

# Data storytelling

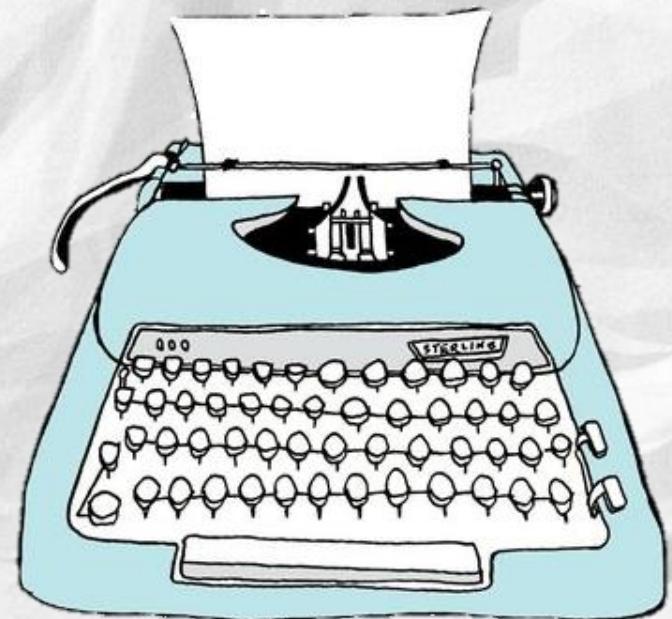
18 de mayo

Mtra. Isabel Diez



# En el capítulo anterior...

1. Muéstrame, no me digas
2. UNA idea central
3. Los opuestos se atraen
4. La estructura lo es todo
5. Historias para humanos



"La gran narración  
de historias es una  
invitación a  
encontrar  
problemas, no una  
lección sobre cómo  
resolverlos".

Jerome Bruner



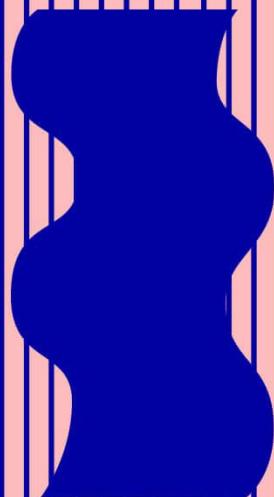




MAKE  
me  
CARE

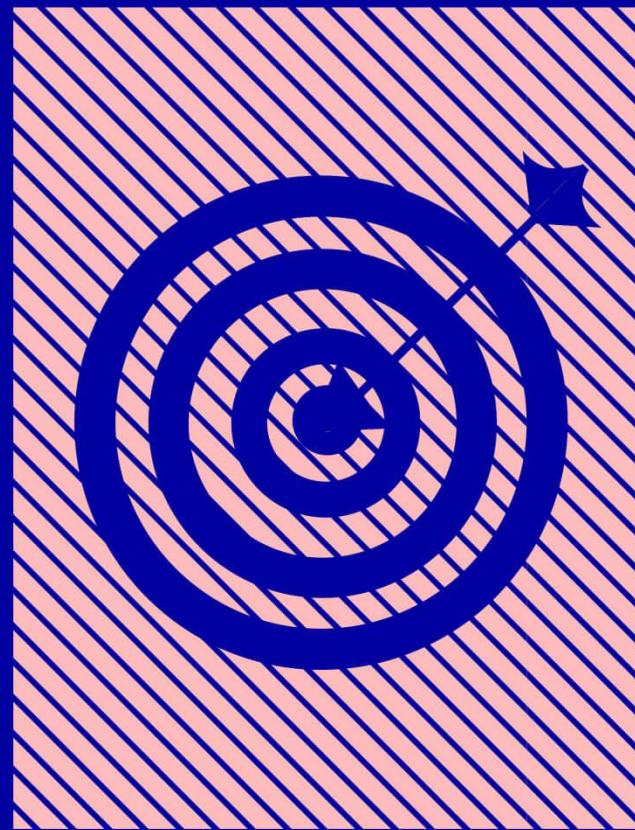
→ S  
- Ha  
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- Wh  
→ Fe  
→ Fa  
→ Hab  
→ Fee  
- MA  
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spa  
The  
Ra  
Locks  
Skate  
- TAKE H

