

STE[A]M tjedan



Kreativni laboratoriji u školama

poticanje kreativnosti i kritičkog mišljenja

Roberto Vdović
Morana Pap

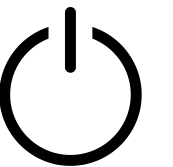
Tehnički muzej Nikola Tesla



Kreativni laboratoriji u školama poticanje kreativnosti i kritičkog mišljenja



Uvod (Introduction Story)



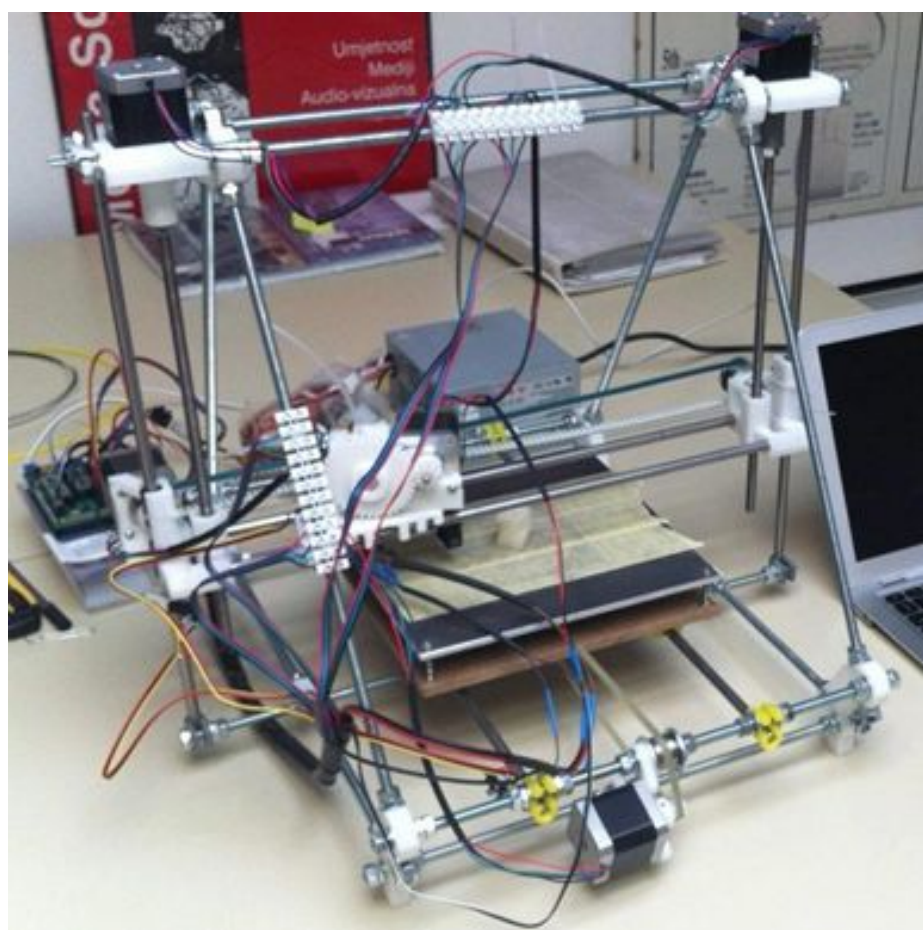
Što omogućuje? (Enablers)



