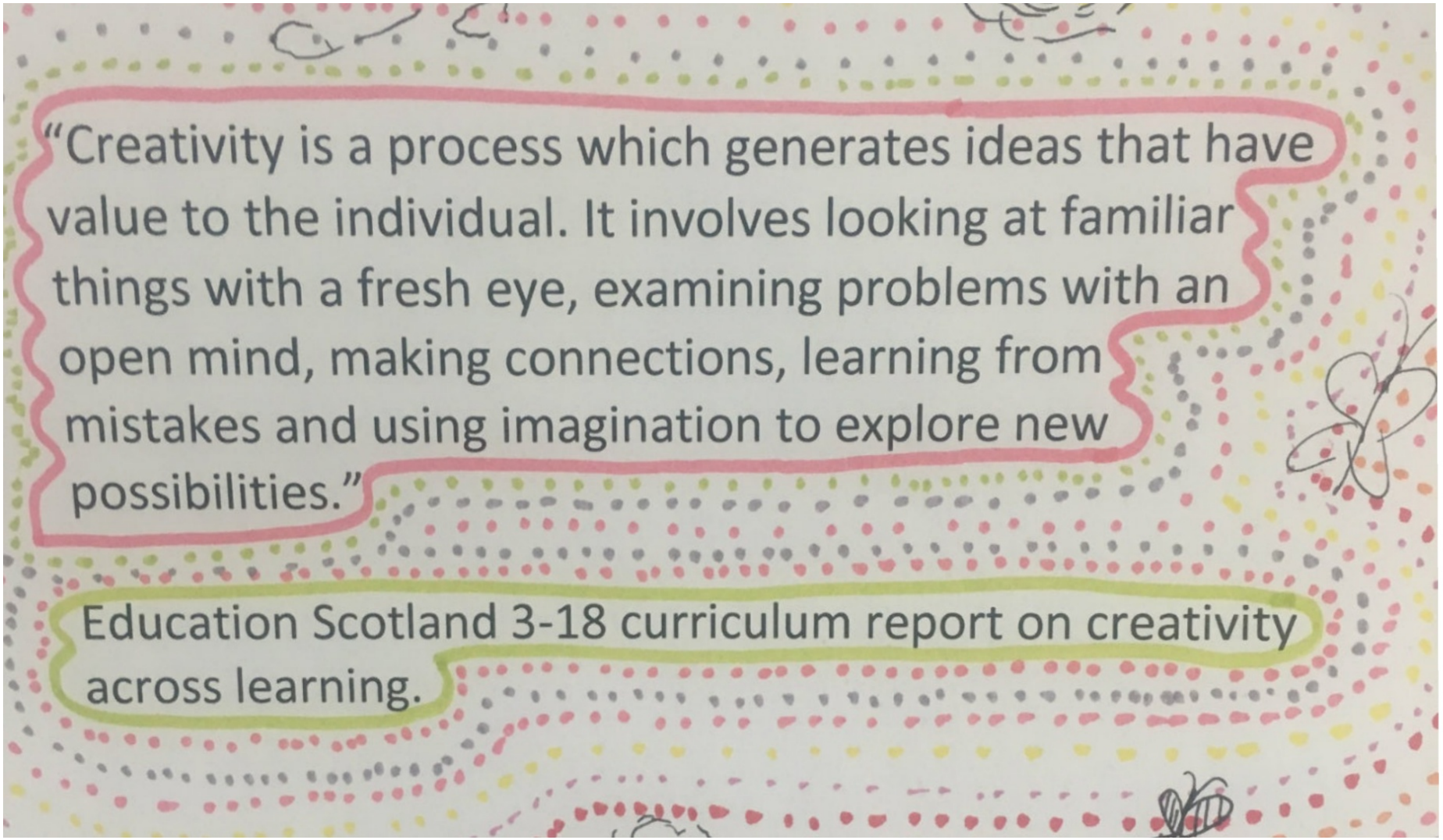

Valuable outcome
Imagination
Original result
Purpose behind the activity

Creativity is something you DO...

DISCUSS

...it's not something you are.


"Creativity is a process which generates ideas that have value to the individual. It involves looking at familiar things with a fresh eye, examining problems with an open mind, making connections, learning from mistakes and using imagination to explore new possibilities."
Education Scotland 3-18 curriculum report on creativity across learning.


"Creativity is a process which generates ideas that have value to the individual. It involves looking at familiar things with a fresh eye, examining problems with an open mind, making connections, learning from mistakes and using imagination to explore new possibilities."
Education Scotland 3-18 curriculum report on creativity across learning.

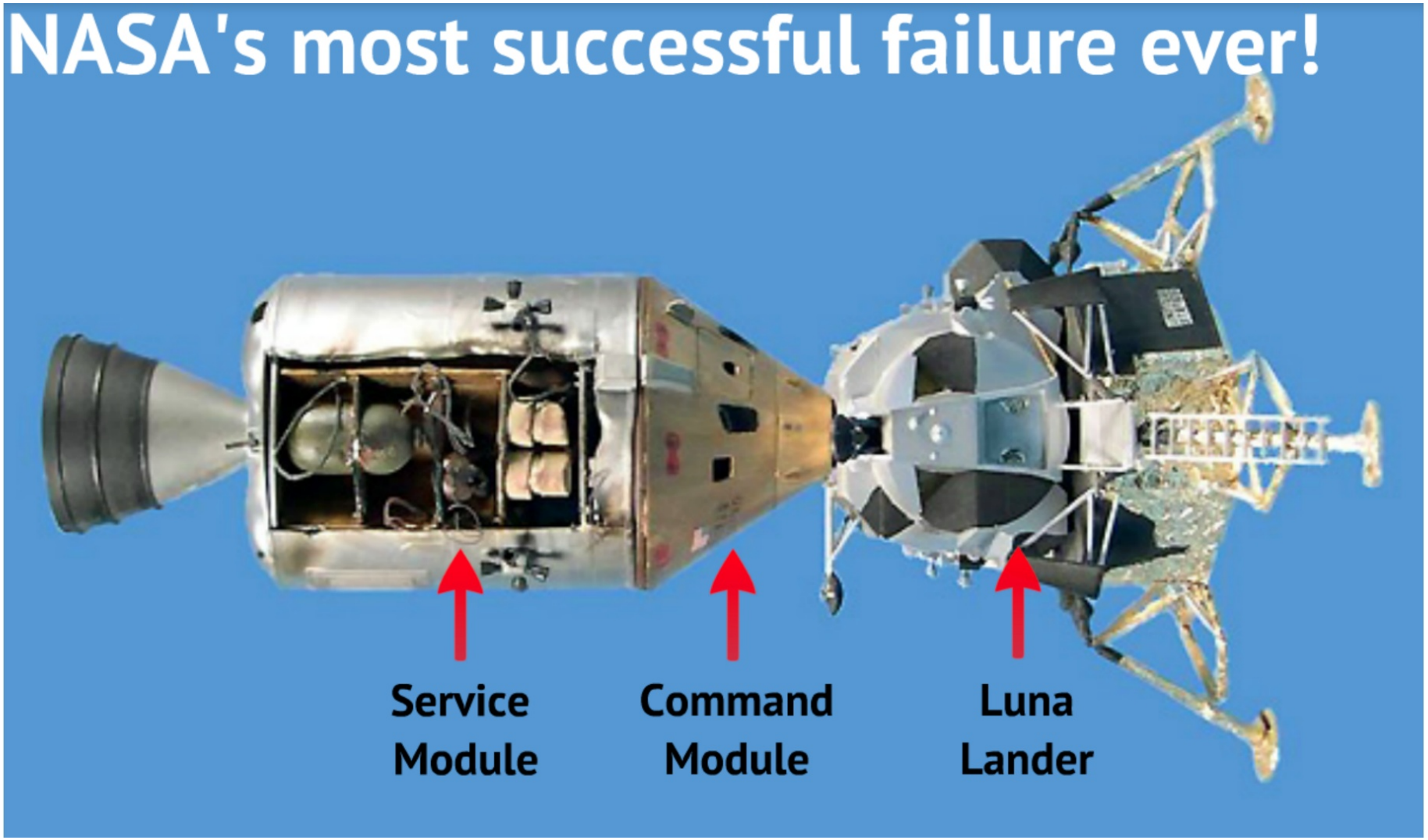
David Perkins (Senior Professor, Harvard Graduate School of Education):

For me, about 90% of what we teach probably constitutes particular nuggets of knowledge that those kids would never encounter again in a significant way in their lives.

It just doesn't matter! That is completely bizarre. We simply need to do better than that."

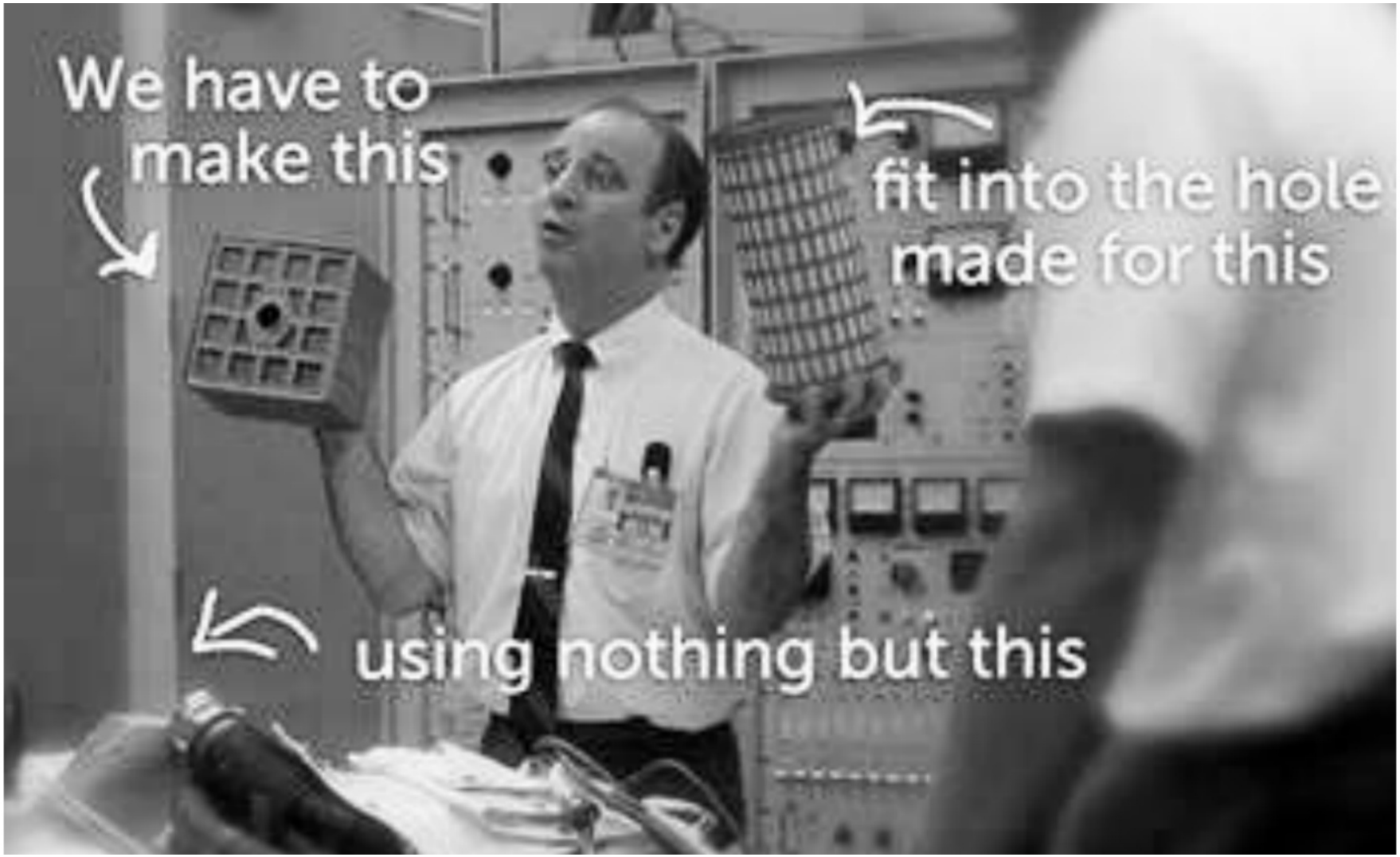
"I think, that we need to think in terms of education for the unknown."