# FORM

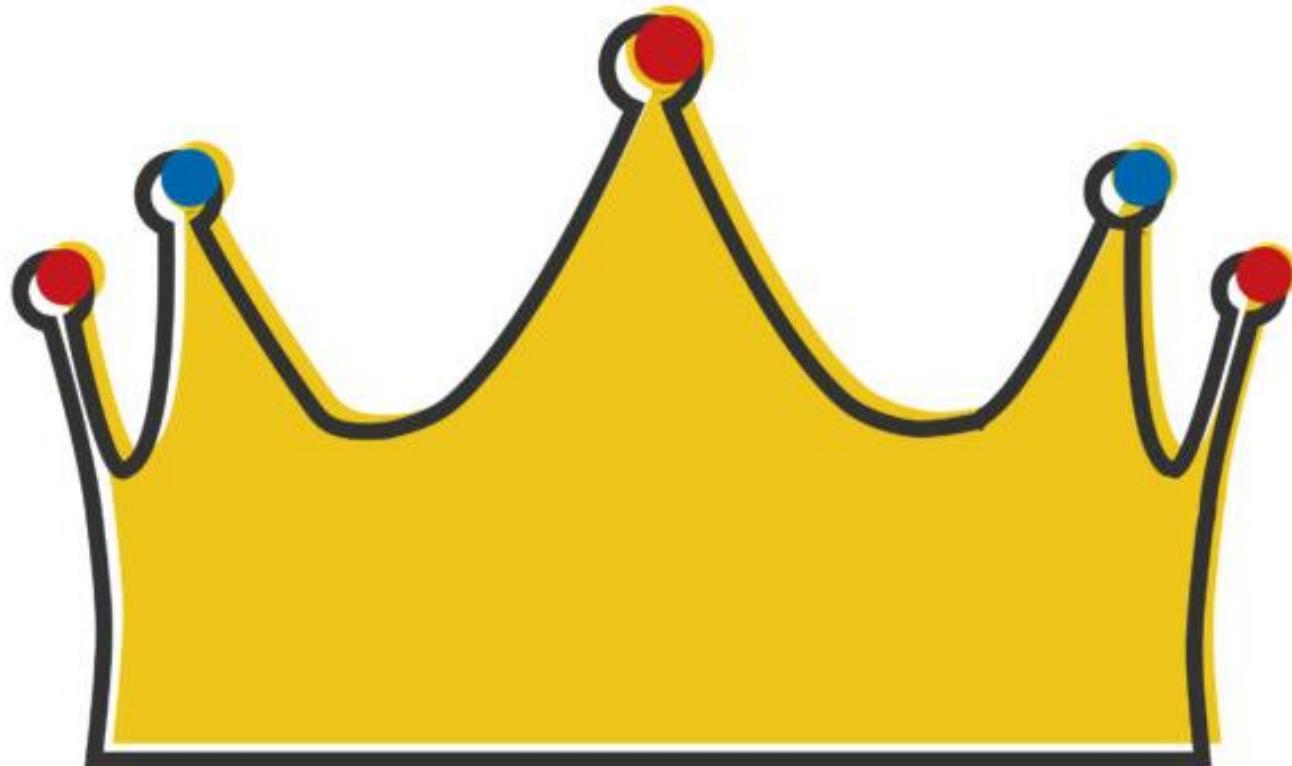


follows

# Function

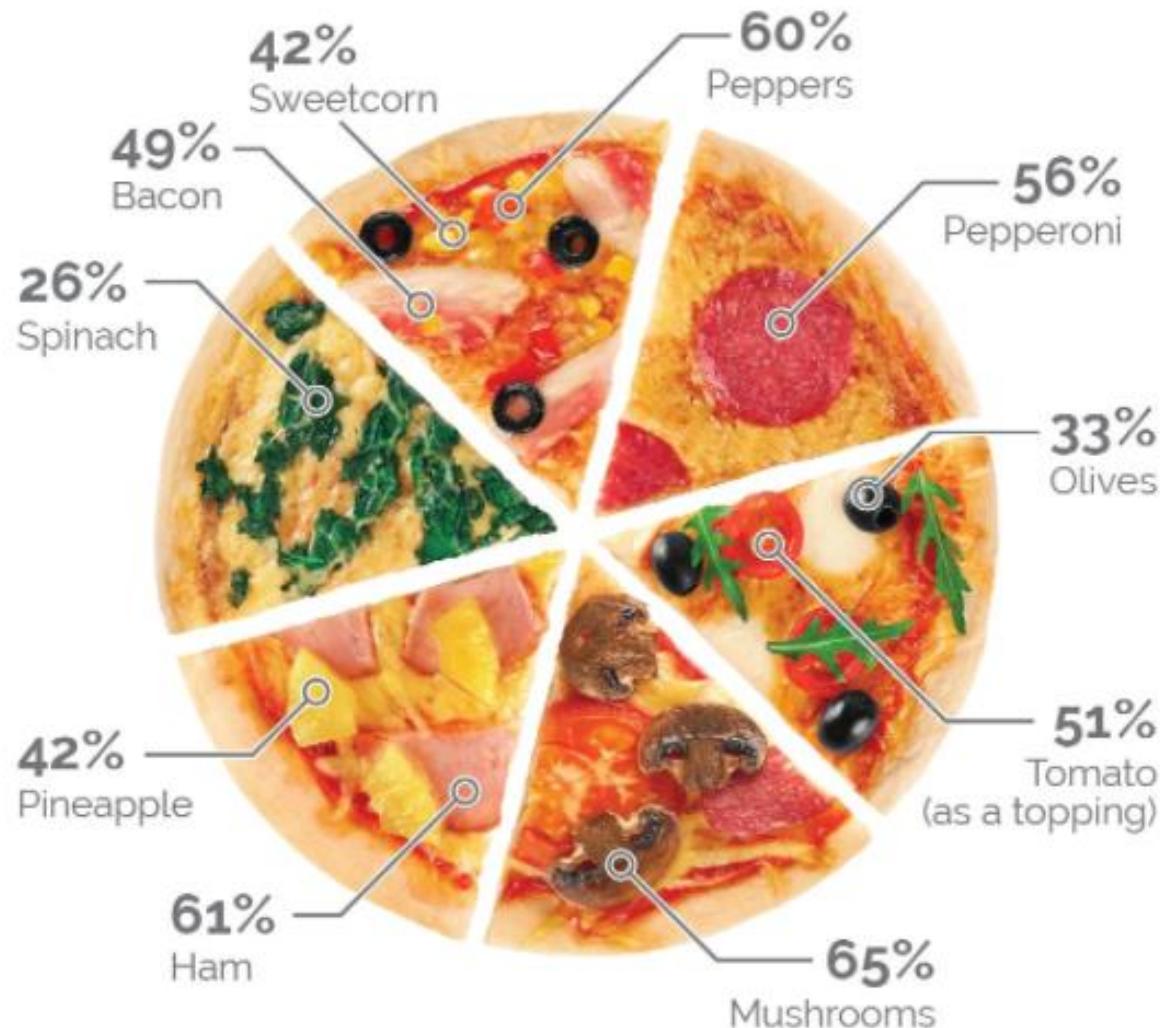






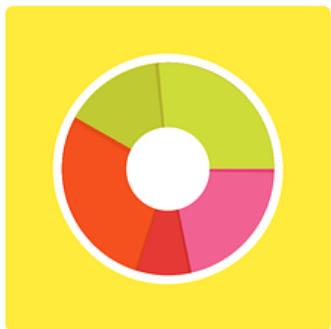
# CONTENT

# Most liked pizza toppings in Britain





= una historia



+



+



= una  
historia

# **OKAY, BUT HOW?**

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# 1. Conoce a tu audiencia



Tu audiencia es el  
**HÉROE**

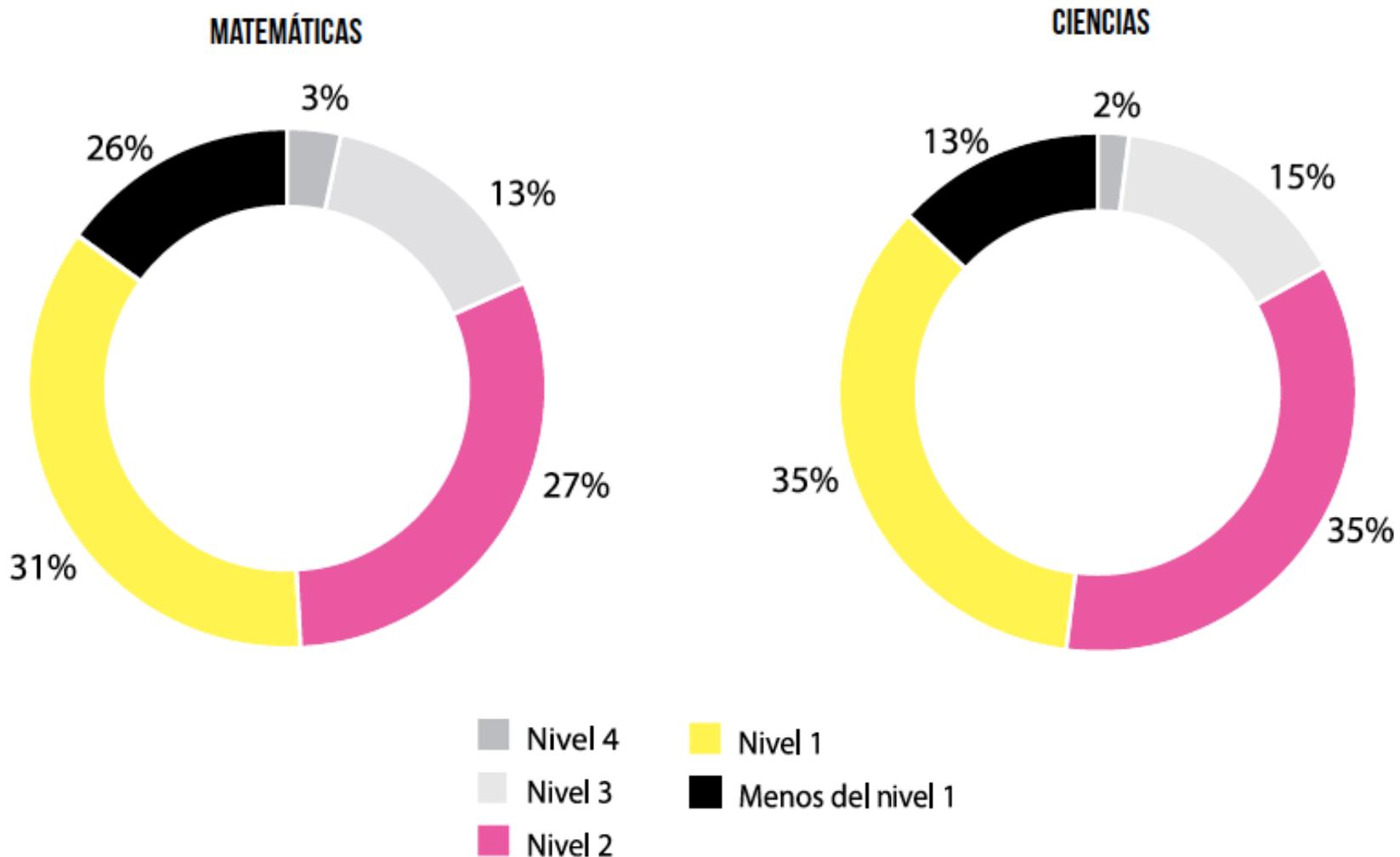


# El contexto es importante...



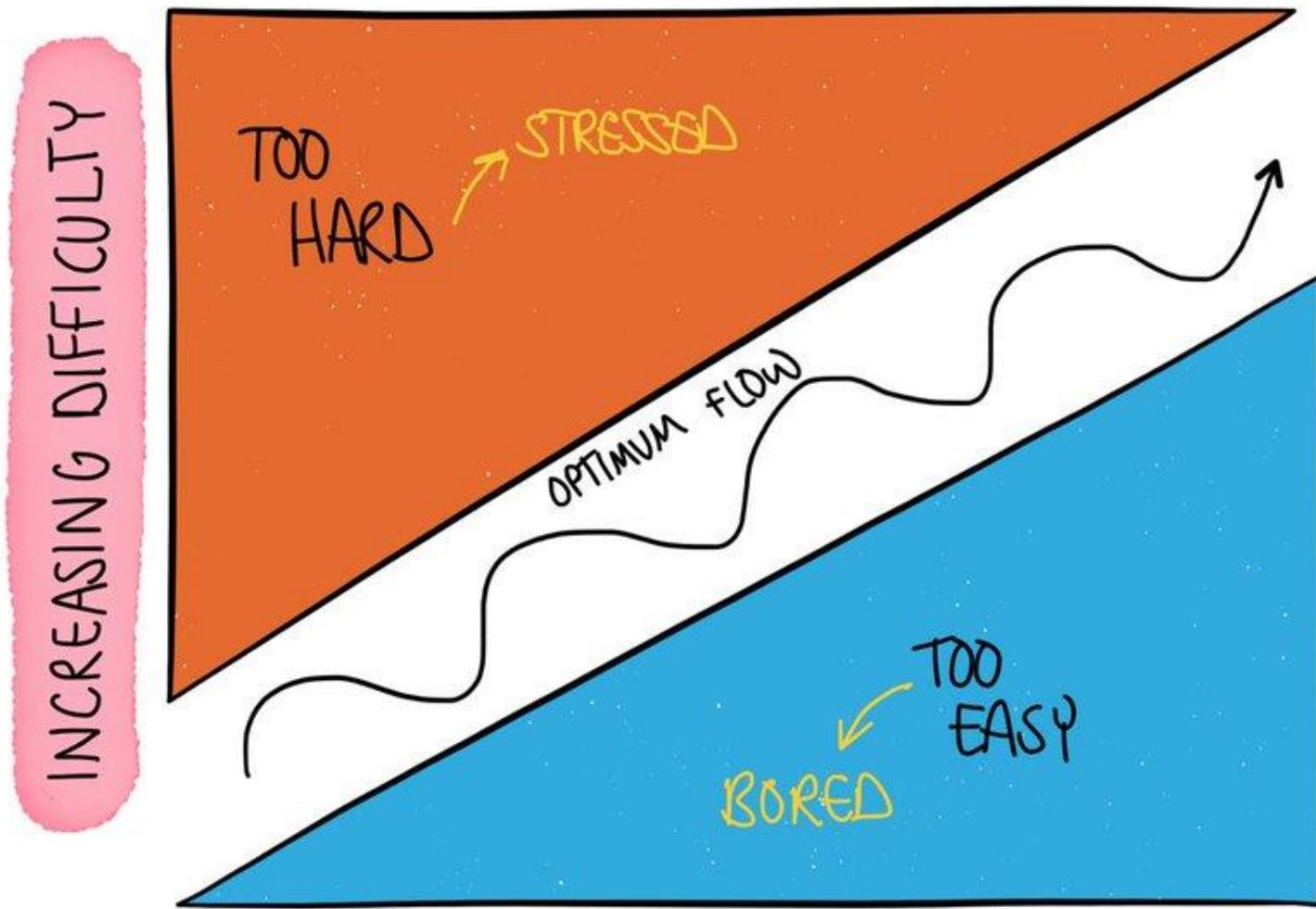
(Jeffrey Brown,  
"Darth Vader  
and Son"; 2012)

## PORCENTAJE DE ALUMNOS EN CADA NIVEL DE DESEMPEÑO DE PISA 2015

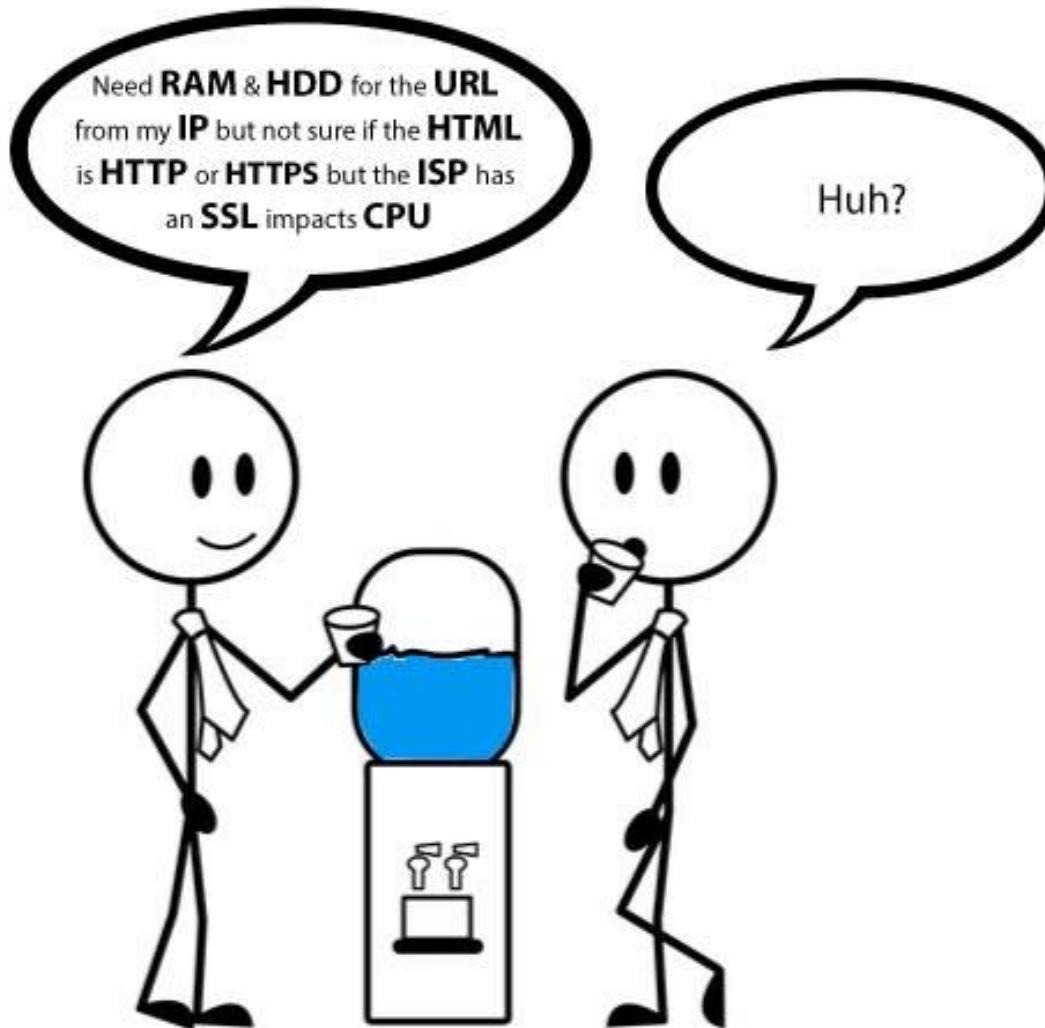


Fuente: Organización para la Cooperación y el Desarrollo Económicos (OCDE), Programa para la Evaluación Internacional de Alumnos (Programme for International Student Assessment, PISA) 2015, Resultados, 2016.

# Flow: Csikszentmihaly



# ¿Términos incomprendibles?



## Niveles de lectura

# The Sixties: The Rise of Abstraction

The 1960s saw the rise of some of the important Modernist painters and sculptors of Lebanon. Beirut at the time enjoyed a dynamic cultural scene. Galleries were flourishing and influential cultural institutions supported the development of young artists, in part thanks to the relative stability of the country.

From 1961, the

From 1961, the annual *Salon d'Automne* at the Sursock Museum established itself as an important cultural event, its eclectic exhibitions stimulating public interest in Lebanese art.

This decade saw the widespread adoption of abstraction in the visual arts. Many painters had studied in France, discovering contemporary trends of nonfigurative art, principally that of Neo-Cubism and New Realism, a movement proclaiming new ways of perceiving the real.