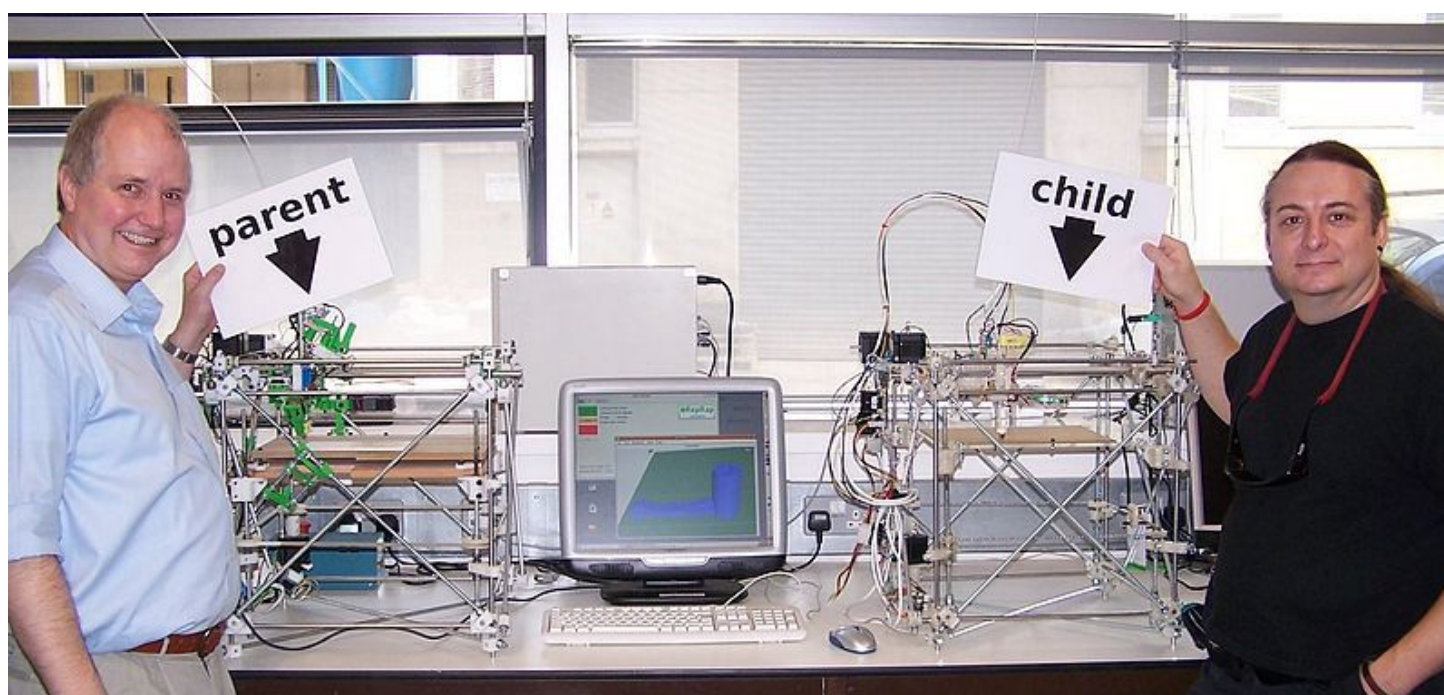
Kako? (How?)



