

Det didaktiske hjørnet

SAMR-modellen

DIM 2015-2018 VERKSTED nr 1

Onsdag 26. august 2015 kl 13.15-15.30 Sted:Ve skole

Agenda:

13.15-13.30 Hovedtrekk fra prosjektsøknaden v/Anne Berit

13.30-14.00 *Opplæring*: Bruk av Google-plattformen v/Gunnar

14.00-14.15 *Det didaktiske hjørnet*: SAMR-modellen v/Evert

14.15-14.30 Pause med litt mat

14.30-15.15 *Presentasjon av nytt prosjektopplegg*: BRØK (start uke 41)

v/Evert

15.20-15.30 Spørsmål og avklaringer i forhold til prosjektet v/Inga

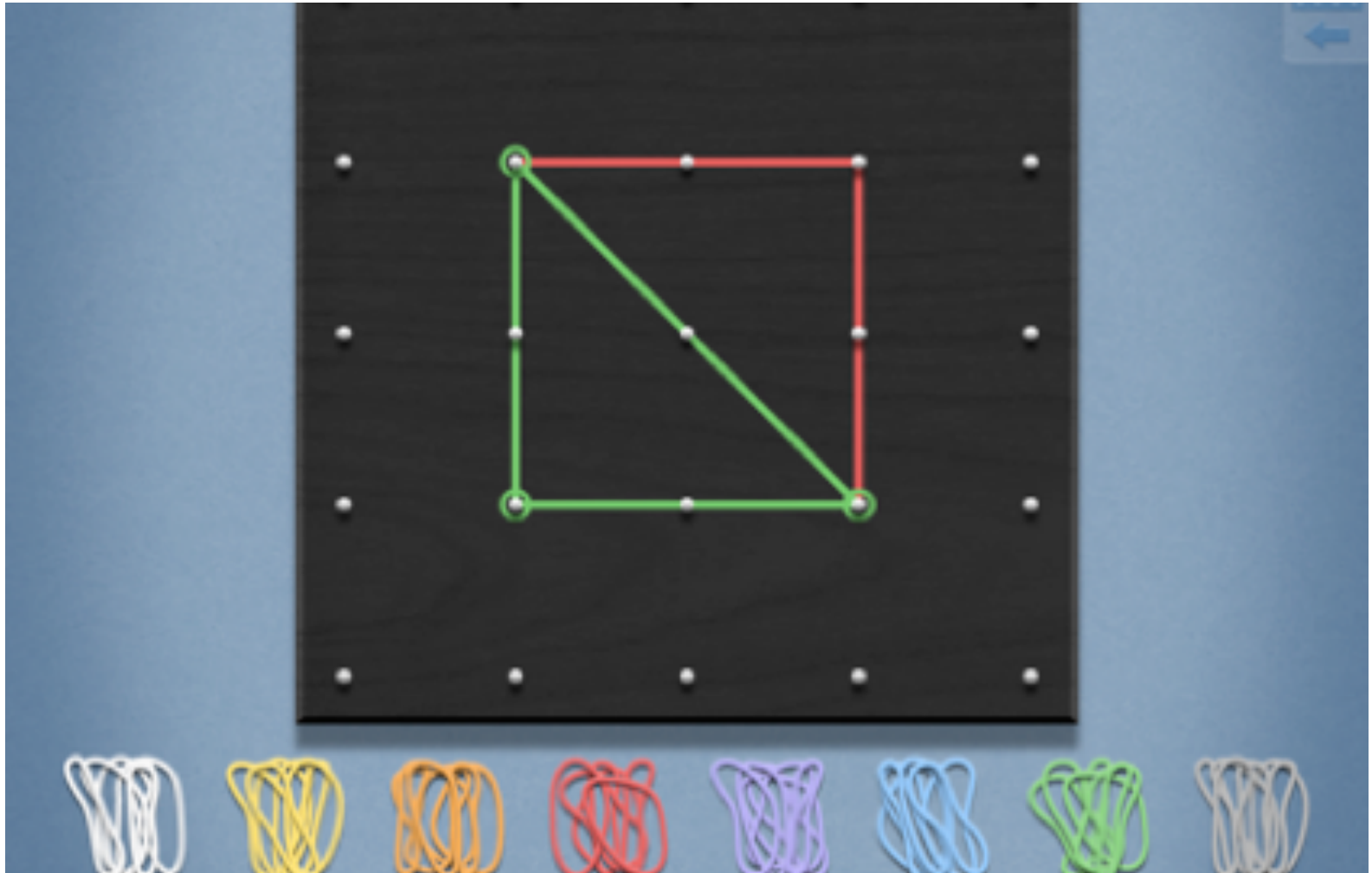
SAMR

- **Substitution:** Teknologien en erstatning for gammel-metoden.
- **Augmentation:** Teknologien en hjelp i læringen - teknologien gjør noe bedre enn det man fikk til uten den.
- **Modification:** Undervisningsoppdraget utvikles. Teknologien gir noen ekstra muligheter i læringen, f eks samhandlingsarena
- **Redefinition:** begynner man å arbeide på måter og med innhold som ikke var mulig uten teknologien. Den er ikke lenger en forbedring av tidligere arbeidsmåter og innhold, men teknologiens nye muligheter tas i bruk.