The 1964 Salon was a turning point for abstraction in Lebanese art. Two painters who would come to prominence in the following decades took part. Aref el Rayess exhibited a series of abstract works dominated by the interplay of fluid lines and colors, while Shafic Abboud exhibited compositions influenced by Parisian Lyrical Abstraction. Other artists such as Nadia Saikali, Elie Kanaan, and Jean Khalifé followed suit in more figurative ways. Saloua Raouda Choucair was embraced as an important abstract sculptor, exhibiting *Architecture de demain* [Architecture of Tomorrow] (1965) and receiving the Sursock Museum Grand Prize. Georges Youssefian remained faithful to his streamer, with its elongated women and men, though that of se-

Paul Guiragossian remained faithful to his streamlined figuration, with its elongated women and maternal figures. His approach echoed that of several contemporary artists of the time, among them his fellow Armenian Georges Guv.



# resonator

Nivel 1:  
Título

A little shimmy can make a big shake.

Nivel 2:  
Idea central

Nivel 3:  
Actividad

motor speed

281 rpm

- Turn the knob slowly and watch how the rods respond.
- Find the vibration speeds that really get the rods shaking.
- Do the two rods shake at different settings? Will a rod shake at more than one setting?



Try these:

238, 350, 675, 1015

What's going on?

By turning the knob, you change the vibration rate of the table. The table shakes the rods, and at just the right speed the energy builds up to make a large vibration.

It's like pumping on a swing—each pulse adds to the motion until you're swinging high. This is called resonance.

As on a swing, the pulses have to come at the right time or they don't add up to a bigger motion. Here, the timing is different for the longer and shorter rods.



Nivel 4:  
Explicación  
detallada



THE COMMUNITIES THAT CHANGE YOU

Nivel 1:  
Título

Nivel 4:  
Explicación  
detallada

Nivel 2:  
Subtítulos

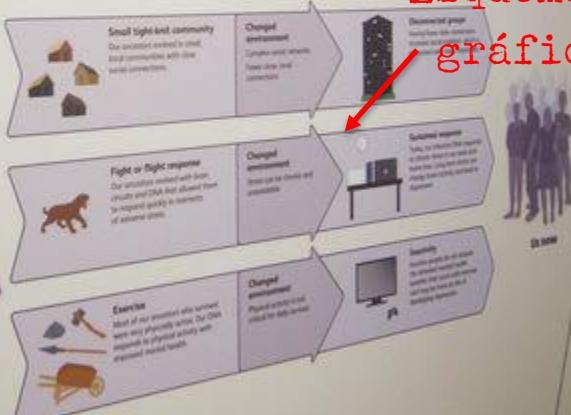
# More than just the blues

People with major depression have long-lasting symptoms that may include hopelessness, decreased energy, appetite changes, difficulty concentrating, and a loss of interest in once enjoyable activities. They also have visible changes in their brain circuit activity. Major depression can develop when their life experiences, such as stress or an injury, interact with certain inherited genes that have made them more susceptible.



## Our world has changed

We inherited DNA from ancestors who evolved in a different environment



Nivel 3:  
Esquemas y  
gráficos

Major depression

What is really happening?

a look inside



## 2. Define el mensaje



Tema



General, una o varias palabras

Objetivo



Tu meta, lo que buscas al crear esta gráfica

Idea o pregunta central



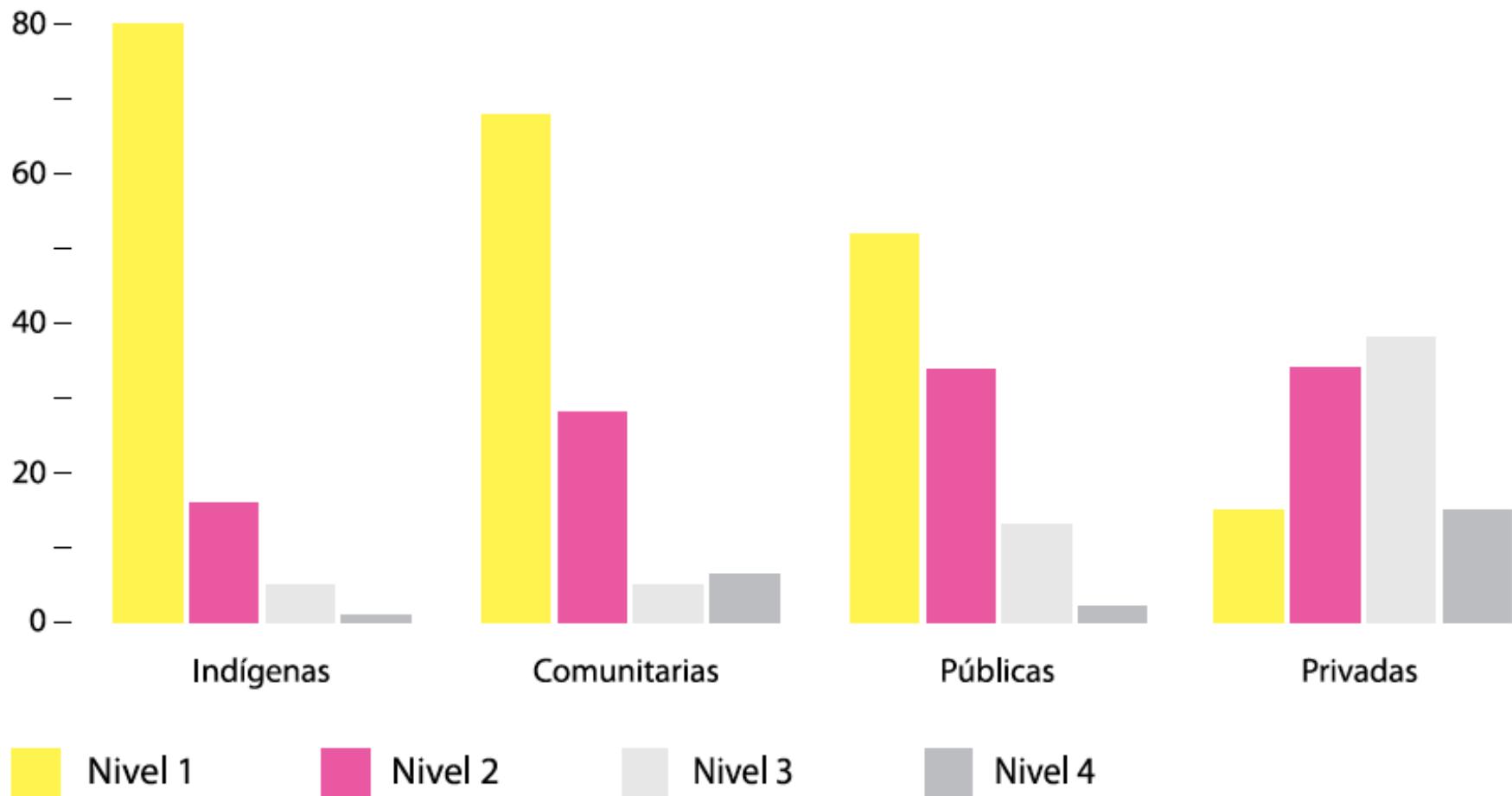
Mensaje clave que quieres transmitir o pregunta que quieres contestar.

Contexto

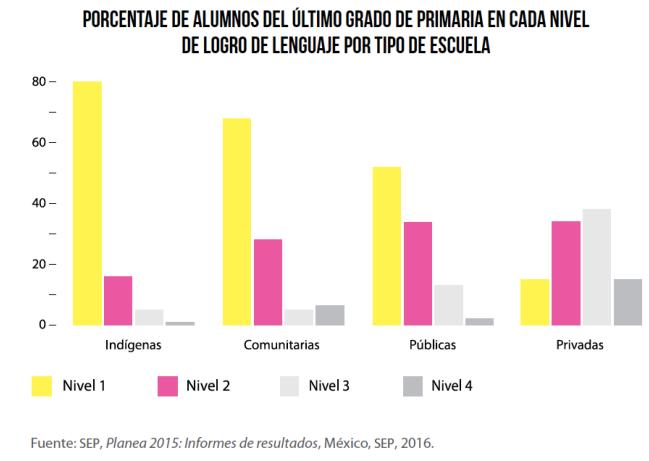


Supuestos y condiciones bajo los que esta información es cierta

## PORCENTAJE DE ALUMNOS DEL ÚLTIMO GRADO DE PRIMARIA EN CADA NIVEL DE LOGRO DE LENGUAJE POR TIPO DE ESCUELA



Fuente: SEP, *Planea 2015: Informes de resultados*, México, SEP, 2016.



**Tema**

Desigualdad en educación

**Objetivo**

Concientizar sobre la desigualdad en el sistema educativo mexicano.

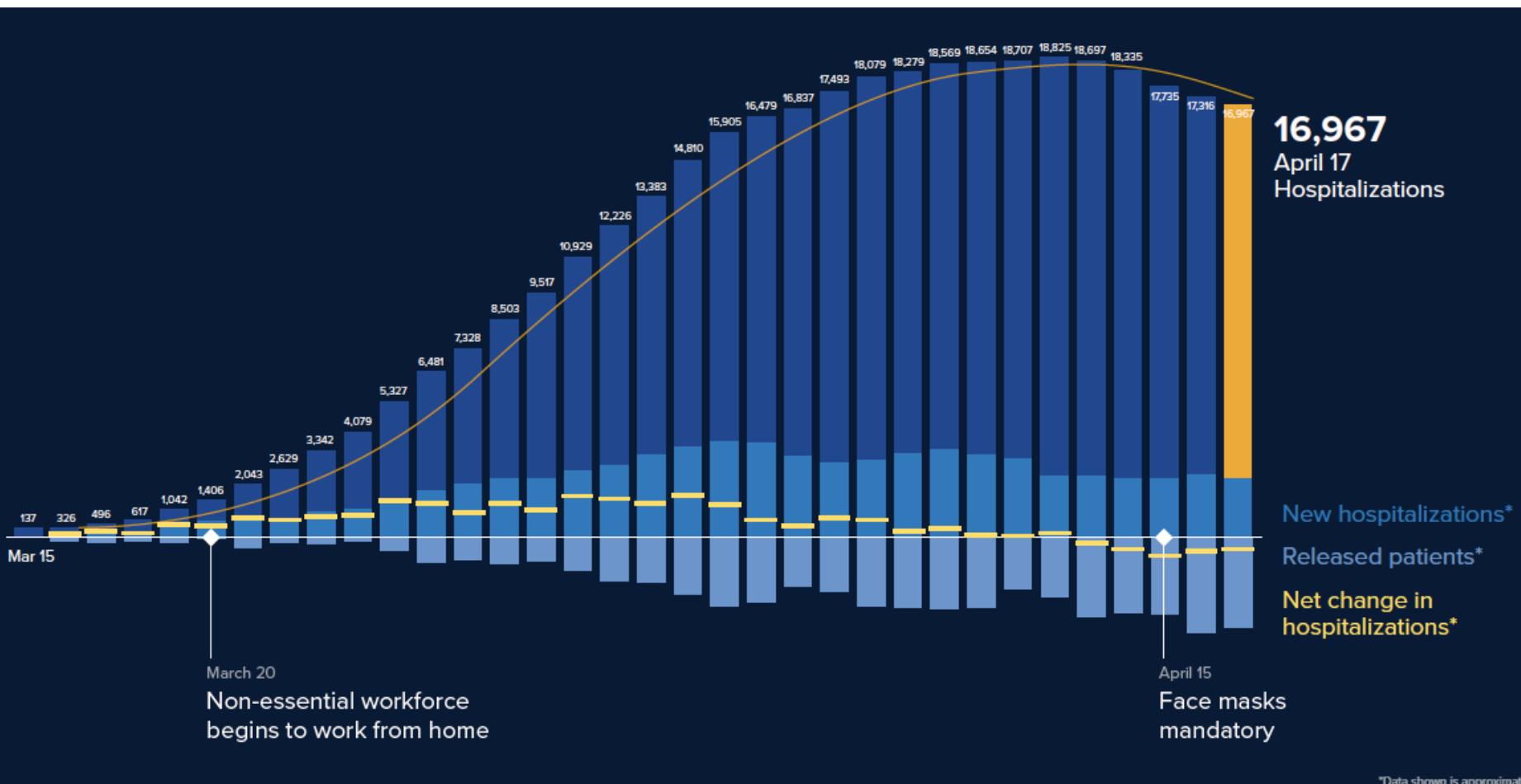
**Idea central**

Las escuelas indígenas son las más rezagadas en el sistema educativo mexicano.