Dio povijesti / *a bit of history*



2010/11.
RepRap @ Af - Prusa i2

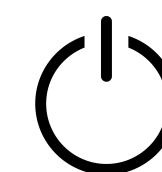


2005.
prof. Adrian Bowyer
RepRap projekt

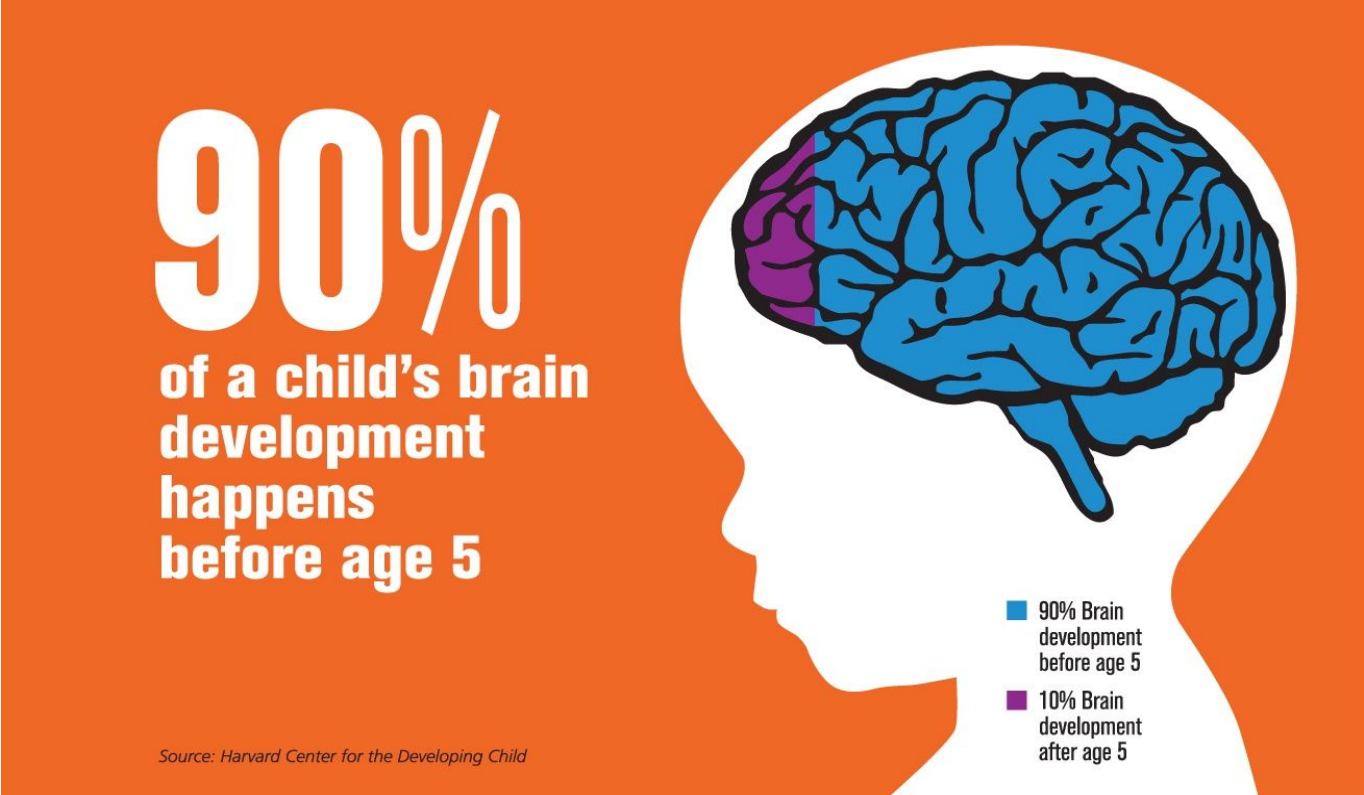
<https://www.youtube.com/watch?v=-mHwRgiTeB4>