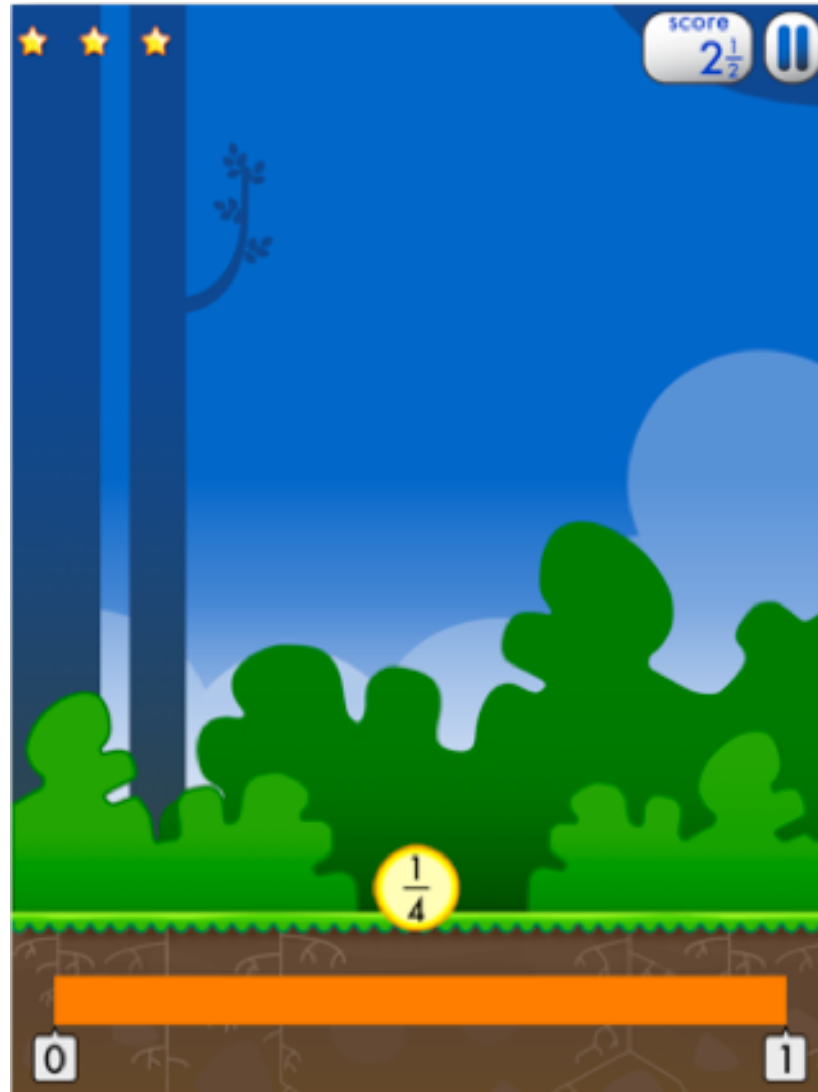
Ruben R. Puentedura

- <http://wiki.edu.sollentuna.se/artikel/puentedura-trappan-samr-modellen>

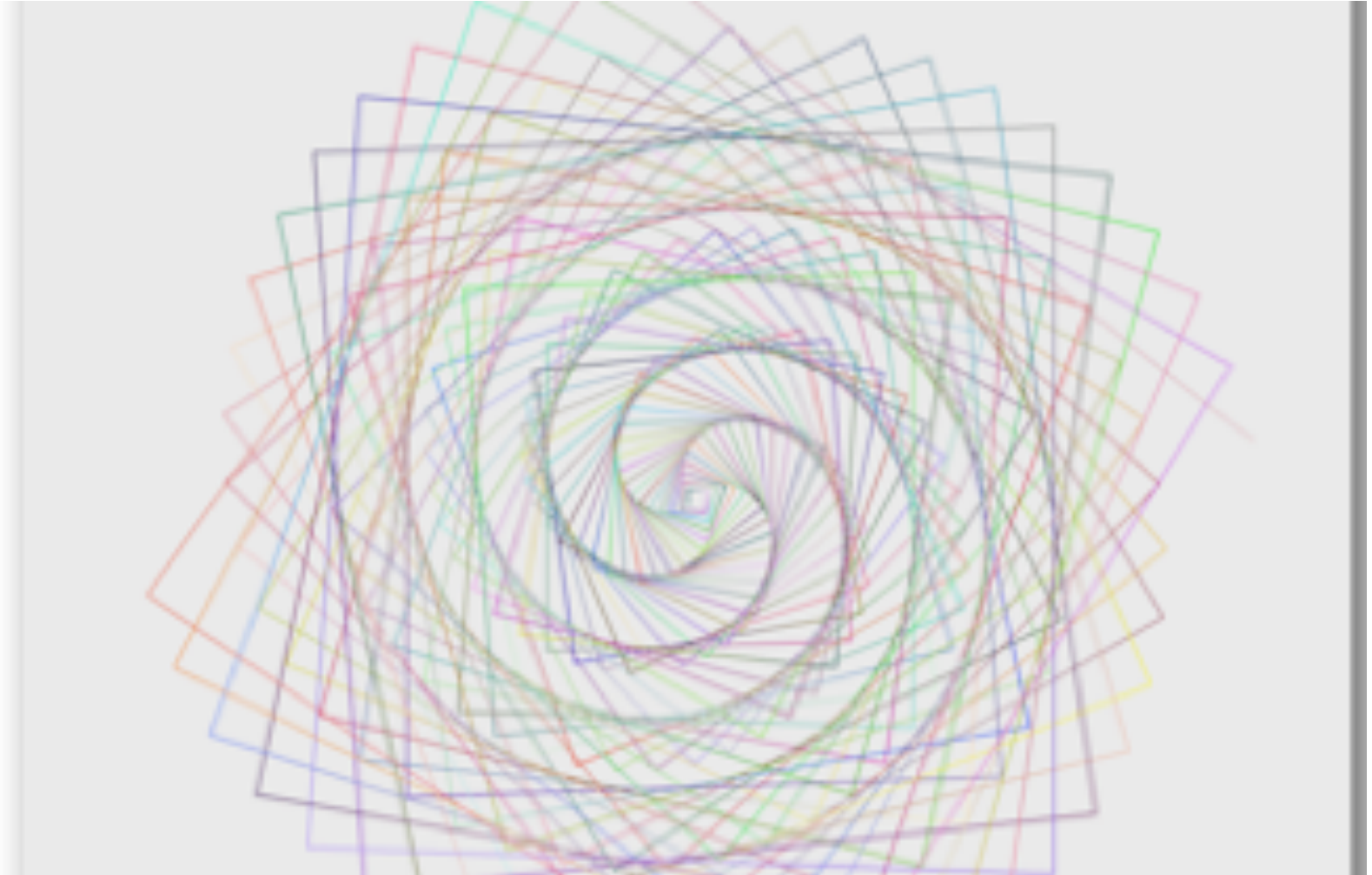
Substitution



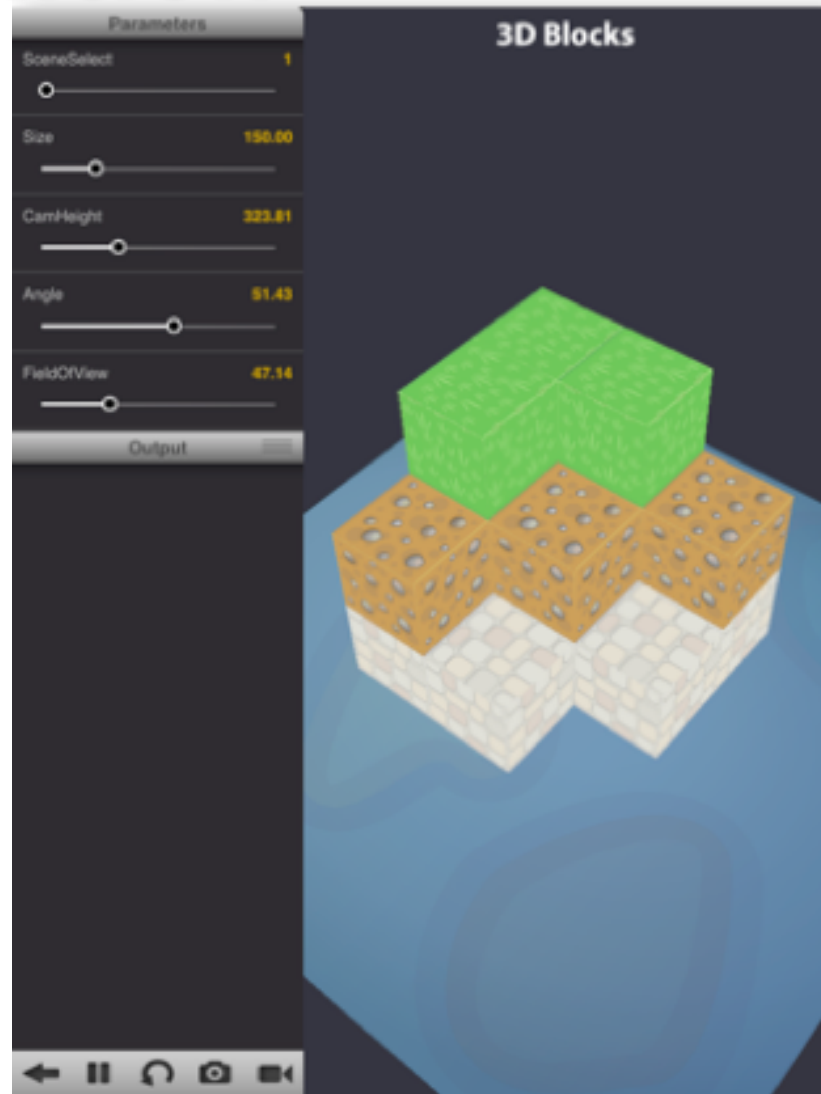
Augmentation



Modification



Redefinition



Substitution



The screenshot shows a web browser window with the URL <http://www.socr.ucla.edu/AP/2007/07/BayesianPrelim>. The page title is "AP Statistics Curriculum 2007 Bayesian Prelim". The main content area is titled "Probability and Statistics Ebook - Bayes Theorem" and includes an "Introduction" section. The introduction defines Bayes Theorem, or "Bayes Rule", and provides the formula $P(A|B) = \frac{P(B|A) \cdot P(A)}{P(B)}$. It also discusses the likelihood function $f(Y|X) = \frac{f(X|Y) \cdot f(Y)}{f(X)}$. An example problem is provided: "Suppose a laboratory blood test is used as evidence for a disease. Assume $P(\text{positive Test}|\text{Disease}) = 0.95$, $P(\text{positive Test}|\text{no Disease}) = 0.01$ and $P(\text{Disease}) = 0.005$. Find $P(\text{Disease}|\text{positive Test})$?" The solution uses Bayes Theorem to calculate $P(D|T) = \frac{P(T|D)P(D)}{P(T|D)P(D) + P(T|D^c)P(D^c)} = \frac{0.95 \times 0.005}{0.95 \times 0.005 + 0.01 \times 0.995} = 0.3231293$. The page also features a navigation menu on the left and a search box.