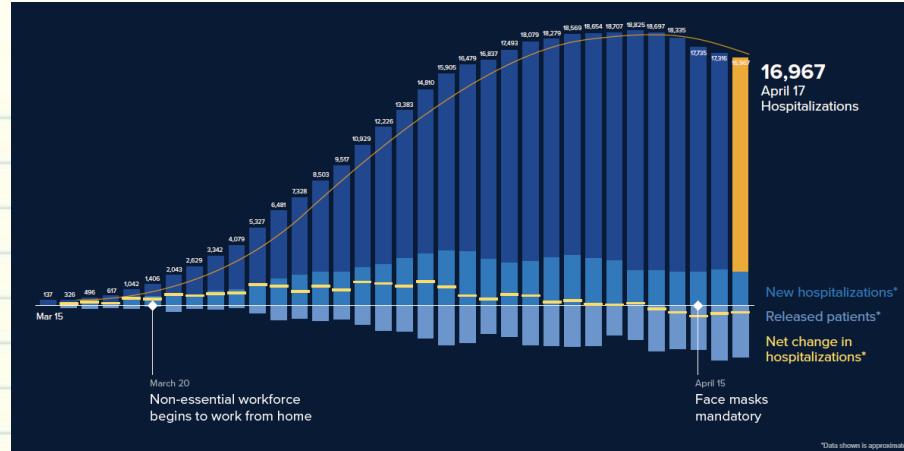
**Contexto**

México, 2016

# Coronavirus en Nueva York



(Georgia Lupi, Phil Cox, Sarah  
Kay Miller; Pentagram; 2020)



Tema

Coronavirus

Objetivo

Informar a la población  
sobre el avance del virus.

Pregunta  
central

¿Cómo ha avanzado el  
coronavirus en Nueva  
York?

Contexto

Nueva York, 2020

Una gráfica

=

Una idea

### 3. Crea la historia

#### "DELETED SCENES"

THIS BOOK BEGAN ITS LIFE ON INDEX CARDS.  
HERE ARE SOME THAT DIDN'T MAKE IT.

BE AS GENEROUS  
AS YOU CAN, BUT  
SELFISH ENOUGH TO  
GET YR WORK DONE.



DRAWN  
TO  
SCALE

ALL ART  
IS A  
COLLABORATION.

QUILTING  
vs  
WEAVING

ORIGINALITY  
IS Depth + BREADTH  
of SOURCES

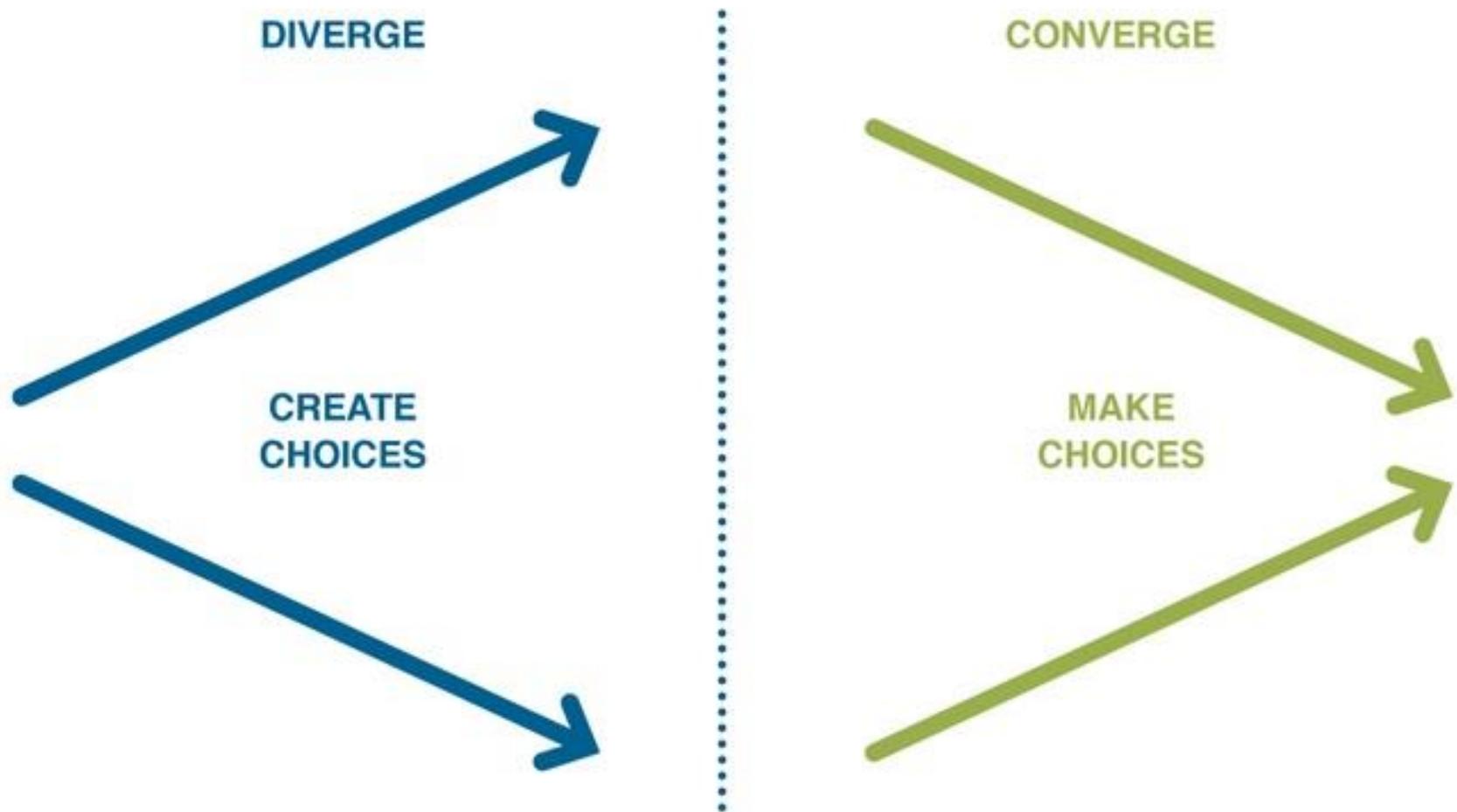
MAKE things FOR  
PEOPLE you LOVE  
FOR PEOPLE

+ the internet:  
Live by IT. Die by IT.

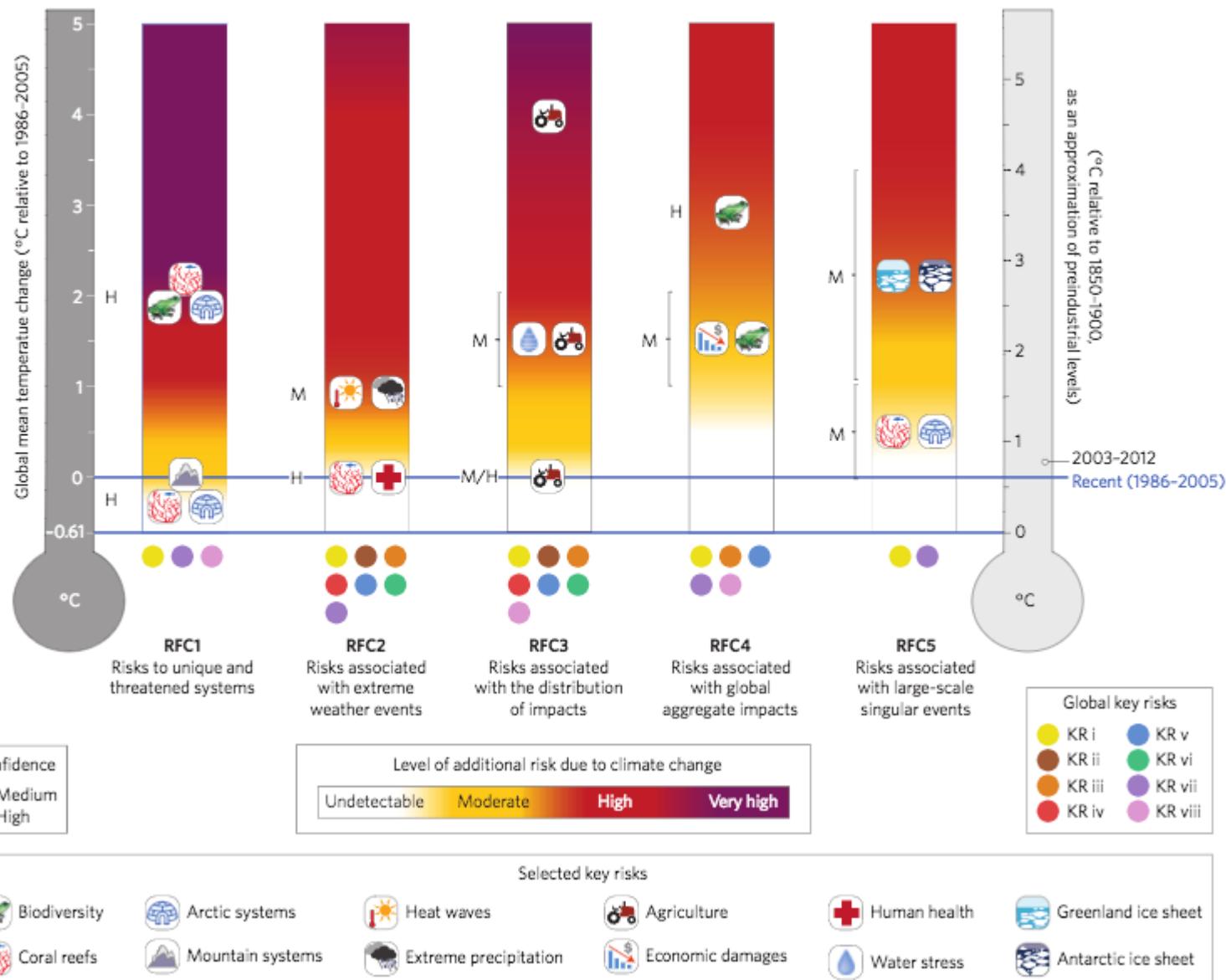


STORY

INFLUENCE  
PRACTICE,  
NOT PRACTICE



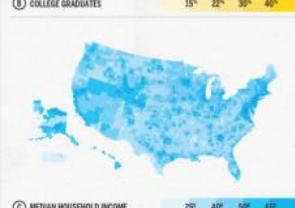
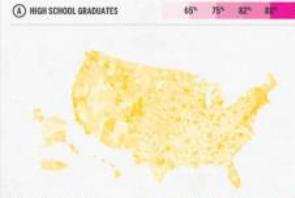
Tu idea o  
pregunta  
central son  
tu guía.