Transformative Learning Technologies Lab
Stanford University



Učenje kroz rad / *Learning by doing*

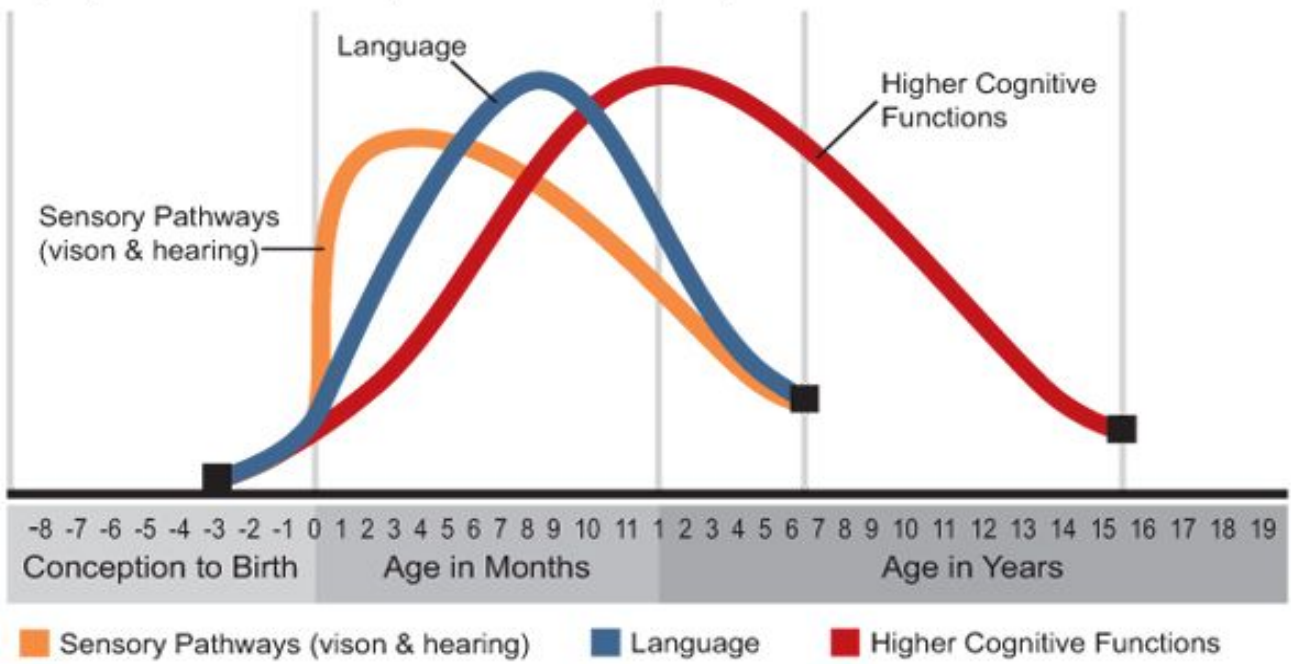


SKILLS DEVELOPED THROUGH PLAY

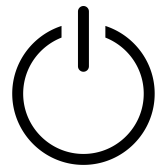


Human Brain Development

Synapse formation dependent on early experiences



Adapted from "Curiosity, Pleasure and Play: A Neurodevelopmental Perspective" written by Perry, Hogan and Marlin (2000)



EU vrijednosti / *EU values*

Make-IT - Understanding Collective Awareness Platforms with the Maker Movement (Obzor 2020, 2016-2017)

FabLabNet - foster international networks and links both with schools and businesses (InterReg CE, 2017-2019)

DOIT - Entrepreneurial skills for young social innovators in an open digital world. A European Initiative! (Obzor 2020, 2017-2020)