Apollo 13


NASA's most successful failure ever!
Service Module
Command Module
Luna Lander

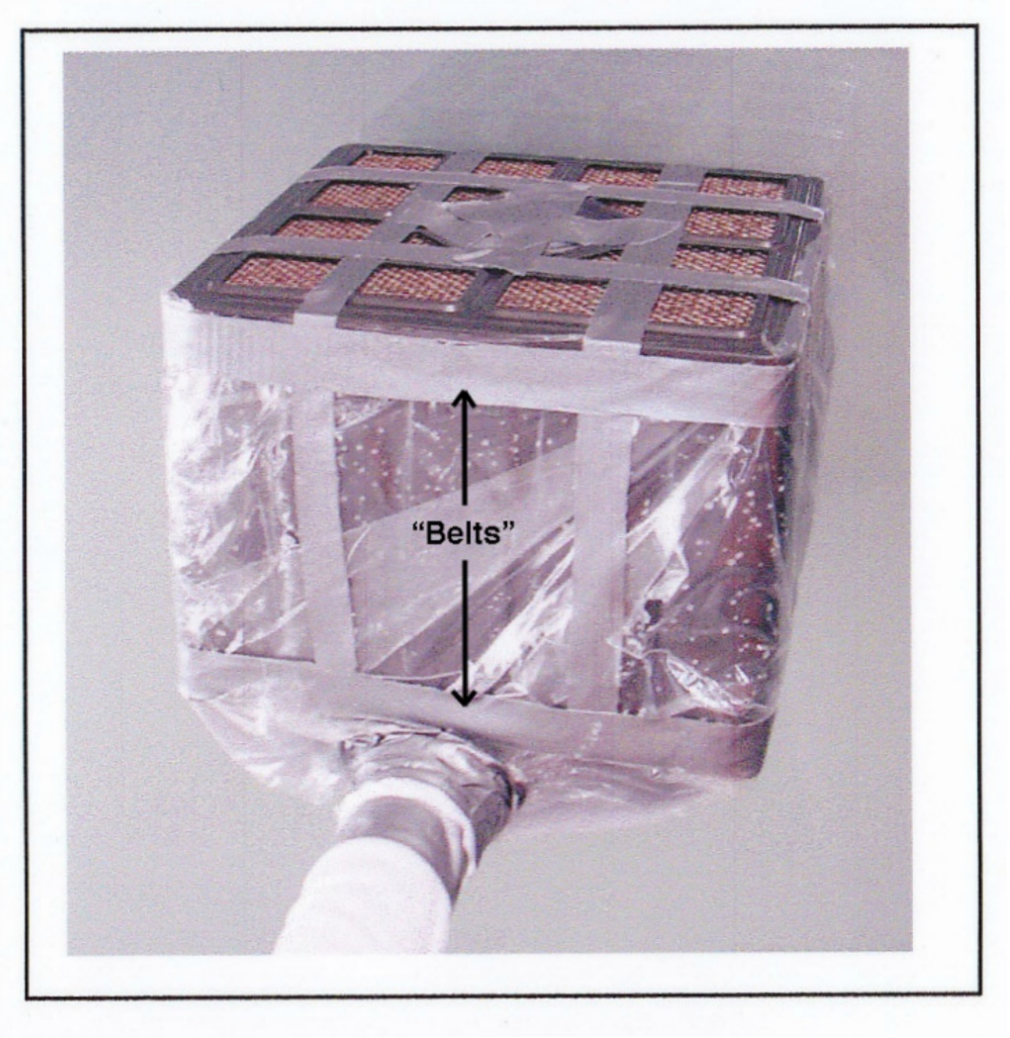

NASA's most successful failure ever!
Save power!
BOOM!!
Oxygen tank
36hrs
Service Module
Command Module
Luna Lander


NASA's most successful failure ever!
Save power!
96hrs!
BOOM!
Oxygen tank
36hrs
Service Module
Command Module
Luna Lander


We have to
make this
fit into the hole
made for this
using nothing but this

The Crew Systems Division put together an improvised adapter.

Using all sort of weird and random parts, like a flight manual cover, suit parts, and socks!





PROCEEDURE - 19 steps

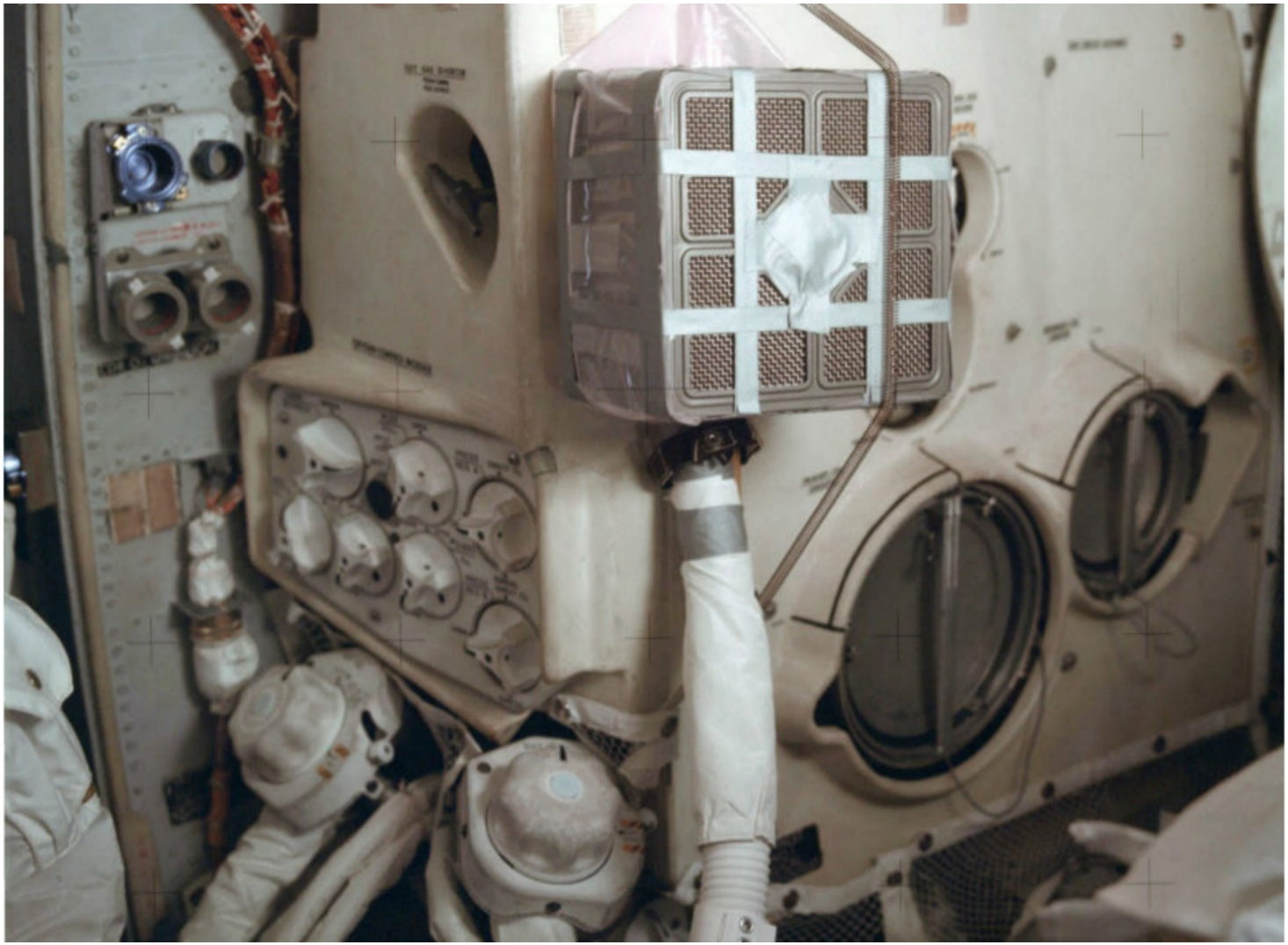
#1) Place the LCG bag over the top of the square lithium-hydroxide canister. The bag must be pulled down to just over the triangular ventilator slots on the side.

NOTE:

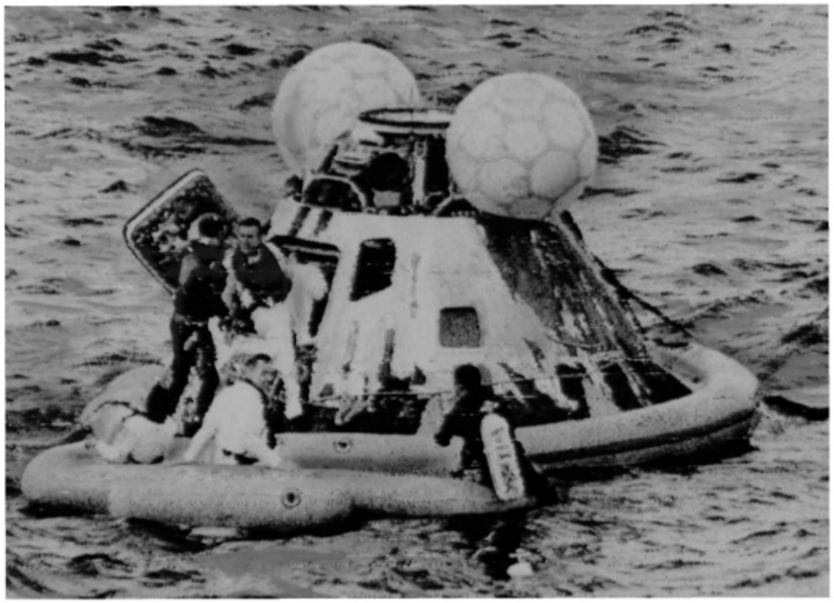
PROCEEDURE - 19 steps

#1) Place the LCG bag over the top of the square lithium-hydroxide canister. The bag must be pulled down to just over the triangular ventilator slots on the side.

