12 Brain Rules

by John Medina
We used to walk 12 miles a day.

Exercise boosts brainpower. Exercise improves executive functions.

An increase of oxygen = mental sharpness.
the strongest brains survive
we create alliances
we learn from mistakes
a safe environment improves learning
everybody has a different brain wiring

learning changes the brain customization = 😊
attention
no attention to boring things
the brain can not multitask
error rates go up by 50%
our classrooms are multitask-environments = 😞
short time memory

a 7 digit number disappears in our memory after 30”

repeating within 30” helps you remembering it for hours
remember to repeat 90 to 120’ after initial learning it takes 10,000 repetitions to transform memory into habit long time memory
sleep well

the brain does not sleep

a 26’ nap at 3 p.m.

= 34% improvement
avoid stress

30' stress = natural
cognition damage
sensory integration

our senses work together
stimulate all of them
vision

1 image = 1,000 words

use visuals to boost memory
a better team = male + female brains = gender
stay curious

explore your world

20% time off to play pays off
Avans University of Applied Sciences
Academy of Building and Infrastructures (AB&I)
Department of Architecture
Tilburg, the Netherlands
Building with Bamboo
at Avans University of Applied Science

2012
Plato Solids
2gather: a project for a foldable stage
Breda, the Netherlands
2D

3D

½ dome

graduation project
Building with Bamboo
at Avans University of Applied Science

2013
a non flexible node

a flexible node

a umbrella type node
studying a flexible node
raising a dome structure
ECOWEEK 2013
CRACOW, POLAND

https://www.youtube.com/watch?v=-MYD8LAAFfl (3’04”)
https://www.youtube.com/watch?v=78eKO8wE3SA (0’20”) unfolded
https://www.youtube.com/watch?v=TGRfmZIRO8Q (0’11”) folded

2013
a rapidly foldable structure
folding the structure
Playing with my nephew on Koksijde beach

2014
Aryan & a truncated icosahedron
Building with Bamboo at Avans University of Applied Science

https://www.youtube.com/watch?v=cfQwZQh2Us8 (6′33″)
https://www.youtube.com/watch?v=LrnMpVj1l00 (2′22″)

2014
Bamboo Ball Races

prefabricated parts
assembling parts
finishing the ball
checking the rolling
Bamboo Bridges
Graduation projects

2014
Building with Bamboo
at Avans University of Applied Science

2015
Introducing Bamboo into the education of the building engineer - part 2 -

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