AP Statistics Curriculum 2007 Bayesian Prelim

Contents (new)

- 1 Probability and Statistics Ebook - Bayes Theorem
 - 1.1 Introduction
 - 1.2 Example
 - 1.3 Bayesian Statistics
- 2 See also
- 3 References

Probability and Statistics Ebook - Bayes Theorem

Introduction

Bayes Theorem, or "Bayes Rule" can be stated succinctly by the equality

$$P(A|B) = \frac{P(B|A) \cdot P(A)}{P(B)}$$

In words, "the probability of event A occurring given that event B occurred is equal to the probability of event B occurring given that event A occurred times the probability of event A occurring divided by the probability that event B occurs."

Bayes Theorem can also be written in terms of densities or likelihood functions over continuous random variables. Let's call $f(\cdot)$ the density (or in some cases, the likelihood) defined by the random process x . If X and Y are random variables, we can say

$$f(Y|X) = \frac{f(X|Y) \cdot f(Y)}{f(X)}$$

Example

Suppose a laboratory blood test is used as evidence for a disease. Assume $P(\text{positive Test}|\text{Disease}) = 0.95$, $P(\text{positive Test}|\text{no Disease}) = 0.01$ and $P(\text{Disease}) = 0.005$. Find $P(\text{Disease}|\text{positive Test})$?

Denote D = (the test person has the disease), D^c = (the test person does not have the disease) and T = (the test result is positive). Then

$$\begin{aligned} P(D|T) &= \frac{P(T|D)P(D)}{P(T|D)P(D) + P(T|D^c)P(D^c)} \\ &= \frac{0.95 \times 0.005}{0.95 \times 0.005 + 0.01 \times 0.995} = 0.3231293. \end{aligned}$$

Bayesian Statistics

What is commonly called **Bayesian Statistics** is a very special application of Bayes Theorem.

Augmentation

How good is the test in detecting the disease?
P(positive test|sick): 0.062


How good is the test in detecting the absence of the disease?
P(negative test|healthy): 0.142