NOTE: Be careful not to rip the bag because there are only three bags onboard.









THE KIND OF CREATIVE THINKING THAT SAVED THE APOLLO 13 ASTRONAUTS DOESN'T JUST HAPPEN.

It's the result of an intentional effort to foster a creative culture.

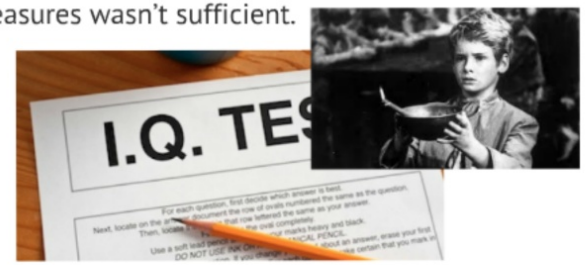




A systems scientist. In 1965 he founded a research and consulting institute to study the enhancement of creative performance.

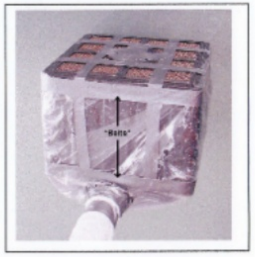
NASA deputy director

He had lots of applicants. However, he said measuring people by standard intelligence measures wasn't sufficient.



George Land

They needed people who could demonstrate the sort of ingenuity that could solve the sort of problem that plagued the aborted Apollo 13 mission.

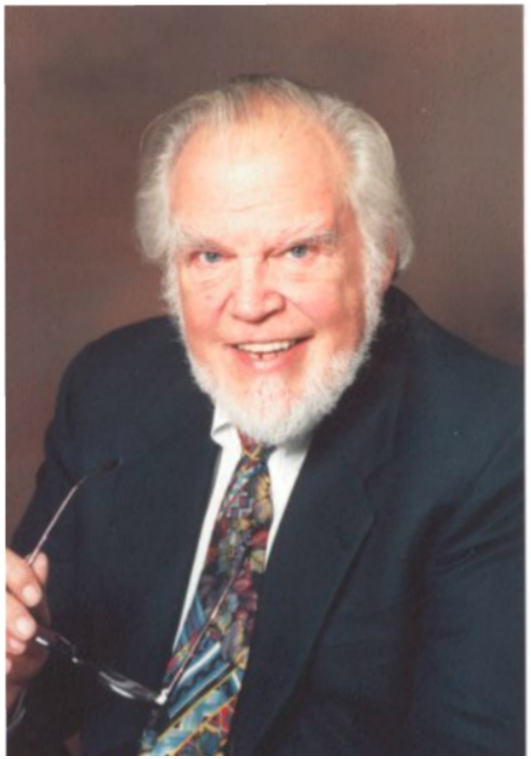


He needed a way to select the people who would create the best solutions because they had unusually tough questions.

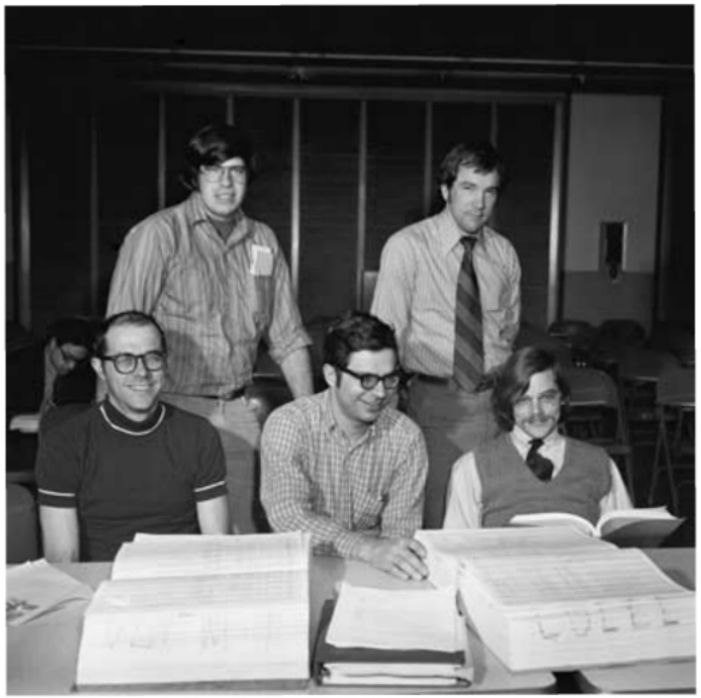
Land and his team developed an instrument to measure creative thinking, and NASA implemented it as an additional step in their candidate vetting process.

NASA DIDN'T JUST FIND INTELLIGENT PEOPLE...

...BUT PEOPLE WHO COULD THINK DIFFERENTLY.



The test was a rousing success and, as a measure of employee performance, highly predictive for NASA.



They had determined how to measure existing levels of creative thinking in prospective employees.

Fundamental question
Is creativity innate or learned?

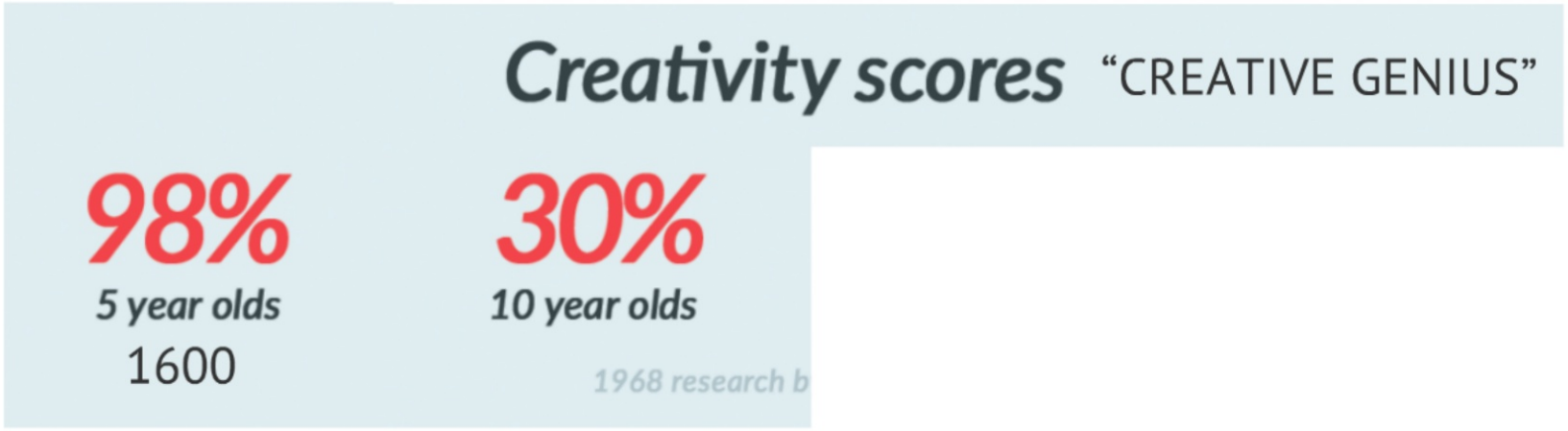
Creativity scores	"CREATIVE GENIUS"

5 year olds
1600

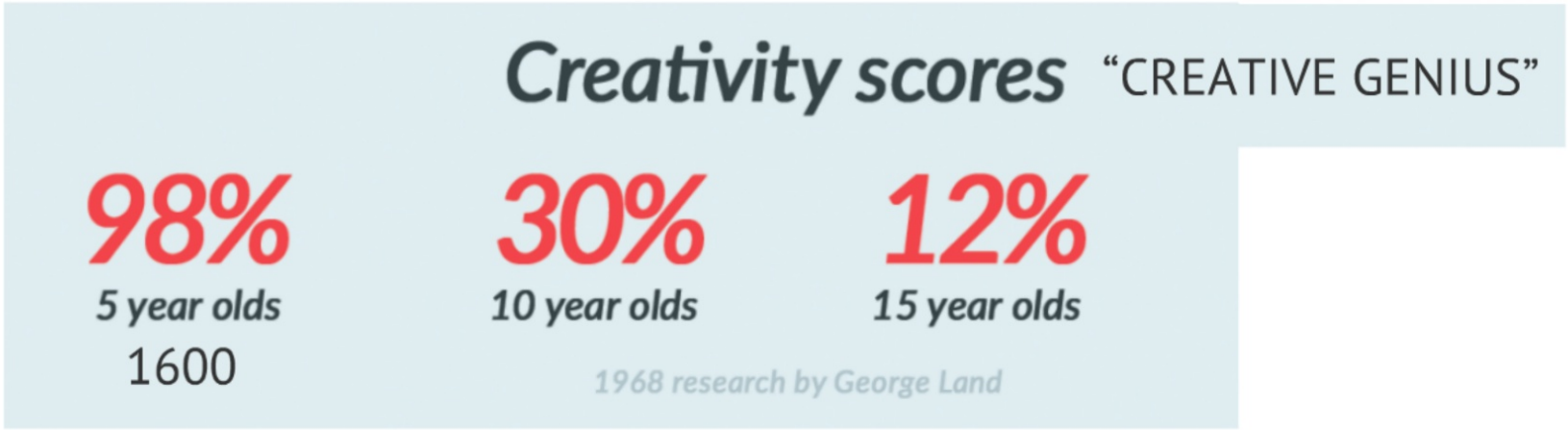
Fundamental question
Is creativity innate or learned?

	Creativity scores "CREATIVE GENIUS"
98%	
5 year olds	
1600	

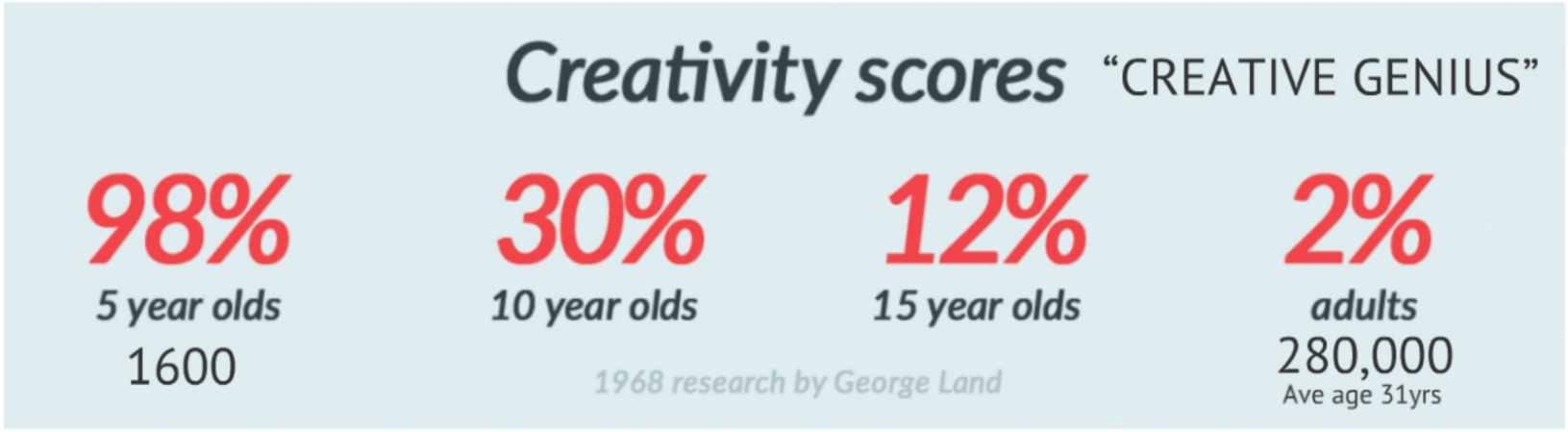
Fundamental question
Is creativity innate or learned?