FabLab
udruuga za promicanje
digitalne fabrikacije



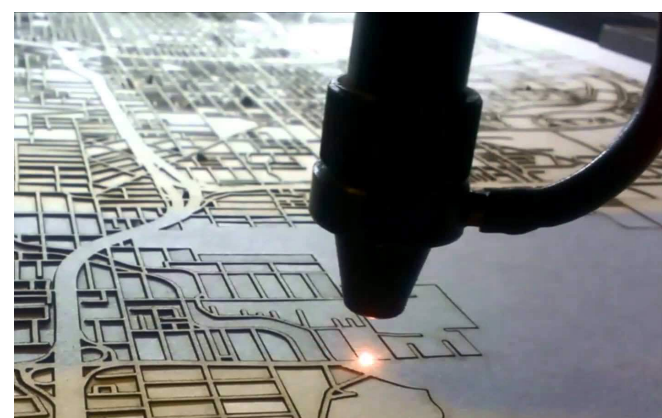
Tehnologije / *Technologies*

1. Tehnologije oduzimanja materijala (*subtractive technologies*)

- CNC obrada



- Lasersko rezanje i graviranje

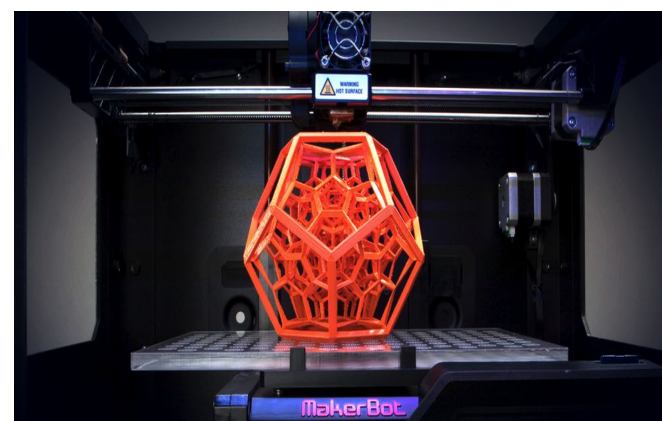


- Rezanje folija

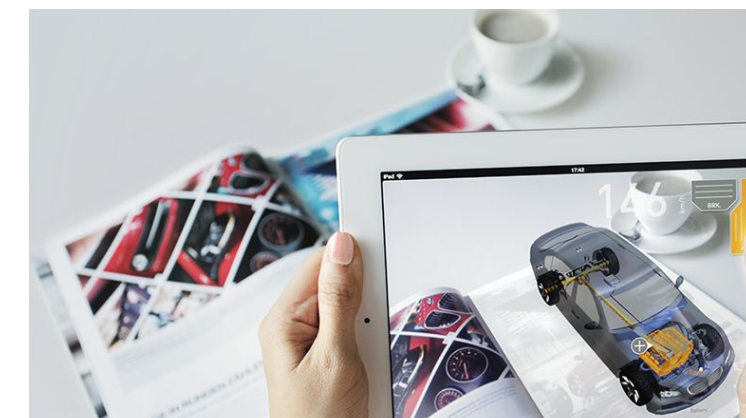


2. Tehnologije dodavanja materijala (*additive technologies*)

- Tehnologije 3D ispisa



Proširena stvarnost (AR)

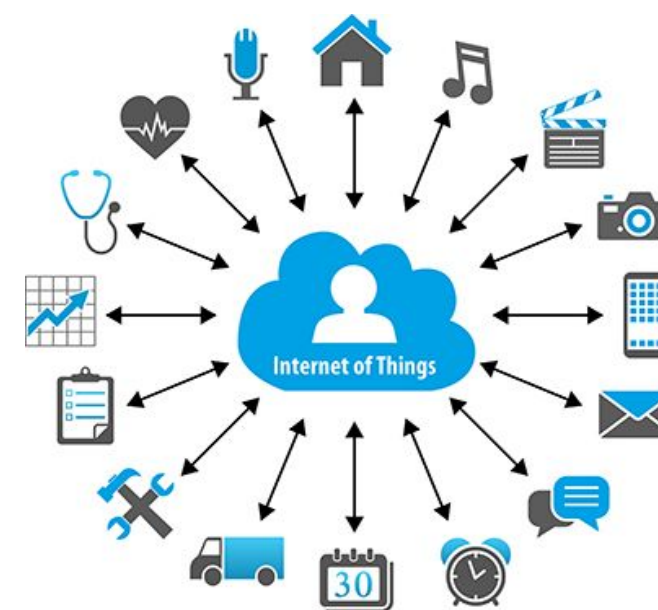


Virtualna stvarnost (VR)