How likely is the disease?
P(disease) 0.001

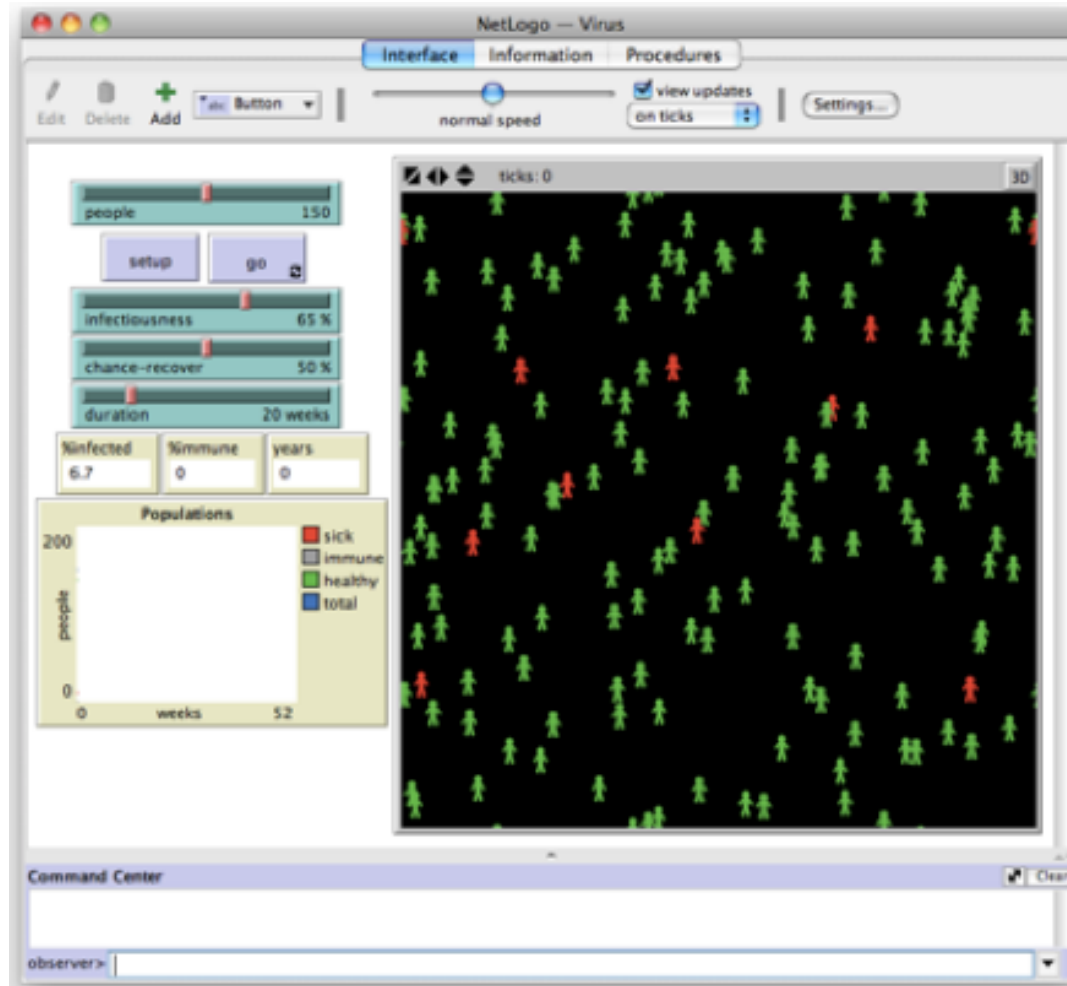
Number of people for reference
N 2329

Probability of being sick after having tested positive for a disease: $P(\text{sick} \text{positive test})$			
	positive test	negative test	Total
sick	0	2	2
healthy	1997	330	2327
Total	1997	332	2329

$P(\text{sick}|\text{positive test}): 0/1997 = 0.$

Wolfram  Demonstrations Project demonstrations.wolfram.com

Modification



Redefinition

WolframAlpha computational knowledge engine

Characteristics of patients breast cancer

Assuming female breast cancer | Use [male breast cancer](#) instead
Assuming any type of female breast cancer | Use [cancer of the armpit and nipple of the female breast](#) or [more...](#) instead

Input interpretation:
female breast cancer characteristics of patients

Result: [More](#) [Primary diagnosis at visit](#)

	male	female	all
age			
weight			
height			
BMI			

patient population | U.S. population
(estimated annual values from NHANES and NHANES data, weighted for USA demographics, 2006 to 2007)