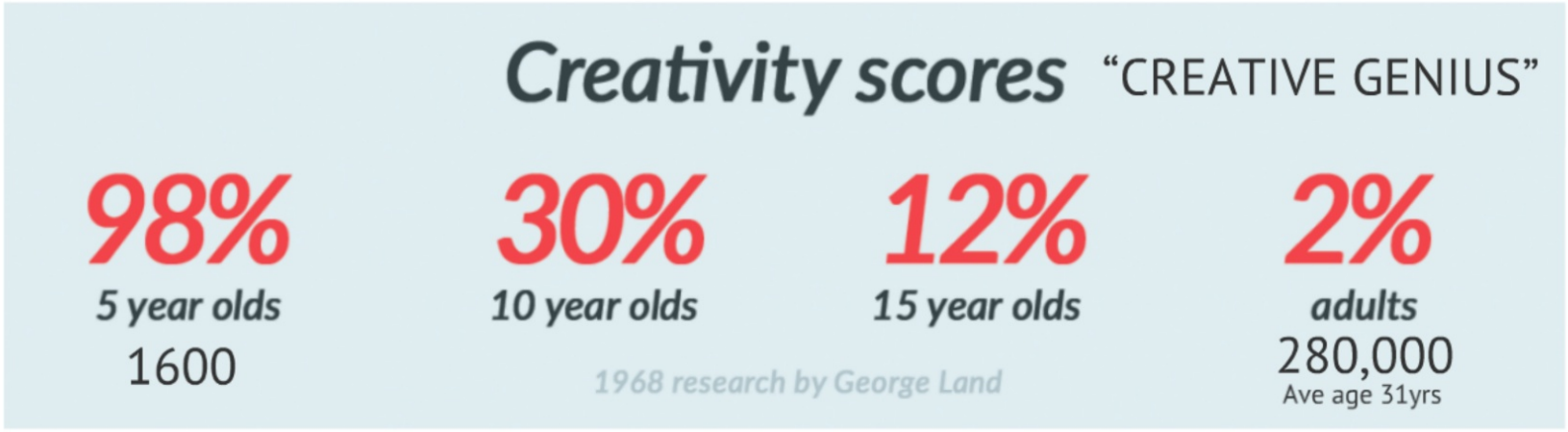
Fundamental question
Is creativity innate or learned?



Fundamental question
Is creativity innate or learned?



Fundamental question
Is creativity innate or learned?



"What we have concluded," wrote Land, **"is that non-creative behavior is learned."**

(Source: George Land and Beth Jarman, Breaking Point and Beyond. San Francisco: HarperBusiness, 1993)

Each of us was once a creative genius.

SOMEWHERE ALONG THE WAY, THOUGH, WE LOSE OUR CREATIVITY.



Do schools kill creativity? | Sir Ken Robinson

Teaching Creatively

What's the difference?

National Advisory Committee on Creative and Cultural Education (NACCCE, 1999)

N.A.C.C.C.E. (1999) All our futures: creativity, culture and education (London, DfEE).

Define?

Teaching for Creativity

Teaching Creatively

'using imaginative approaches to make learning more interesting and effective' (ibid. p. 89).

Teaching Creatively

'using imaginative approaches to make learning more interesting and effective' (ibid. p. 89).

'Young people's creative abilities are most likely to be developed in an atmosphere in which the teacher's creative abilities are properly engaged'

(NACCCE, 1999)

(National Advisory Committee on Creative and Cultural Education)


I'm just not creative Tom!


The sorites paradox

Creativity game

How many uses are there for a...



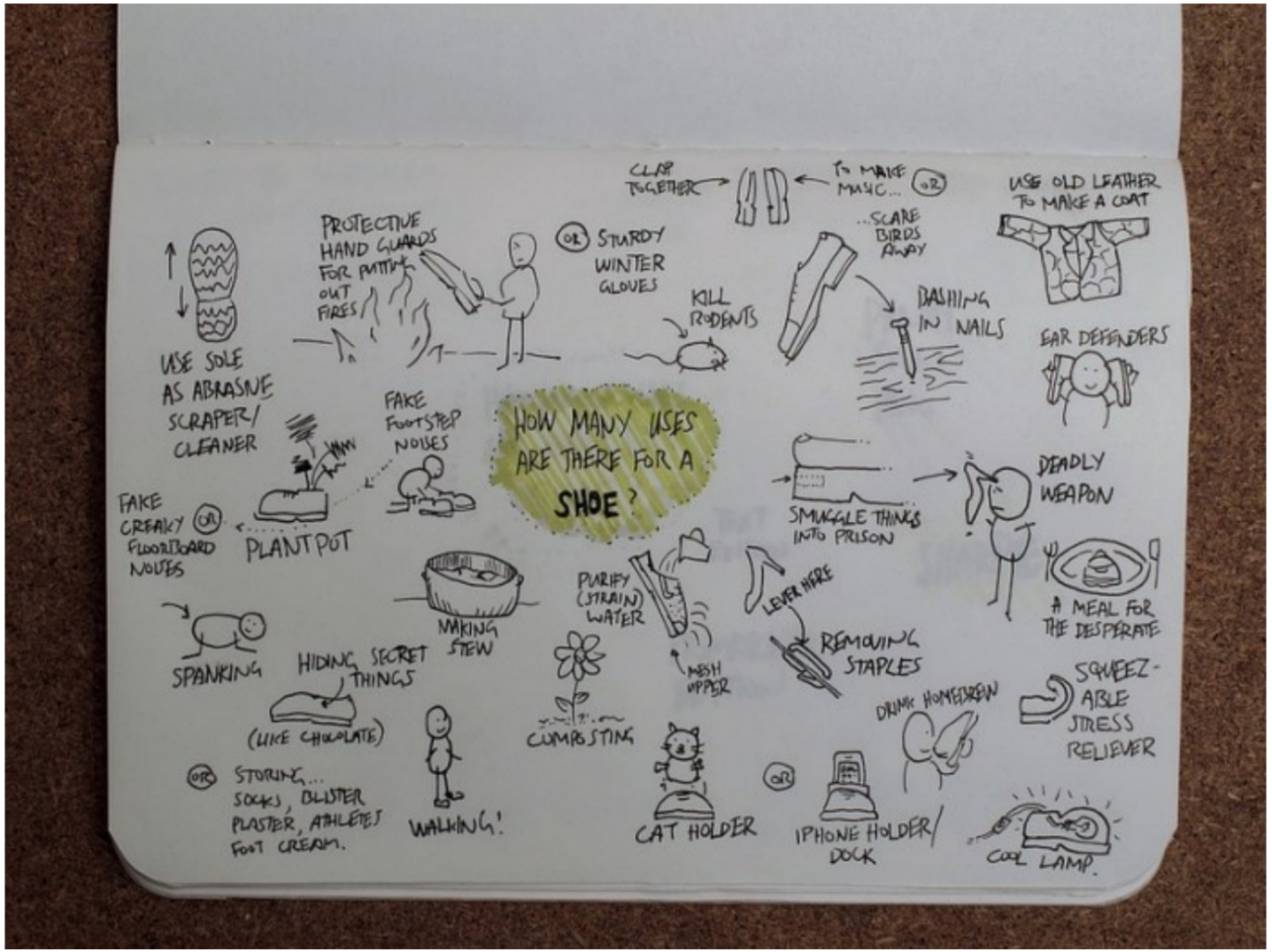
Creativity game

How many uses are there for a...






HOW MANY USES ARE THERE FOR A SHOE?
• GLUED TO SURFACE: SECURE FOOT HOLDERS
• (OR) CLIMBING WALL
• DOOR KNOCKER
• HOME FOR SMALL GARDEN ANIMALS
• ICE CREAM SCOOP
(OR)
• GARDEN TROWEL
• DOOR WEDGE
• STAMP FOR PRINTING
• LEATHER SOLED SHOES: SHUFFLE BOARD GAME (LIKE SHOVE HA'PENNY)
• CHEESE GRATER/SCRAPER
• CARPET BEATER
• EAR MUFFS FOR HORSES
• PLASTERING TROWEL
• CUDDLY TOY (SLIPPERS)
• SOAP DISH
• 2 SHOES TIED TOGETHER: THROWING WEAPON
• SOIL + GRIT COLLECTOR (TO TAKE SAMPLES TO LAB)
• TIP JAR
• SUEDE: MAKEUP REMOVER
• (OR) EXFOLIATOR
• BOOK ENDS
• EAR STRETCHERS (TIED ON WITH LACES)
• FLATTEN PASTRY
• PRESS FOR ANY-THING