Senzori i biosenzori

IoT



Razvojne platforme Arduino, RPi



STE[A]M vještine

FabLab
udruha za promicanje
digitalne fabrikacije

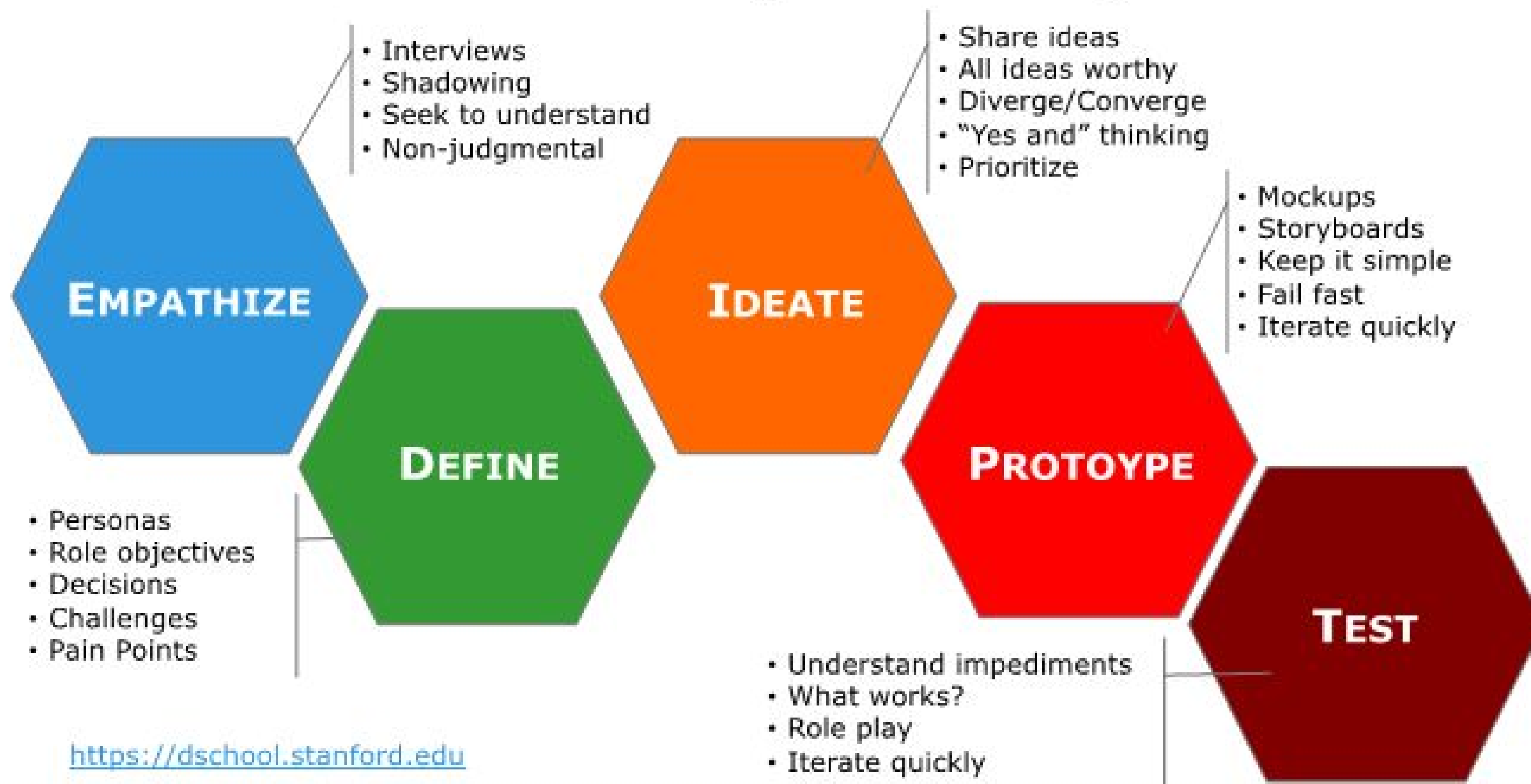


SCIENCE TECHNOLOGY ENGINEERING ART MATHEMATICS

ART + SCIENCE = PROGRESS

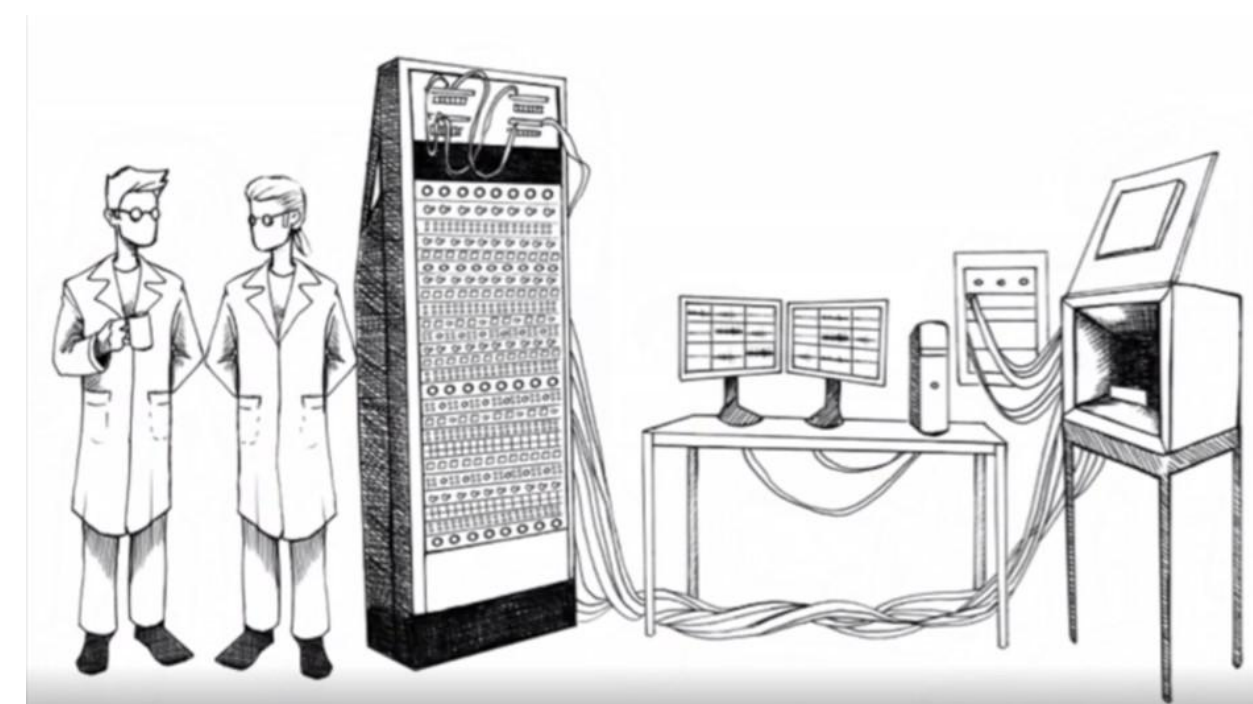


Design Thinking process

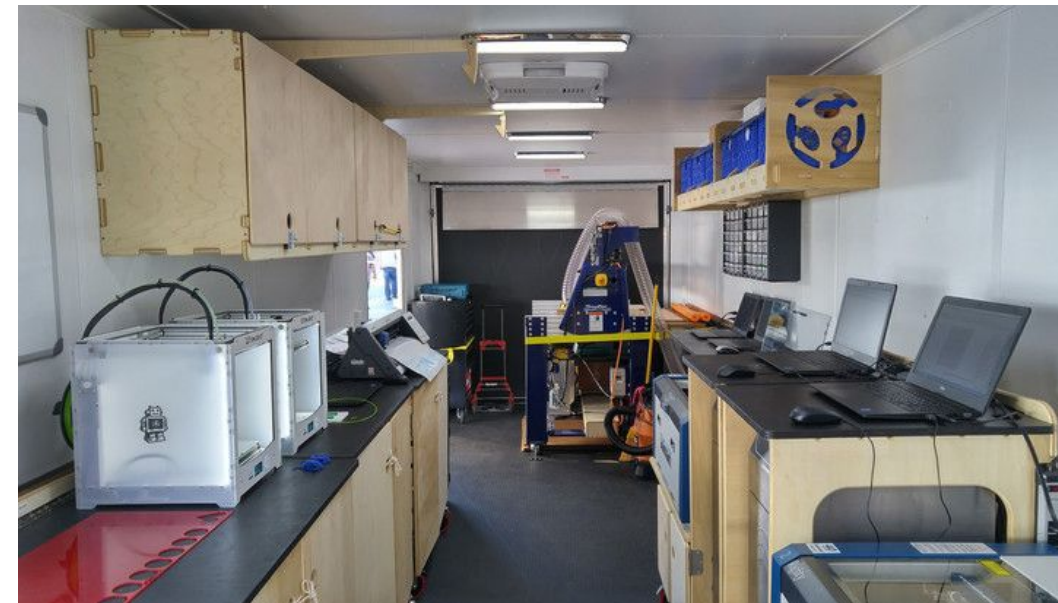


Kreativni laboratoriji > Stvori u školi

- Nove tehnologije, generatori ideja
- Tradicionalne vještine i alati
- Sinergija sa drugim predmetima (informatike, matematike i fizike, kemije i biologije, ali i likovnog i muzičkog)
- Suradnje među školama
- Natjecanja među školama
- Suradnja sa lokalnom zajednicom, roditeljima, bakama i djedovima...



Mobilni FabLab i FabBox



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