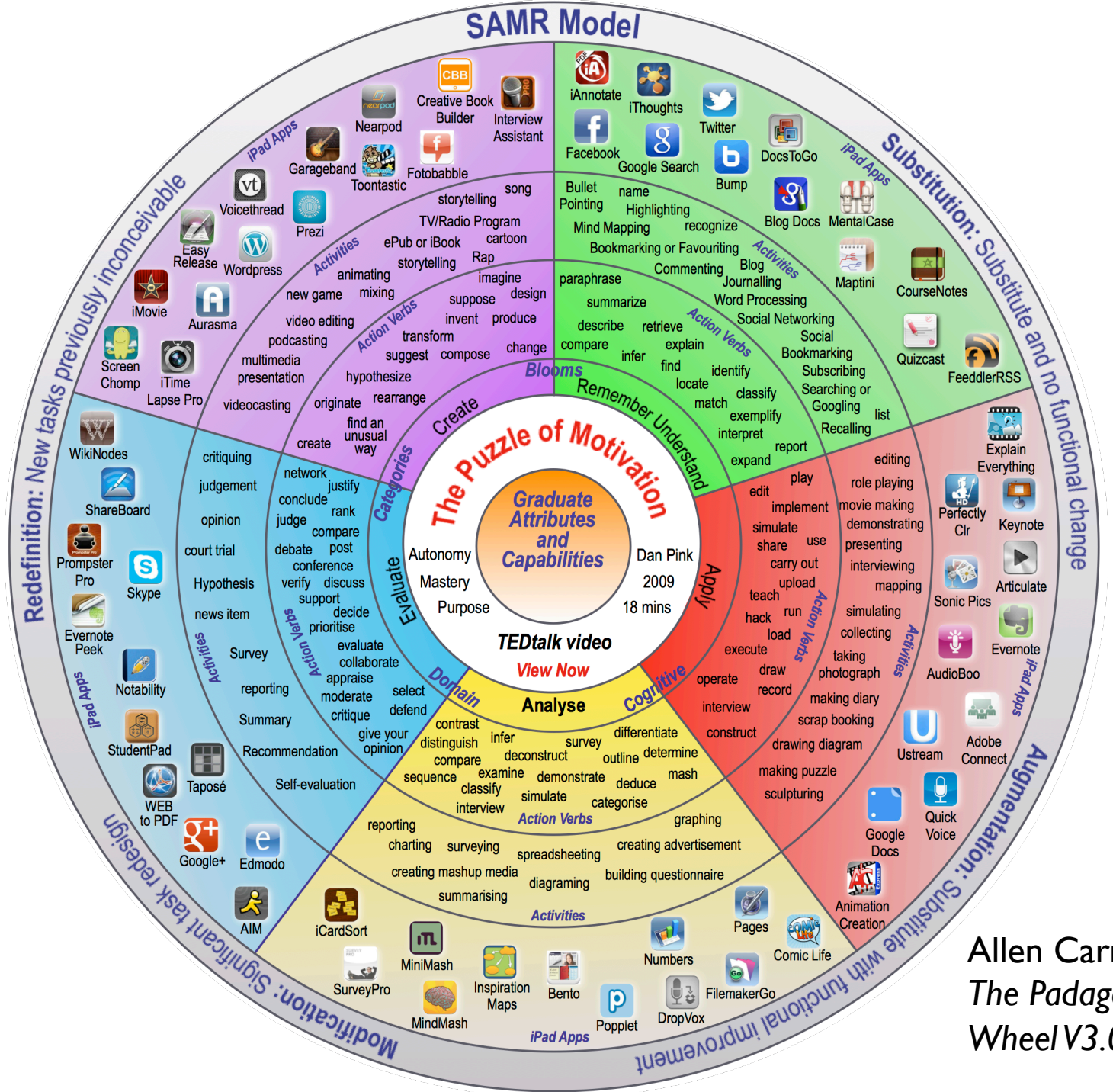
Computed by [Wolfram Mathematica](#) | [Source information](#) | [Download as PDF](#) | [Use Mathematica](#)

Related WolframAlpha Queries:
- [age of female breast cancer](#)
- [weight of female breast cancer](#)

SAMR-modell

- <http://www.educatorstechnology.com/2013/08/samr-model-explained-through-examples.html>

SAMR Model



Allen Carrington:
 The Pedagogy
 Wheel V3.0

<p>Redefinering: Ny oppgaver som var utenkelig tidligere. Omdefinering. Kan ta til seg ny kunnskap på en helt ny måte. Tilgang på fakta, samarbeid og kommunikasjon , bearbeiding og simulering</p>	Skape	
<p>Modifikasjon: Endring, betydelig ny utforming av oppgaver. På dette nivået flyttes fokus fra teknikk til læring og oppgaven. Hvordan kan teknikken utvikle læreprosessen. Vi tar vare på mulighetene til å forandre prosessen. Kommunikasjon og samarbeid er viktige ingredienser. Vi publiserer arbeidet til flere enn dem i klasserommet.</p>	Evaluerer	
<p>Argumentasjon: Forsterkning, effektivisering. erstatte med forbedringer. Vi drar nytt av funksjonene som teknikken gir. Vi forbedrer og effektivisere det vi tidligere har gjort. Retteprogram i Word.</p>	Anvende	
<p>Substitusjon: Erstatning, ingen funksjonell endring. Vi erstatter gammel teknikk med ny. Noen forandring skjer egentlig ikke. I stedet for å skrive med penn og papir, bruker vi Word, i stedet for å trene på tabeller og oppgaver, trener vi i matematikkprogram. Lenker til der elevene skal lese. Ingen endring.</p>	Forstå	
	Huske	