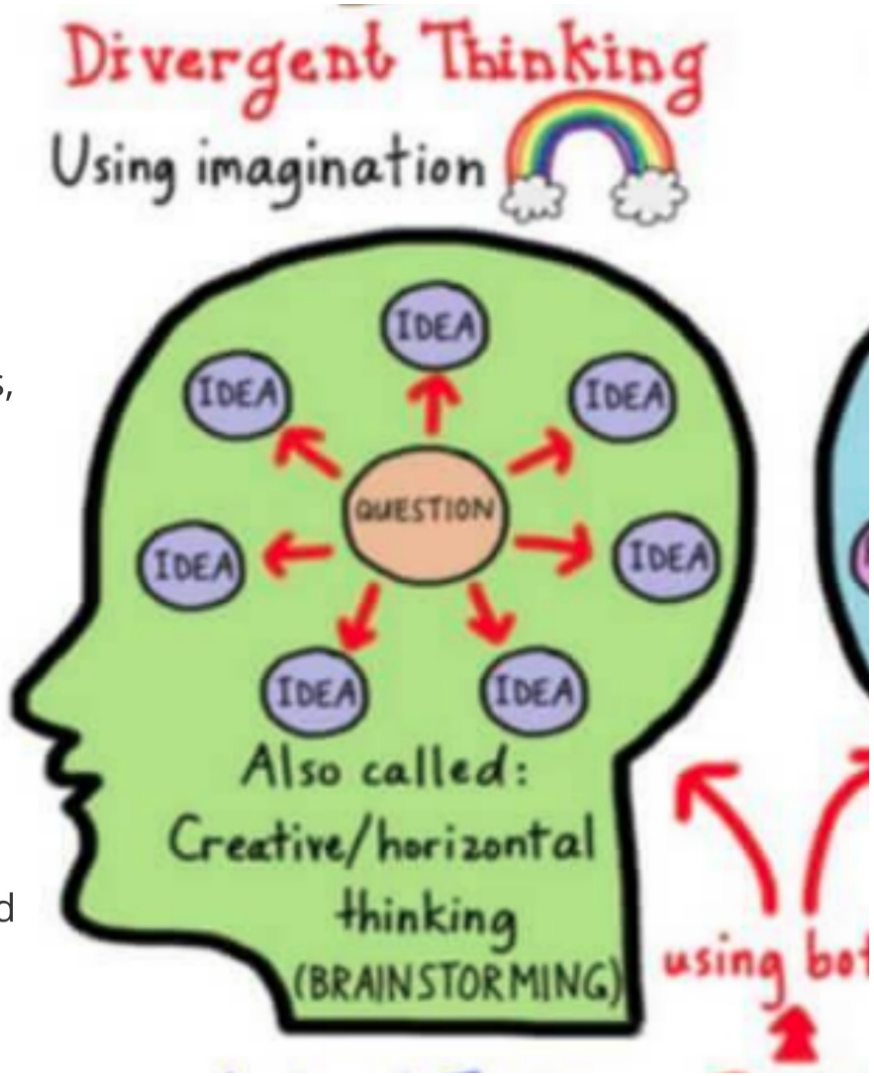

HOW MANY USES ARE THERE FOR A SHOE?
USE SOLE AS ABRASIVE SCRAPER/ CLEANER
PROTECTIVE HAND GUARDS FOR PUTTING OUT FIRES
OR STURDY WINTER GLOVES
CLAP TOGETHER
TO MAKE MAGIC...
OR
KILL RODENTS
SCARE BIRDS AWAY
BASHING IN NAILS
USE OLD LEATHER TO MAKE A COAT
EAR DEFENDERS
FAKE FOOTSTEP NOISES
FAKE CREAKY FLOORBOARD NOISES
OR
PLANT POT
SMUGGLE THINGS INTO PRISON
DEADLY WEAPON
A MEAL FOR THE DESPERATE
MAKING STEW
PURIFY (STRAIN) WATER
MESH UPPER
LEVER HERE
REMOVING STAPLES
SPANKING
HIDING SECRET THINGS
(LIKE CHOCOLATE)
OR
STORING... SOCKS, BLISTER PLASTER, ATHLETES FOOT CREAM.
WALKING!
COMPOSTING
CAT HOLDER
DRINK HOMEBREW
OR
IPHONE HOLDER/ DOCK
SQUEEZ-ABLE STRESS RELIEVER
COOL LAMP

Divergent thinking is a thought process or method used to generate creative ideas by exploring many possible solutions.

Divergent thinking typically occurs in a spontaneous, free-flowing, ‘non-linear’ manner, such that many ideas are generated in an emergent cognitive fashion.

Many possible solutions are explored in a short amount of time, and unexpected connections are drawn.

After the process of divergent thinking has been completed, ideas and information are organised and structured using convergent thinking.’



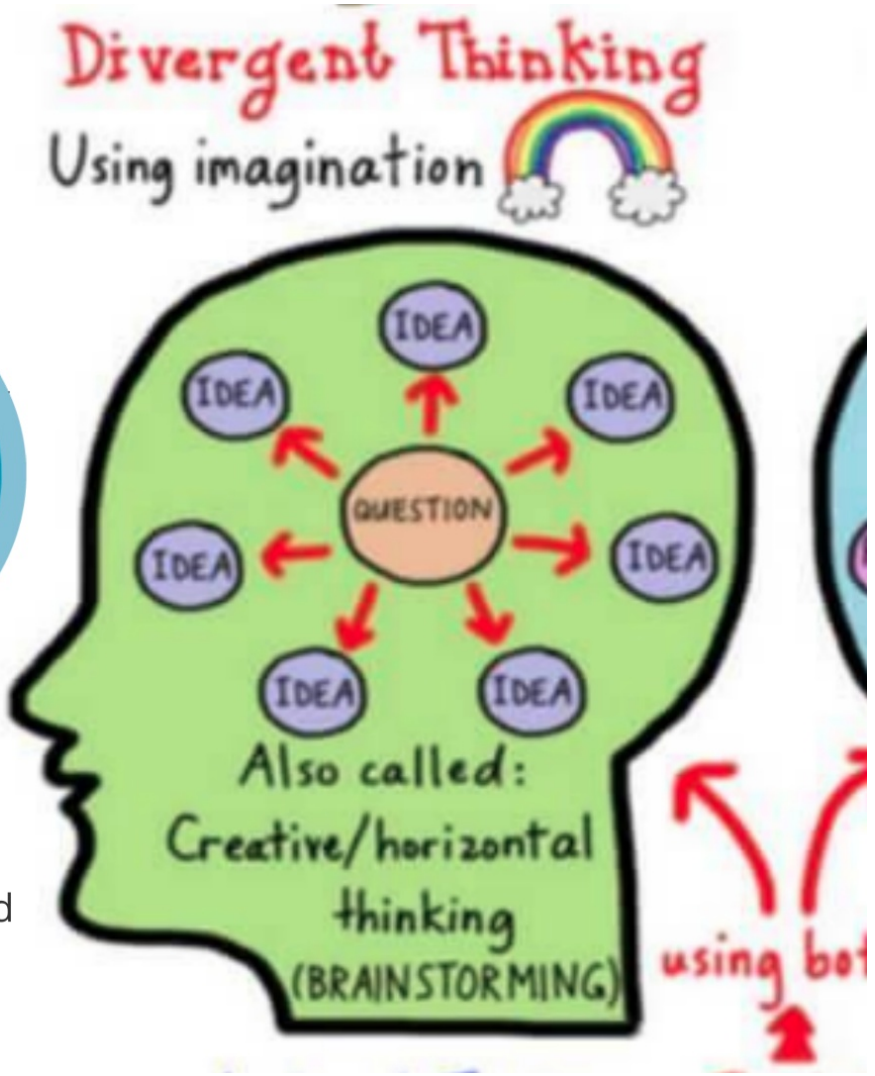
Divergent thinking i… or
method us… /
explorin…

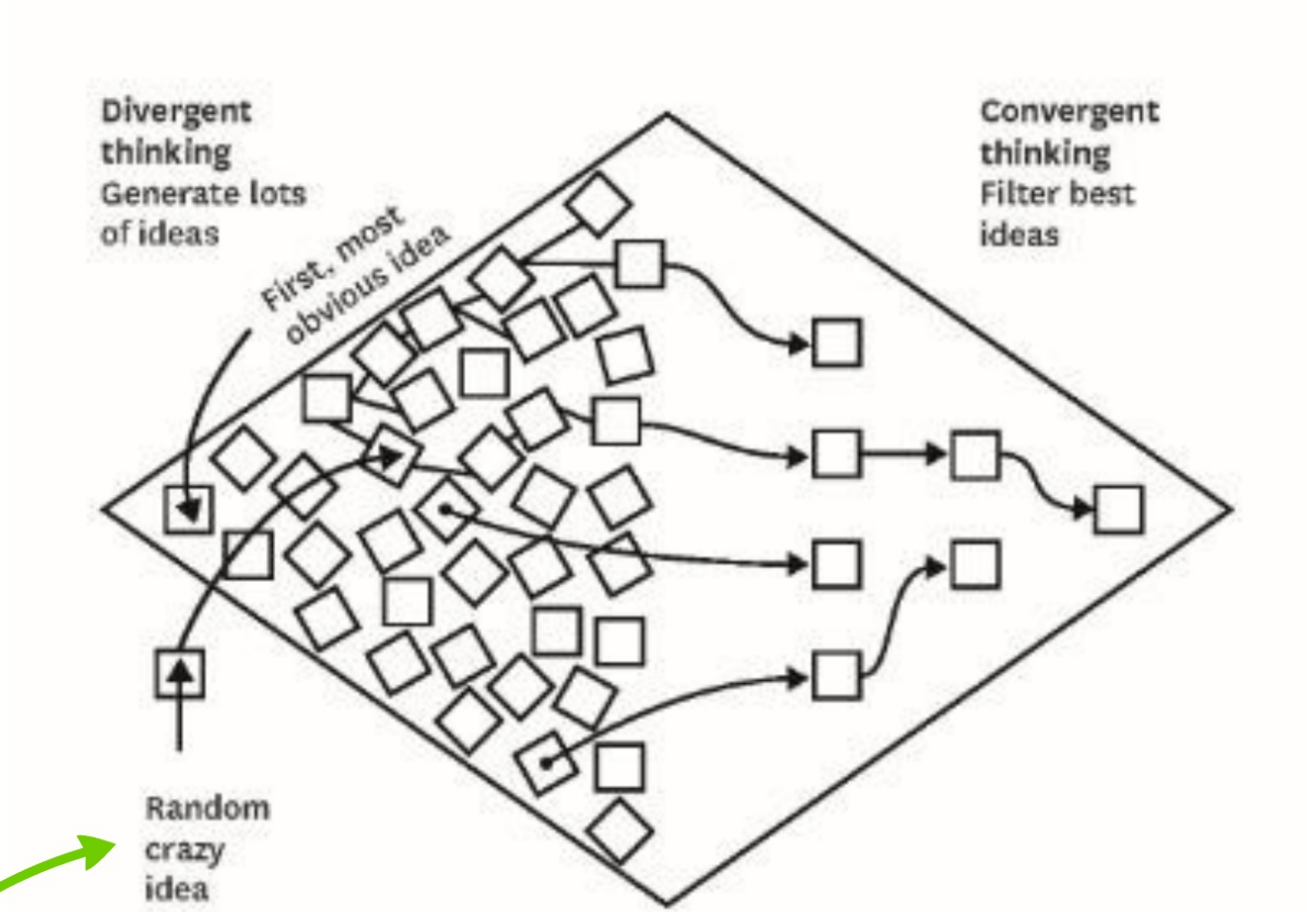
Di…
f…
id…
fas…

Many po… t
amo… …lections are
dr…



After the process of divergent thinking has been completed, ideas and information are organised and structured using convergent thinking.'