# Logro educativo y nivel de ingresos

## READING, WRITING, AND EARNING MONEY

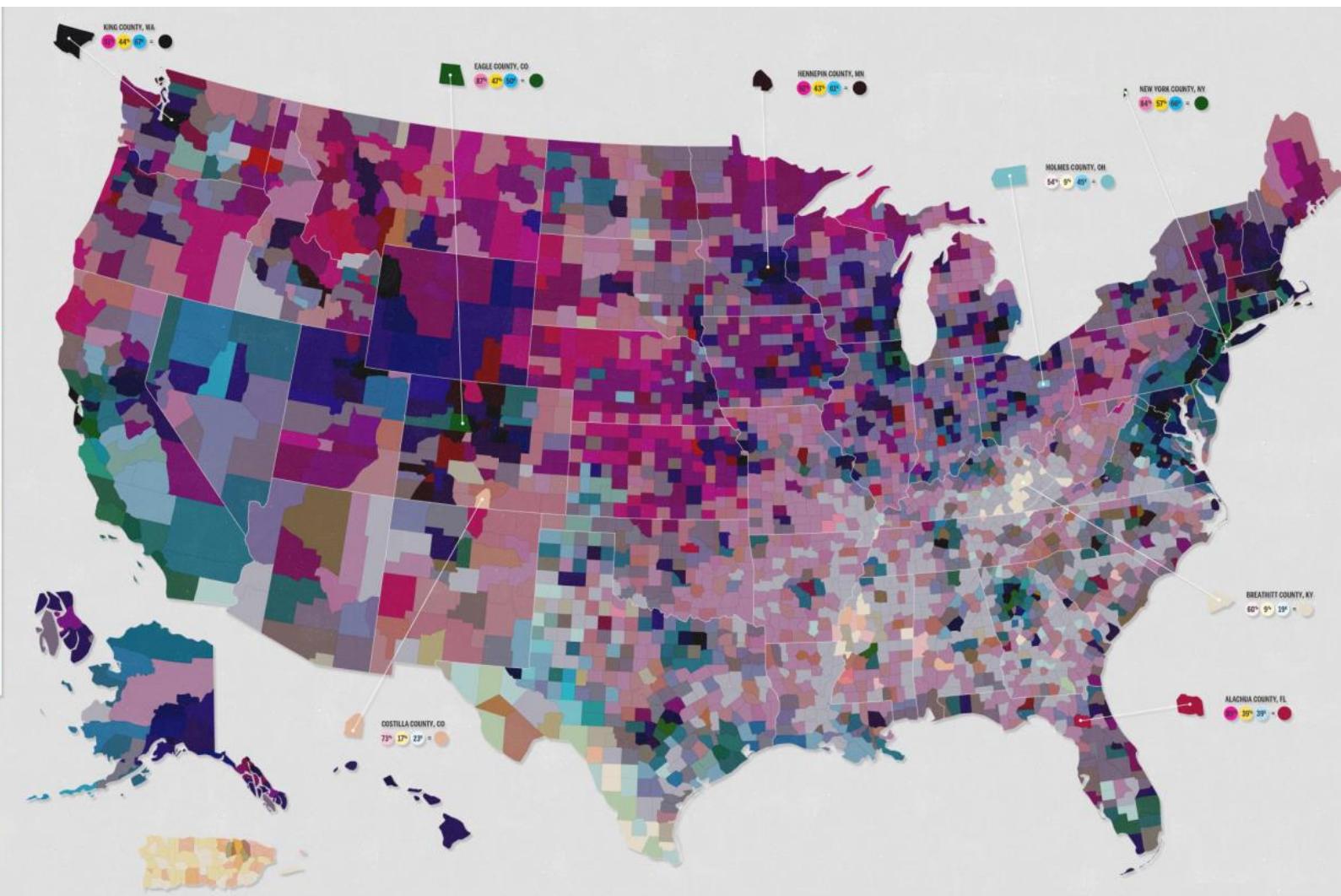
The latest data from the U.S. Census's American Community Survey paints a fascinating picture of the United States at the county level. We've looked at the educational achievement and the median income of the entire nation, to see where people are going to school, where they're earning money, and if there is any correlation.



The map at right is a product of overlaying the three sets of data. The variation in hue and value has been produced from the data shown above. In general, darker counties represent a more educated, better paid population while lighter areas represent communities with fewer graduates and lower incomes.



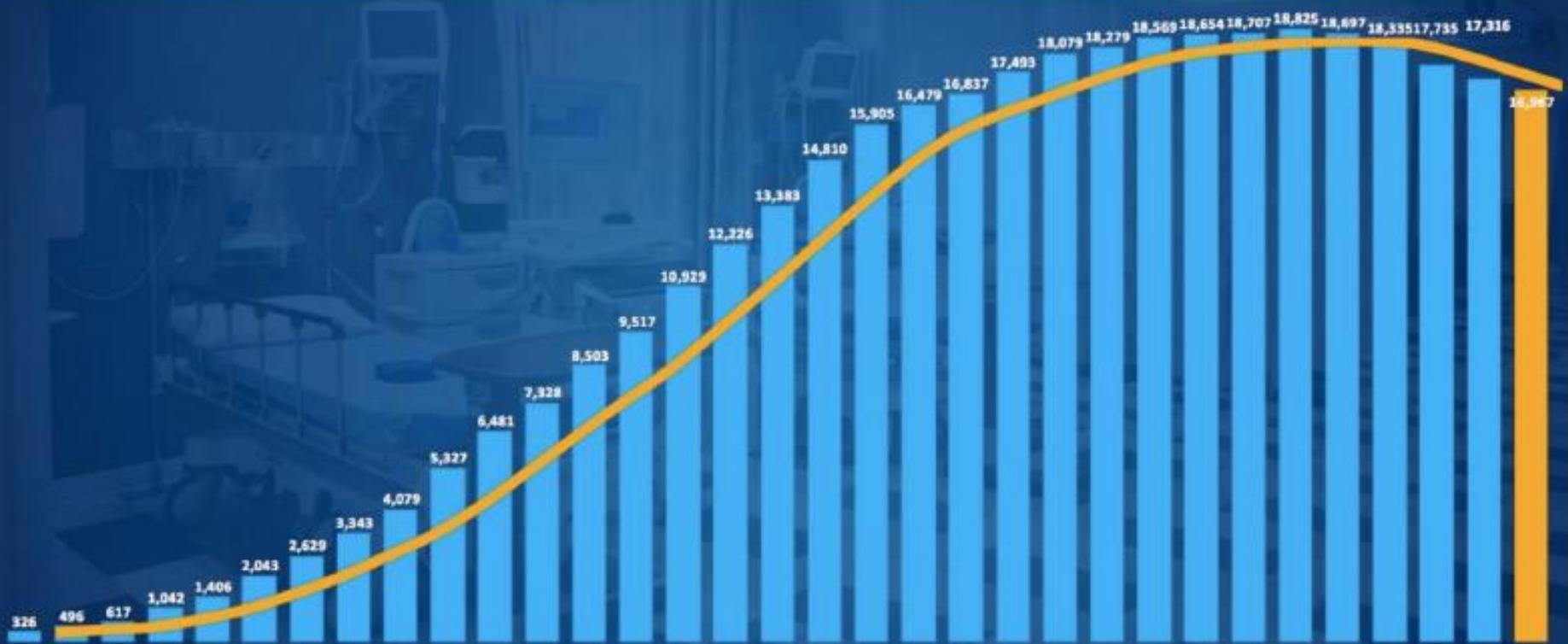
A collaboration between GOOD and Gregory Hubacek  
SOURCE: US Census



(GOOD & Gregory Hubacek, 2011)

# Coronavirus en Nueva York

## Total Hospitalizations



March 16

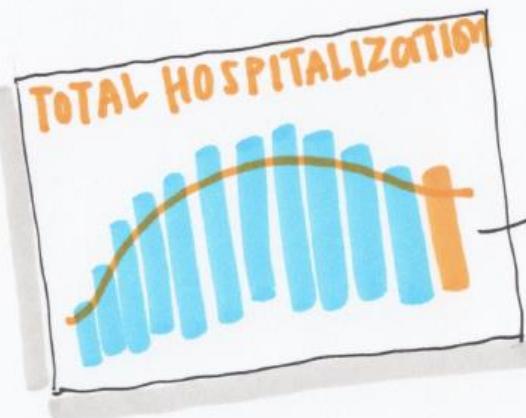
April 17

STAY HOME.

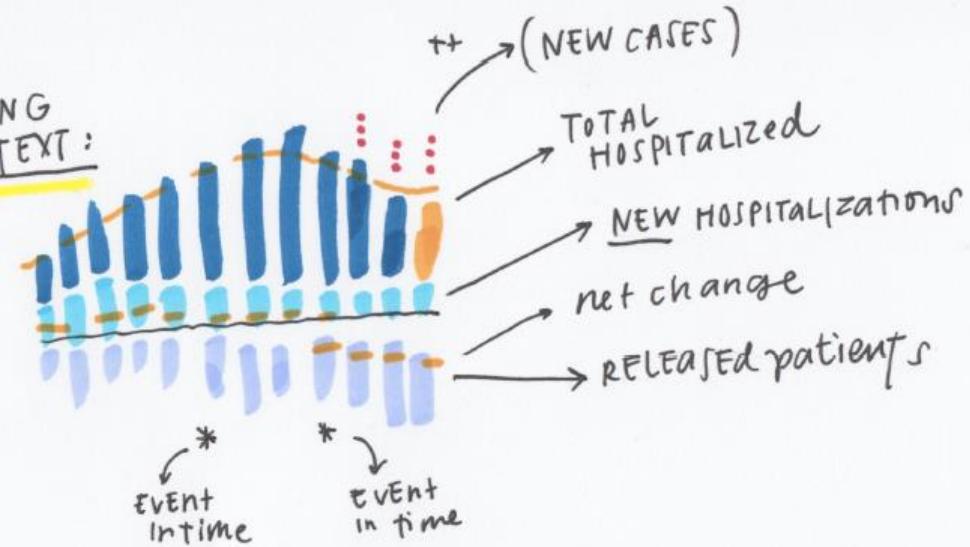
STOP THE SPREAD.

SAVE LIVES.

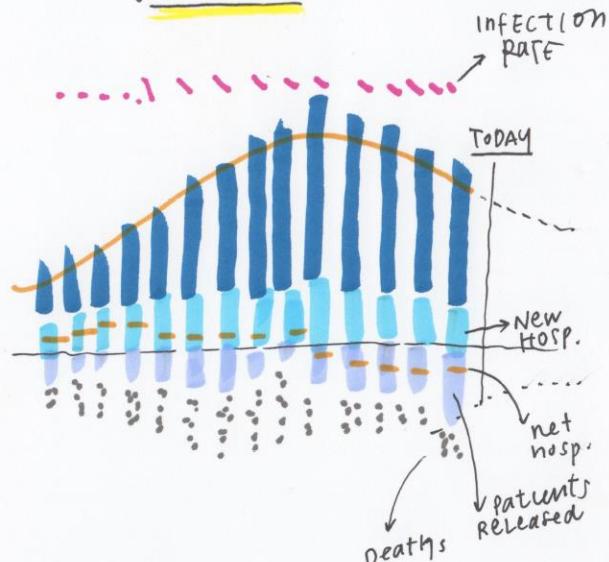
(Gov. Cuomo, NY, 2020)



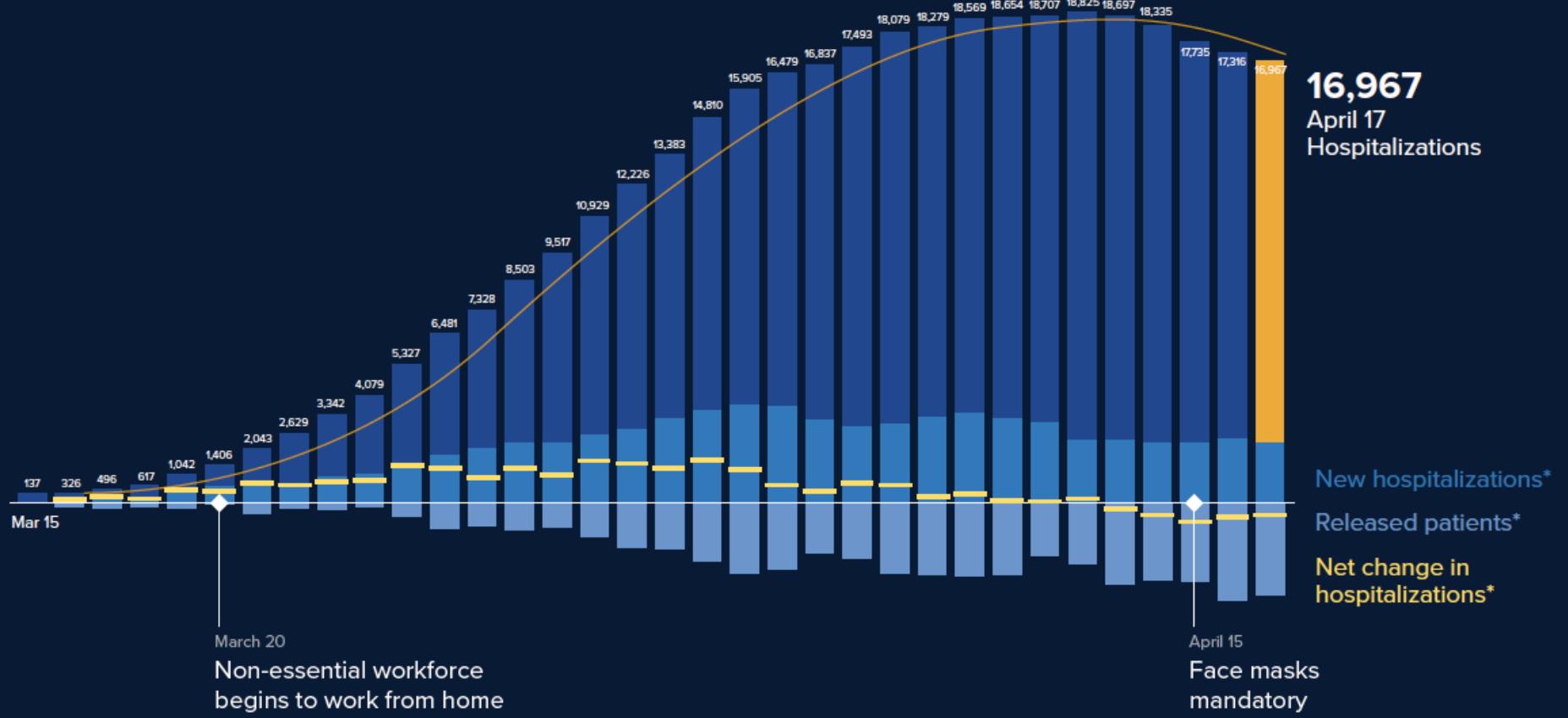
LAYERING FOR CONTEXT:



SUMMARY

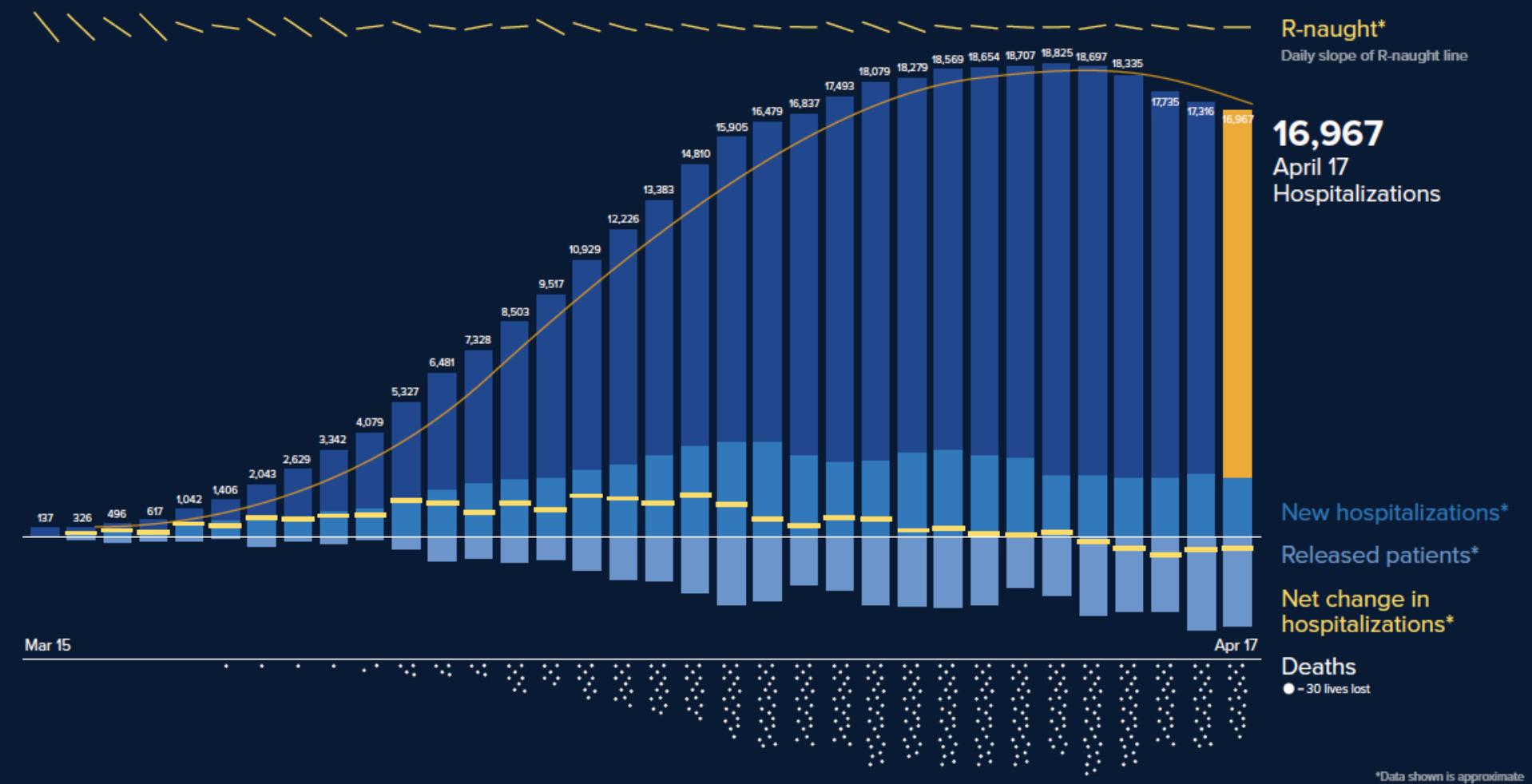


(Georgia Lupi, Phil Cox, Sarah  
Kay Miller; Pentagram; 2020)



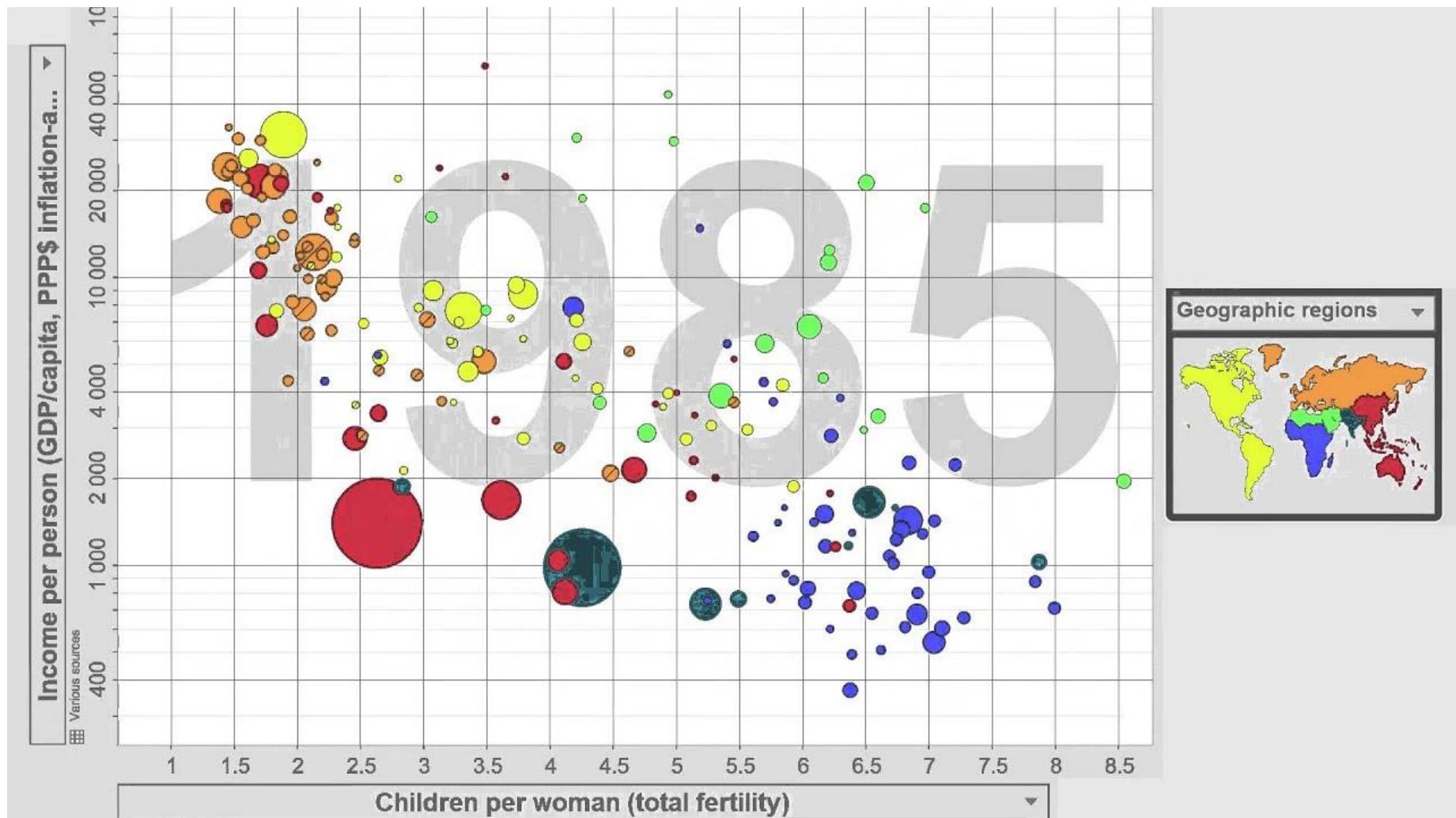
\*Data shown is approximate

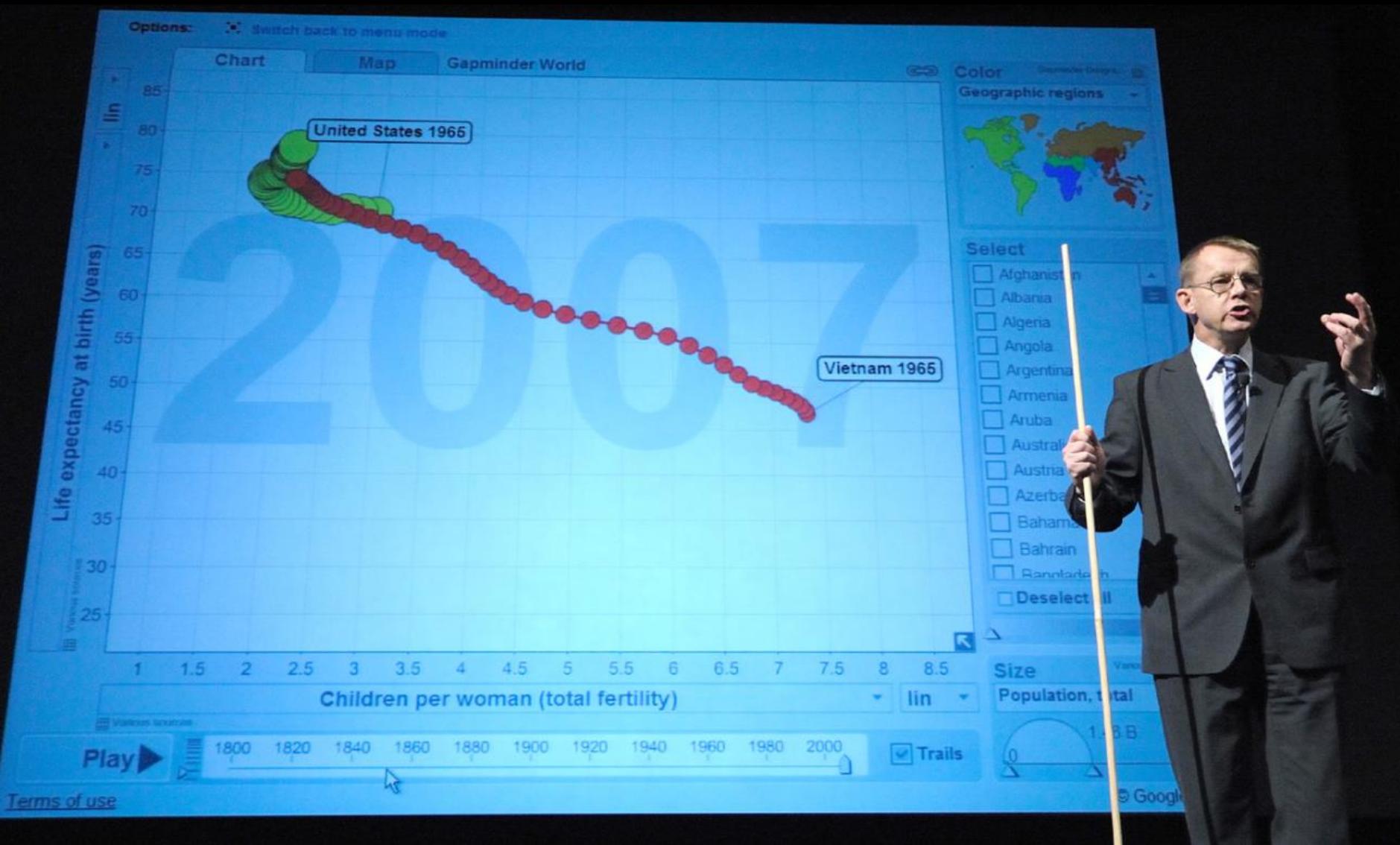
(Georgia Lupi, Phil Cox, Sarah  
Kay Miller; Pentagram; 2020)



(Georgia Lupi, Phil Cox, Sarah  
Kay Miller; Pentagram; 2020)

# Hans Rosling





# GAPMINDER TOOLS GUIDE

[www.gapminder.org/tools](http://www.gapminder.org/tools)

## Lin / Log Scale

X- and y-axis scales can be linear or logarithmic. A log scale can make it easier to see trends.