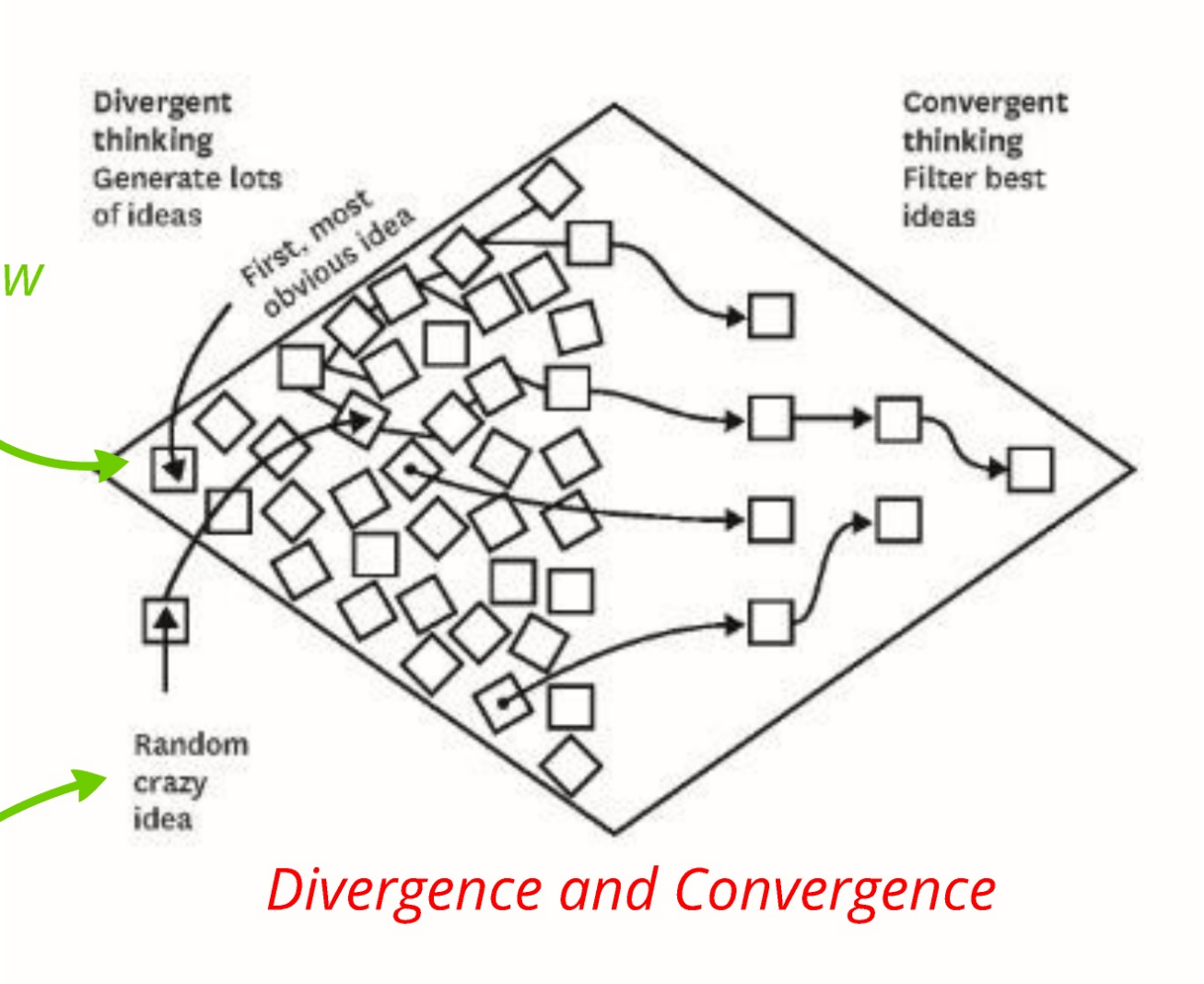


Divergence and Convergence

oid ridicule

gies for Flow

uantity

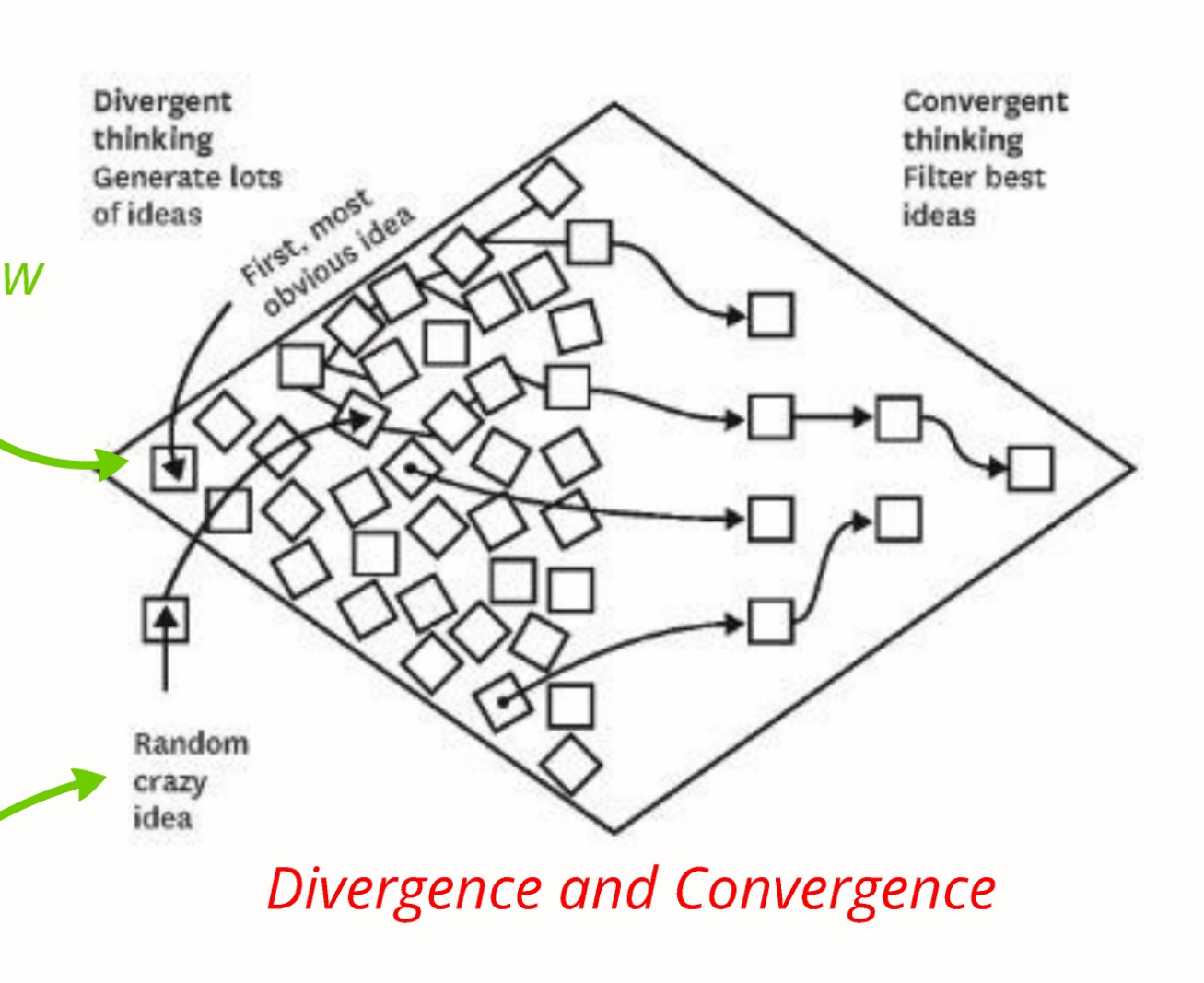


Divergence and Convergence

oid ridicule

gies for Flow

uantity

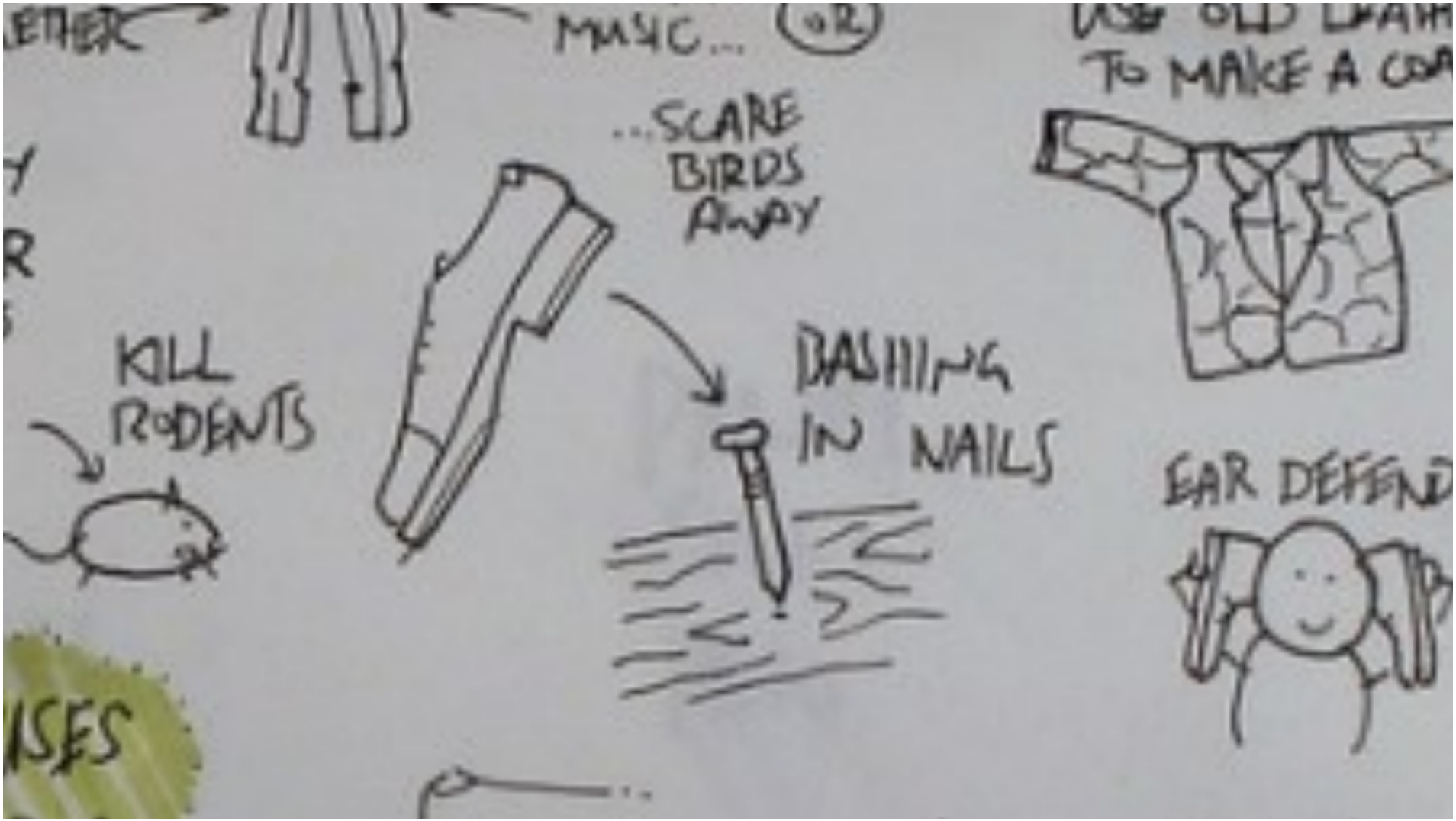


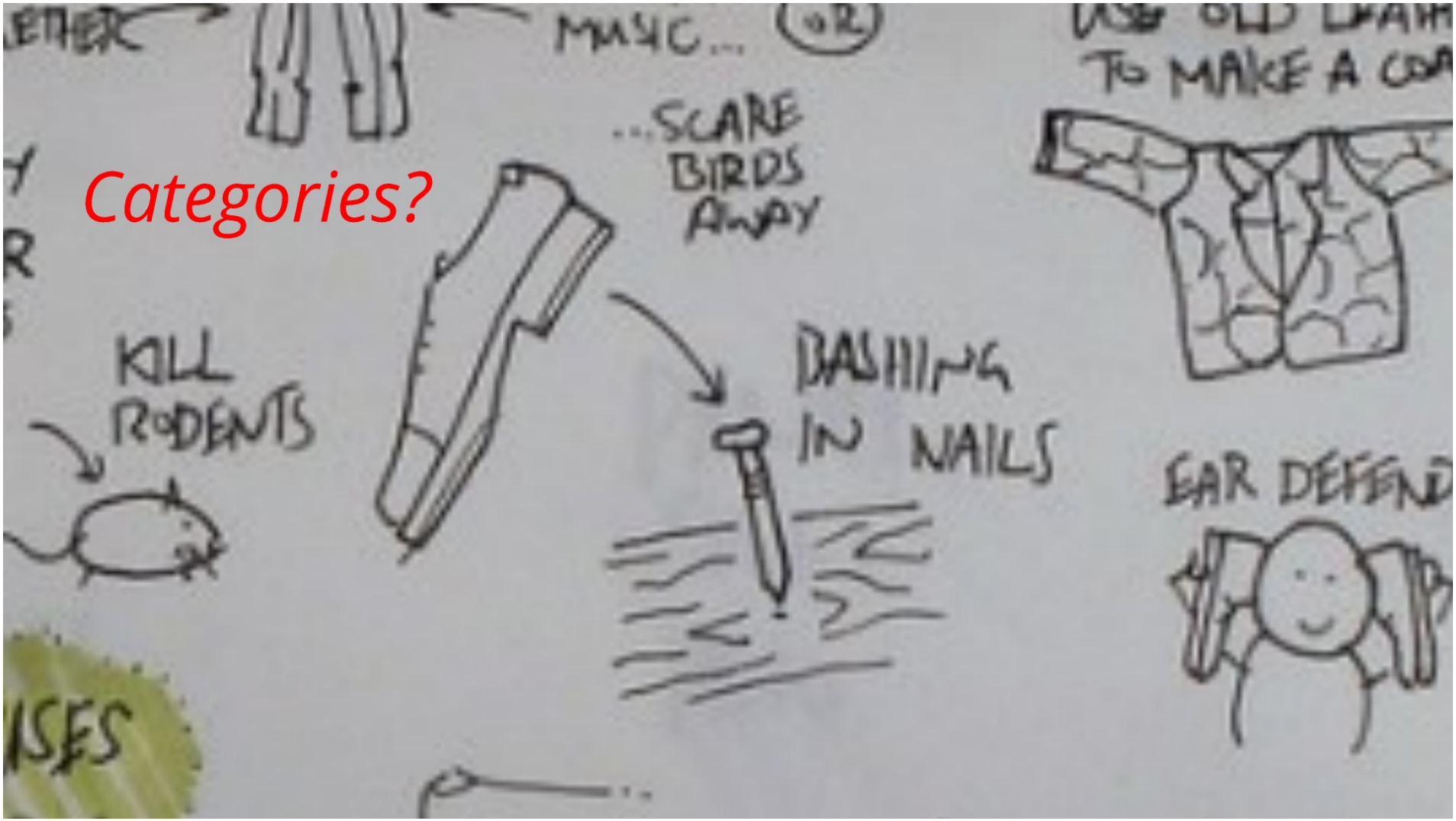
Divergence and Convergence

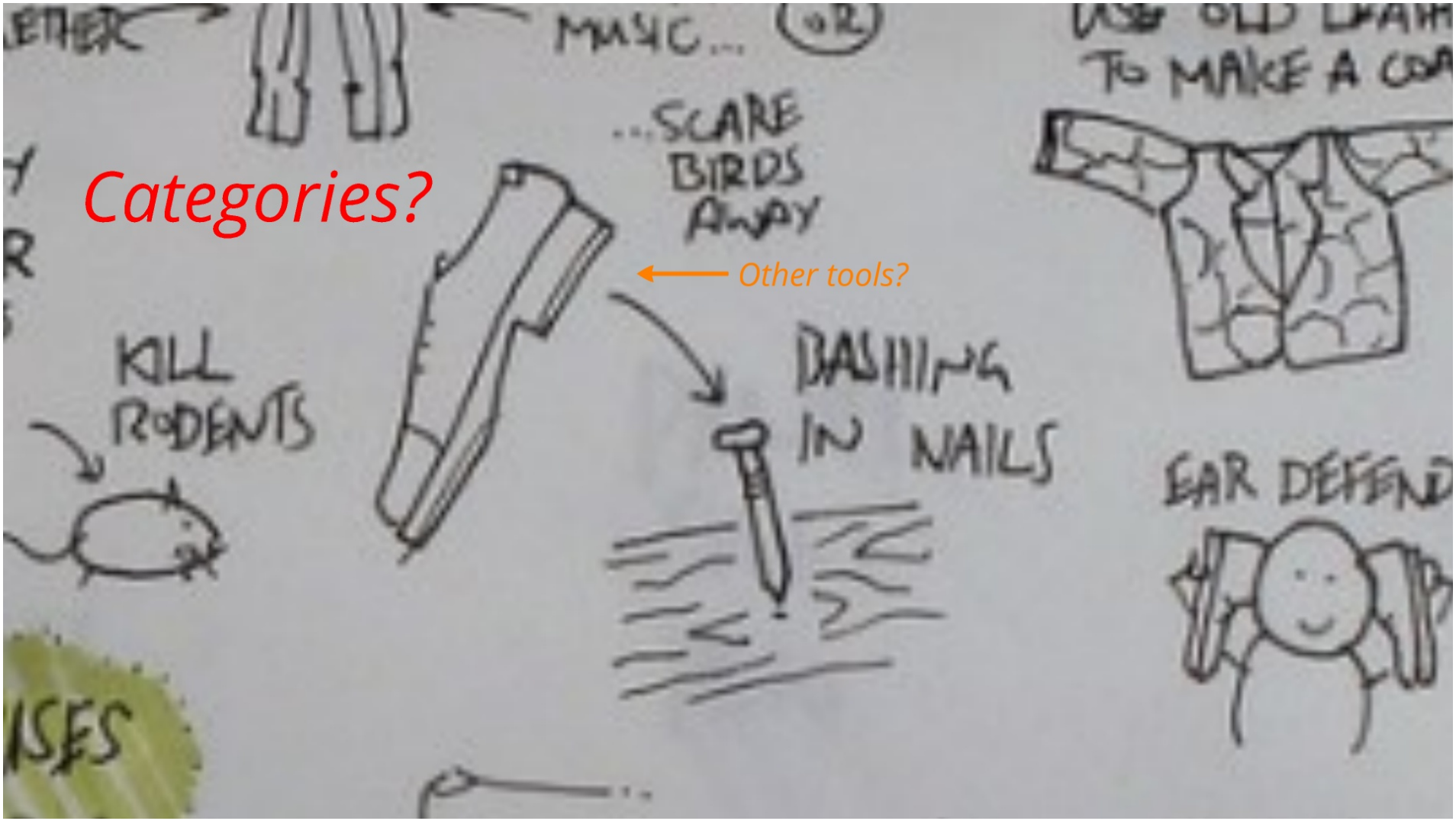
oid ridicule

Strategies for Flow and quantity



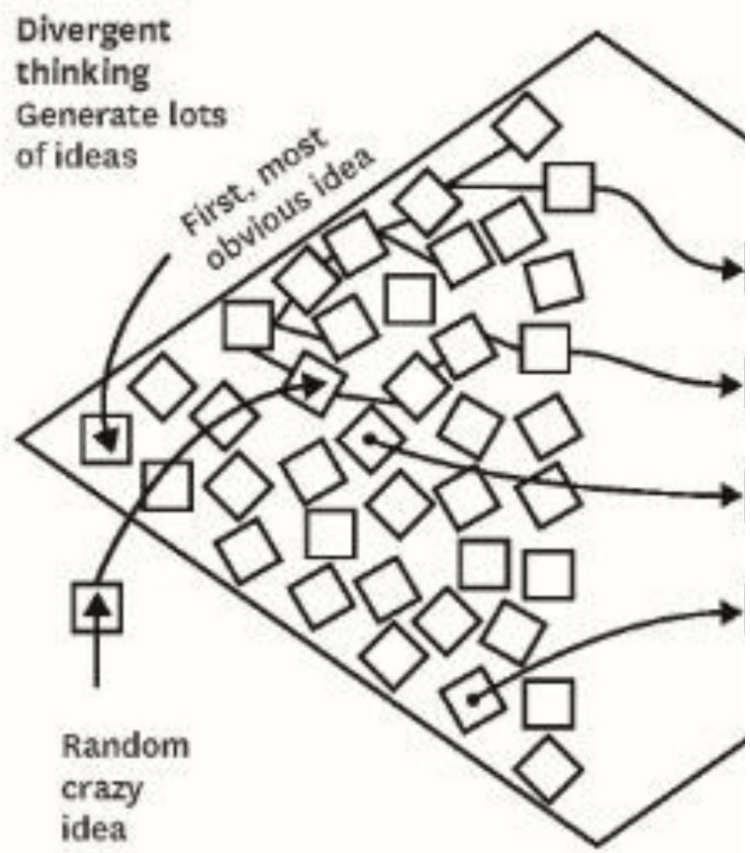

MAGIC...
OR
...SCARE BIRDS AWAY
KILL RODENTS
BASHING IN NAILS
EAR DEFEND

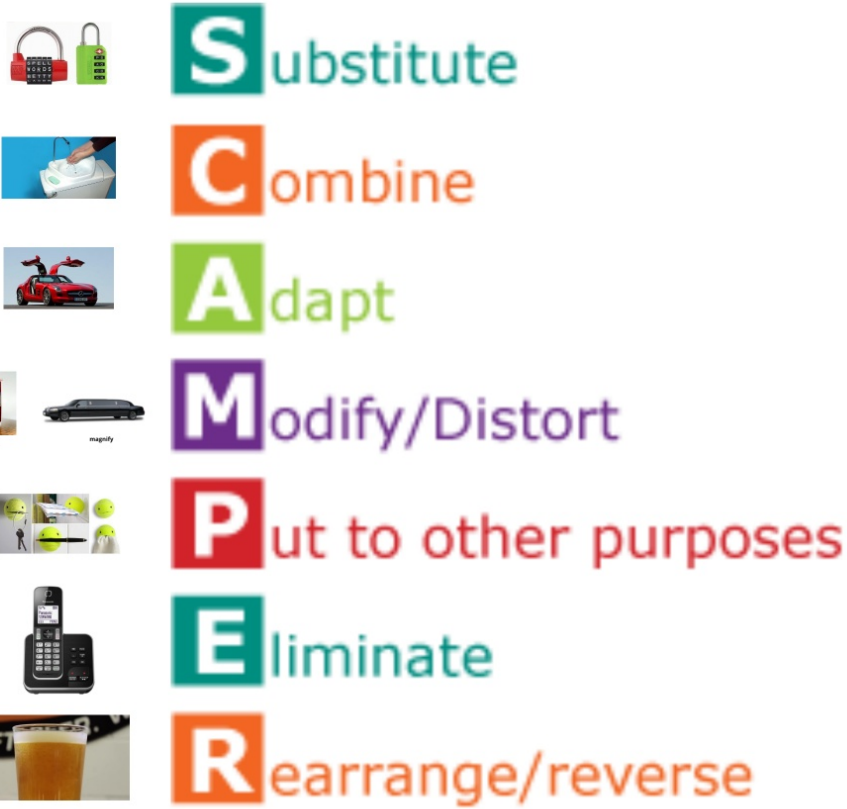

Categories?
...SCARE BIRDS AWAY
KILL RODENTS
BASHING IN NAILS


Categories?
Other tools?
...SCARE BIRDS AWAY
KILL RODENTS
BASHING IN NAILS
TO MAKE A
EAR DEFEND

Tom, any other tricks to help me develop my own divergent thinking?