A screenshot of the Gapminder Tools interface. On the left, there's a sidebar with a search bar and a 'linear / log' button. Below it is a list of indicators: Time, Babies per woman, CO2 per capita, Child mortality rate, Income per person, Life expectancy, Economy, Education, Energy, and Environment. The main area shows a bubble chart with a logarithmic y-axis ranging from 45 to 85 and a linear x-axis ranging from 500 to 64k. A specific bubble for Bangladesh in 1980 is highlighted with a callout.

## Name of country

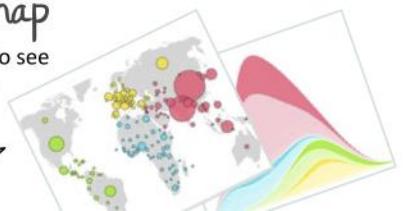
Hover mouse pointer over bubble to reveal the name.  
Click bubble to select it

## Play / Stop

Click to control animation.  
(How the graph changes over time)

## Bubble map

Scroll down to see the map and other tools



## y-axis

Click here to select indicator for the y-axis

## Sources and info

Click on (?) next to the indicator to view description, sources and additional info

## Share graph

Creates a short link to the graph you've created. Share it with friends!

## Language

If you're missing your language but want to help with translation let us know:  
[info@gapminder.org](mailto:info@gapminder.org)

## Blue Side panel

Shows up when the screen is large enough. When it's not, you can still reach all the things via buttons

## Color

The countries on the graph are color-coded by regions. Click to choose another indicator for color

## Search country

Start typing country name to find it in the selection list below

## Select country

Click boxes to select specific countries  
(or click the bubbles)

## Deselect

Click here to deselect all the bubbles

## opacity slider

Drag to adjust visibility of non-selected countries

## Bubble size

The size of the bubble normally represents the population of the country. Click here to make the size show another indicator

Bangladesh 1980

## Zoom buttons

Click on (+) and then on a graph to zoom in, or drag a rectangle. Alternative: hold [CTRL] and drag a rectangle.

Click (-) and then the graph to zoom out. Click 100% to see the whole graph again.

Income per person

DATA DOUBTS

A screenshot of the bottom right corner of the Gapminder Tools interface. It includes a 'Size' dropdown set to 'Population, total', a 'Zoom' button, a 'DESELECT' button, and several other buttons labeled 'TRAILS', 'LOCK', 'OPTIONS', 'EXPAND', and 'PRESENT'. There are also icons for a magnifying glass and a present.

## X-axis

Click here to select indicators for the x-axis

## Time

Drag the handle to change year

## Trails on/off

Click Trails to follow a selected country while the animation plays

## More stuff...

Advanced controls, like "Size slider", "Play speed" and more are hiding here

## Expand

Toggles full-screen view. You can also increase font size in "Options"

## 4. Humaniza la información



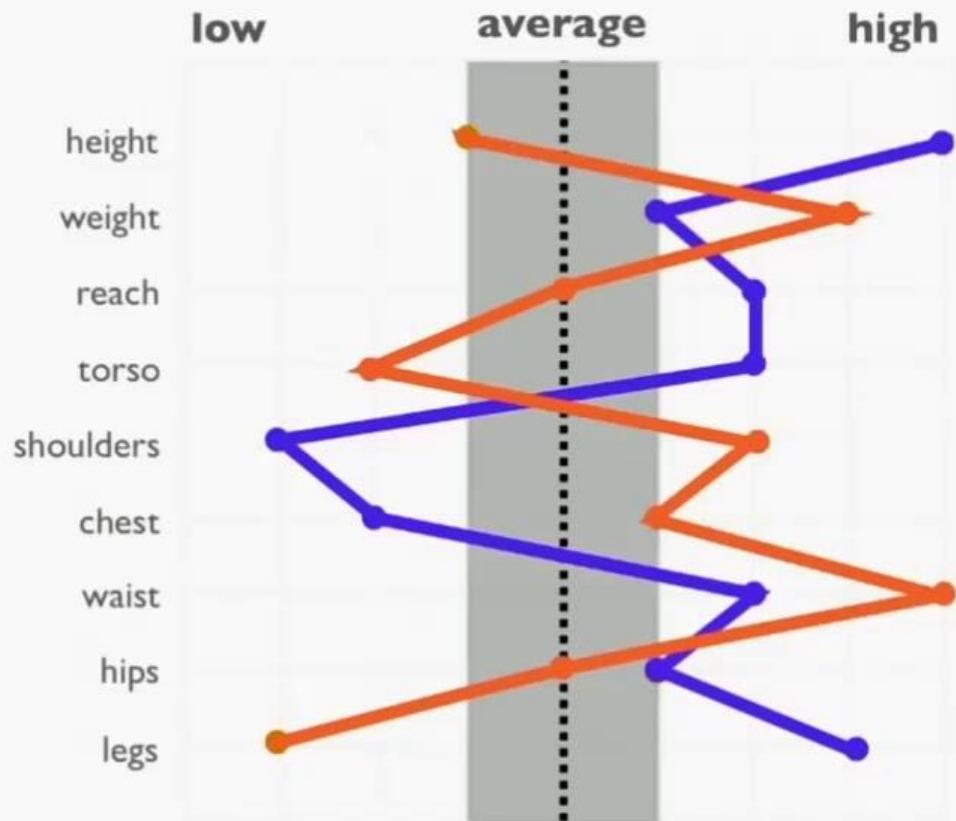
**WHAT?**

# The End of Average



(Todd Rose, 2017)

# The End of Average

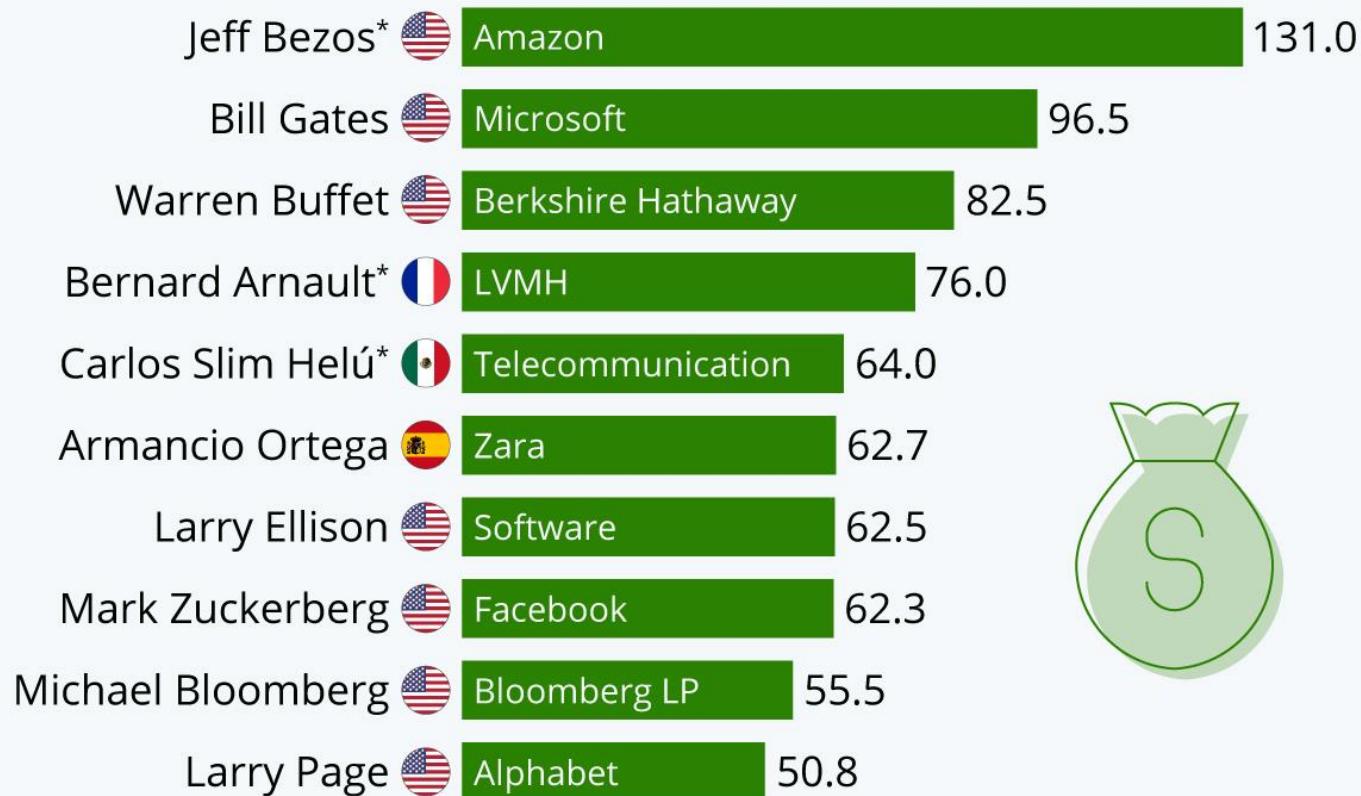


(Todd Rose, 2017)

Hablemos  
sobre  
dinero...

# The Richest People on Earth

Net worth of the world's ten richest people in 2019  
(in billion U.S. dollars)

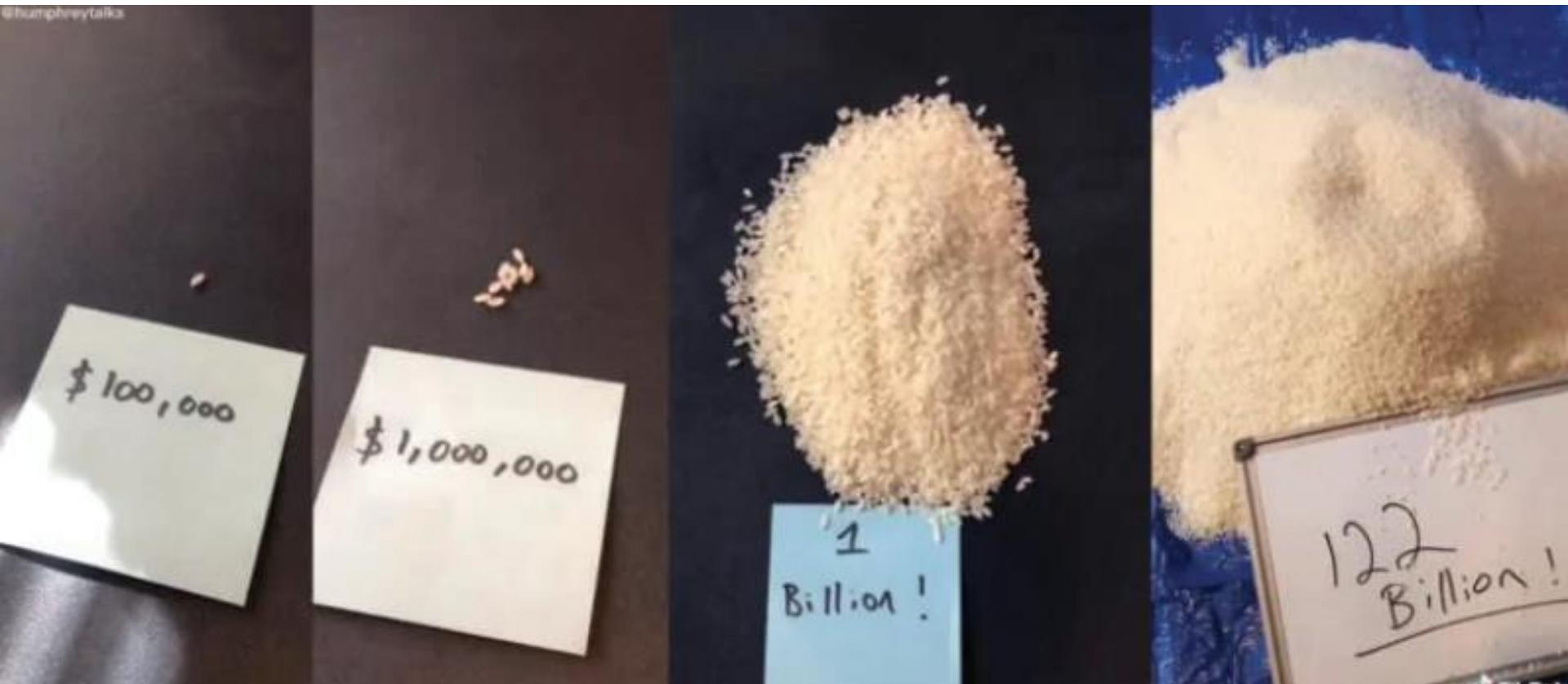


\* and family.