Any strategies I can use to help me come up with creative ideas for my own lessons?





More accurate to call SCAMPER a mnemonic for the collection of techniques rather than a technique of its own.

Bob Eberle


HARDENED
SPELL
WORDS
BETTY
LASER
WORD LOCK
PS
AO
CO
KN
WORDLOCK



Substitute



Combine



Adapt





Modify/Distort



Put to other purposes



Eliminate



Rearrange/reverse

More accurate to call SCAMPER a mnemonic for the collection of techniques rather than a technique of its own.

Bob Eberle





Substitute



Combine



Adapt





Modify/Distort



Put to other purposes



Eliminate

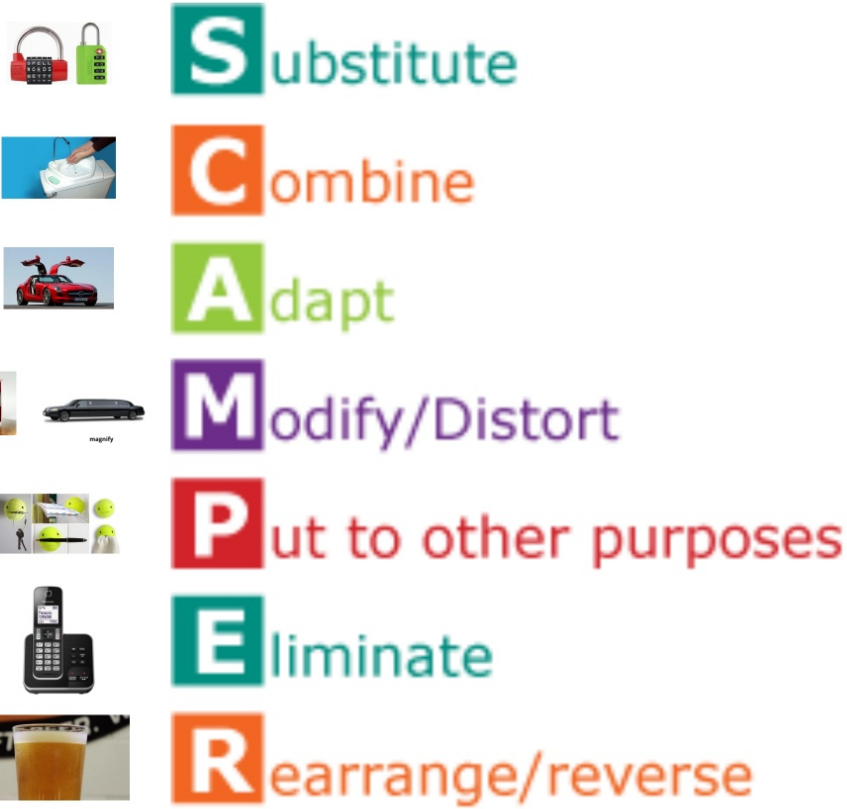


Rearrange/reverse

More accurate to call SCAMPER a mnemonic for the collection of techniques rather than a technique of its own.

Bob Eberle


S MC 197



More accurate to call SCAMPER a mnemonic for the collection of techniques rather than a technique of its own.

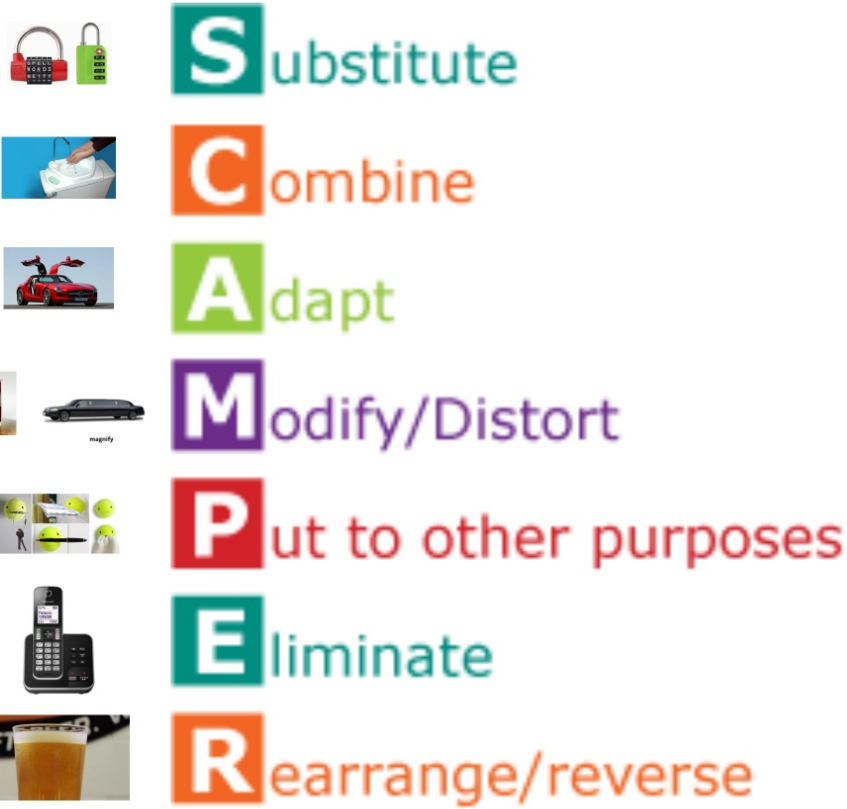
Bob Eberle



Minify



magnify

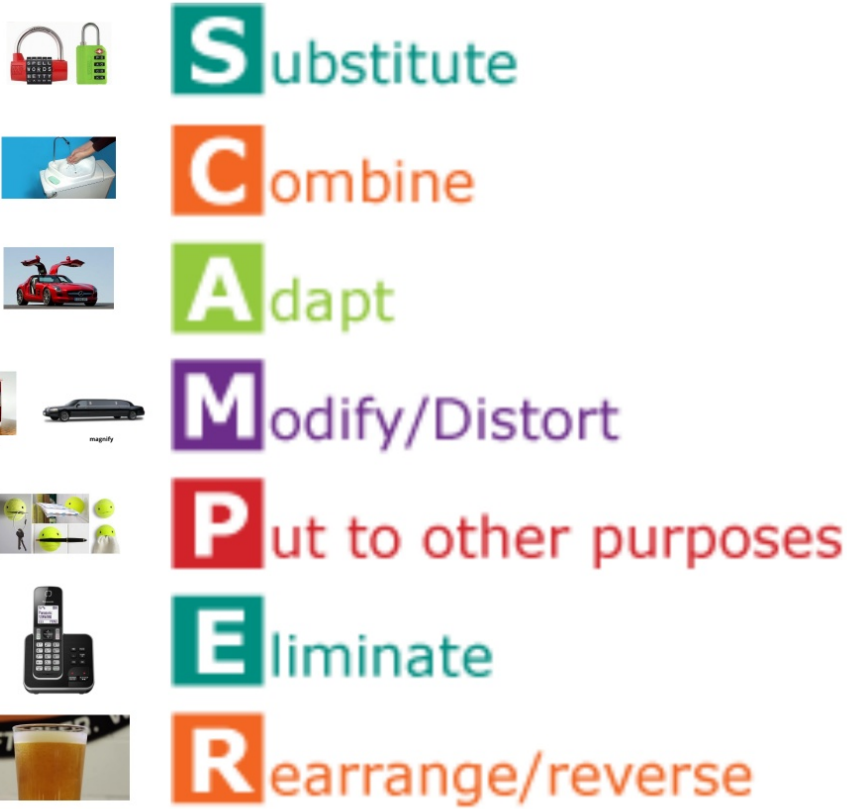


More accurate to call SCAMPER a mnemonic for the collection of techniques rather than a technique of its own.

Bob Eberle





More accurate to call SCAMPER a mnemonic for the collection of techniques rather than a technique of its own.

Bob Eberle


Panasonic
Panasonic
1234567890
MENU
TALK
VOL.
REDIAL
CID
OFF
1 &'(
2 ABC
3 DEF
4 GHI
5 JKL
6 MNO
7 PQRS
8 TUV
9 WXYZ
* A↔a
0
#
SP-PHONE
INTERCOM
RECALL
ECO
ERASE
VOLUME
ANSWER ON/OFF
PLAY/STOP



Substitute



Combine



Adapt





Modify/Distort



Put to other purposes



Eliminate



Rearrange/reverse

More accurate to call SCAMPER a mnemonic for the collection of techniques rather than a technique of its own.

Bob Eberle





Substitute



Combine



Adapt





Modify/Distort



Put to other purposes



Eliminate



Rearrange/reverse

More accurate to call SCAMPER a mnemonic for the collection of techniques rather than a technique of its own.

Bob Eberle


BIG FISTS

Substitute

Combine

Adapt

Modify/Distort

Put to other purposes

Eliminate

Rearrange/reverse





Substitute

Combine

Adapt

Modify/Distort

Put to other purposes

Eliminate

Rearrange/reverse



e

stort

ıer purposes

e/reverse





Substitute

Combine

Adapt

Modify/Distort

Put to other purposes

Eliminate

Rearrange/reverse





Substitute

Combine

Adapt

Modify/Distort

Put to other purposes

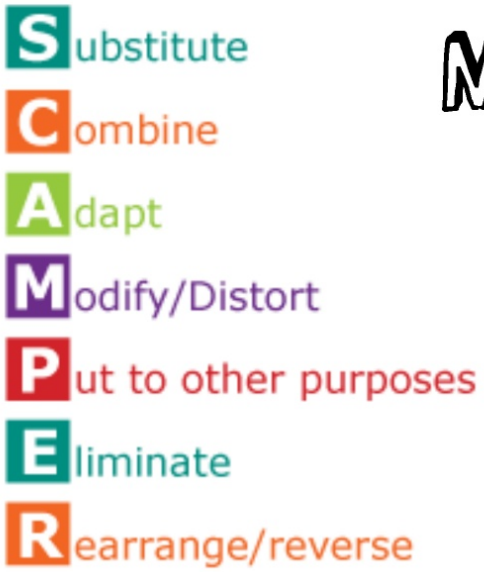
Eliminate

Rearrange/reverse



ONE - AoLE Activity/ task/ experience

ONE - AfL activity



MICROTALK

Group 3/4

5 Min presentation
(All talk)


WE
WANT
TO
HEAR
FROM
YOU!