Source: Forbes The World's Billionaires 2019



# Jeff Bezos net worth represented visually by rice

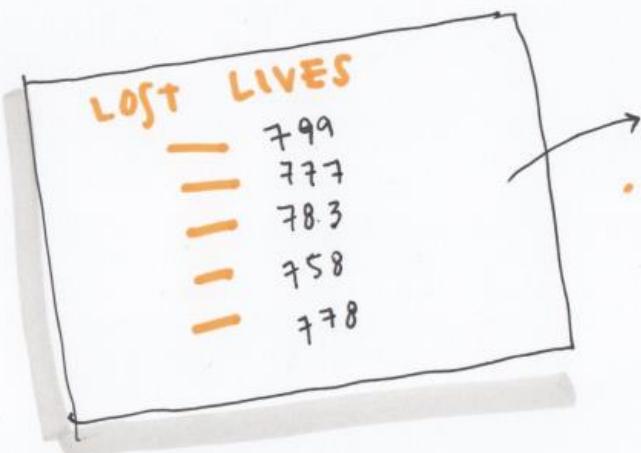


(@Humphreytalks - TikTok, 2020)

# Coronavirus en Nueva York



(Gov. Cuomo, NY, 2020)



APRIL 13 899

APRIL 14 799

APRIL 15 783

APRIL 16 778

APRIL 17 540

visualizing to  
quantify.

(Georgia Lupi, Phil Cox, Sarah Kay Miller; Pentagram; 2020)

Lives lost yesterday 540



ONE LIFE LOST

504 in hospitals  
36 in nursing homes

STAY HOME

STOP THE SPREAD

SAVE LIVES

(Georgia Lupi, Phil Cox, Sarah  
Kay Miller; Pentagram; 2020)

# Number of lives lost

April 13 778

April 14 752

April 15 606

ONE LIFE LOST

April 16 630

April 17 540

STAY HOME

STOP THE SPREAD

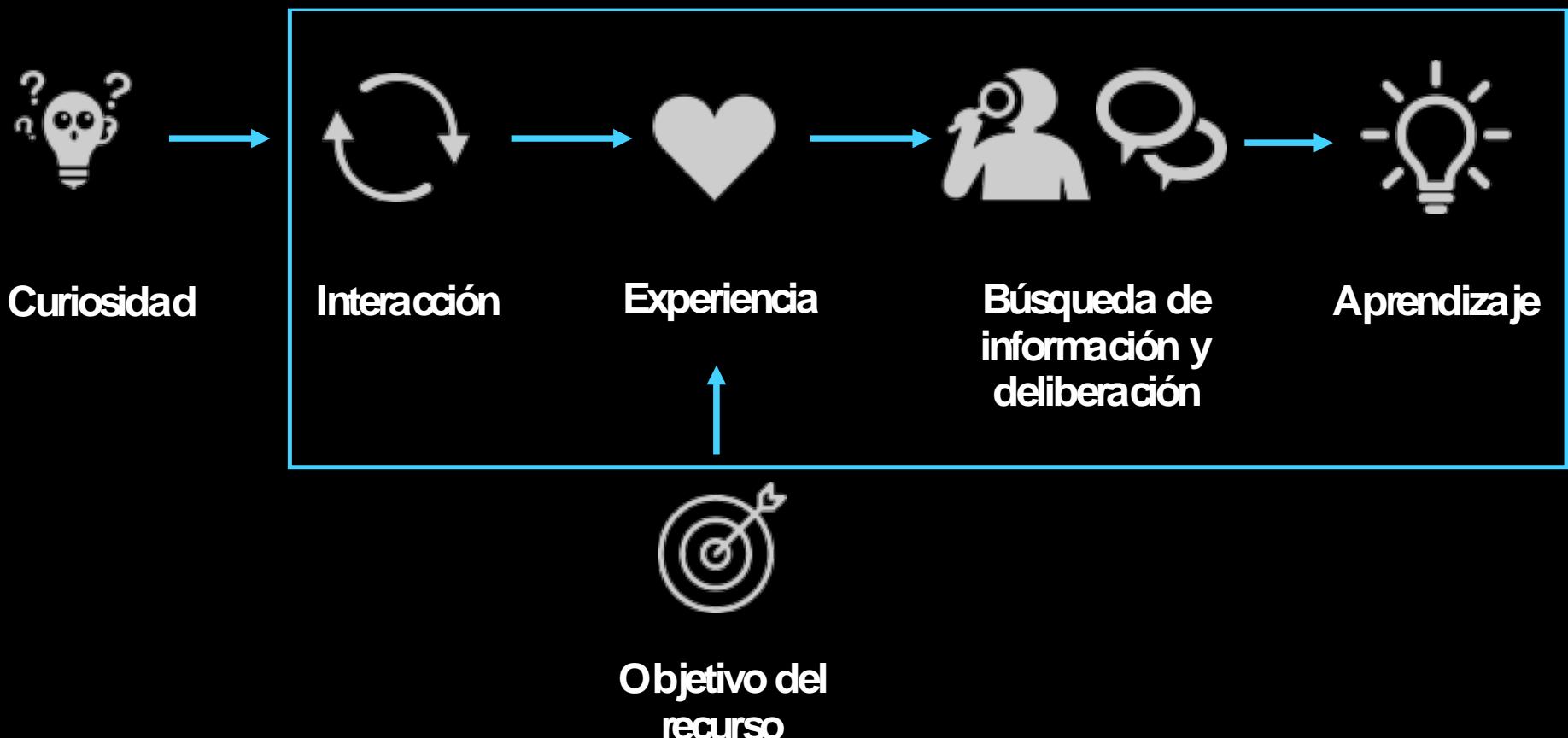
SAVE LIVES

(Georgia Lupi, Phil Cox, Sarah  
Kay Miller; Pentagram; 2020)

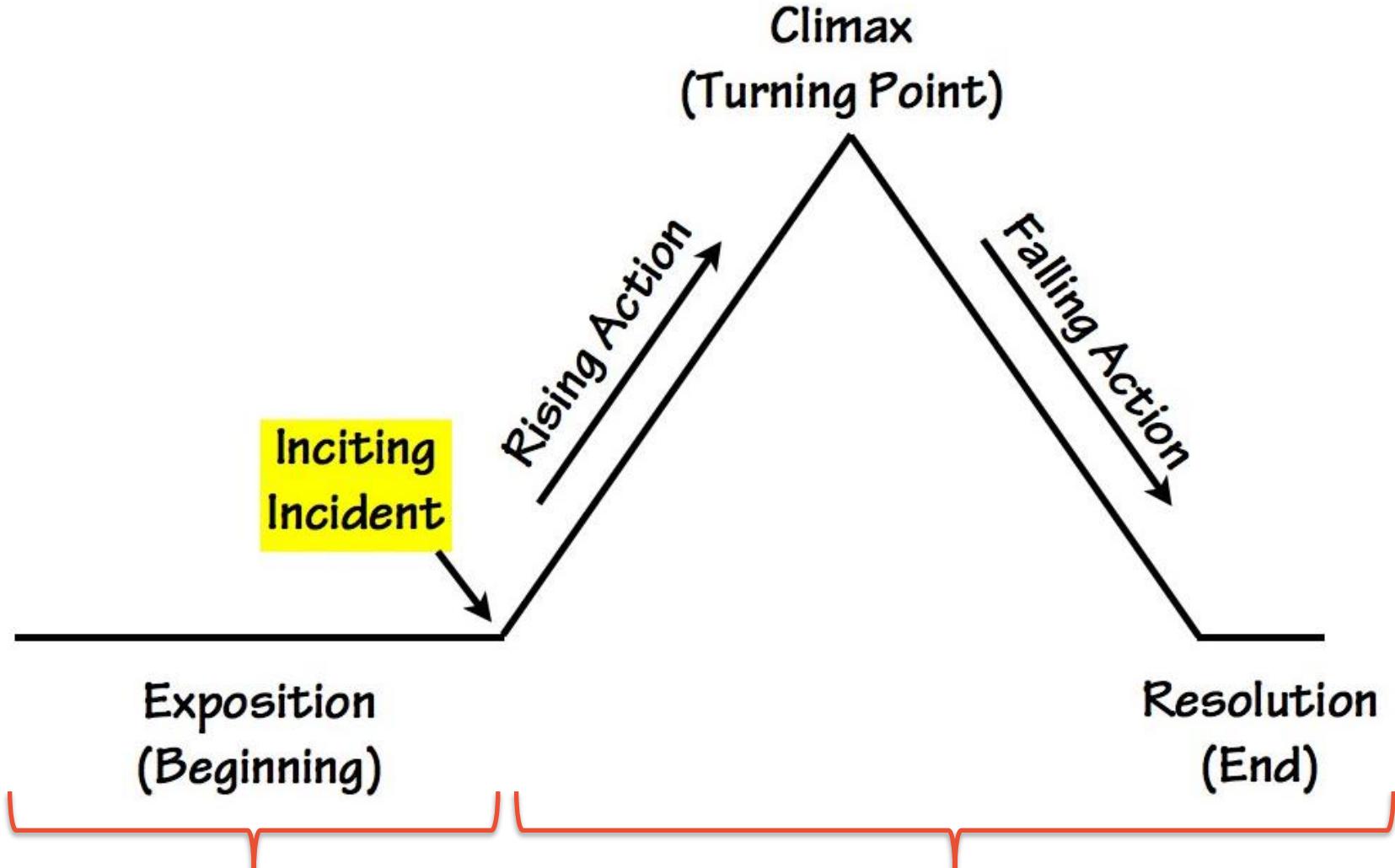
**5.** Cautiva y mantén la atención



# Interacción prolongada activa



(Exploratorium)



- Visual/attractivo
- Tema
- Título
- Claridad
- Coherencia
- Consistencia
- Valor

# Who Are the Members of Congress?

## Gender

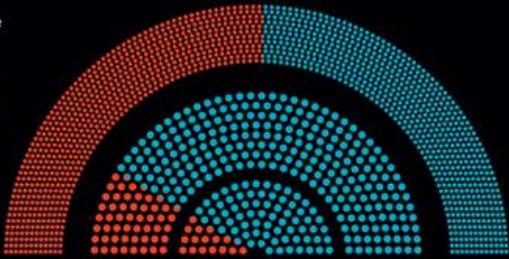
U.S. Pop. House Senate

Female

51% 17% 17%

Male

49% 83% 83%



## Race

U.S. Pop. House Senate

White

64% 82% 96%

Black

13% 10% 0%

Hispanic

16% 7% 2%

Asian

5% 3% 2%

Native American

1% .002% 0%



## Religion

U.S. Pop. House Senate

Protestant

51% 57% 56%

Catholic

24% 30% 24%

Mormon

2% 2% 5%

Jewish

2% 6% 12%

All Others

21% 4% 4%

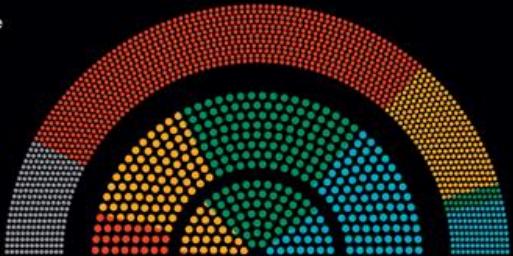


## Education

U.S. Pop. House Senate

Highest level attained:

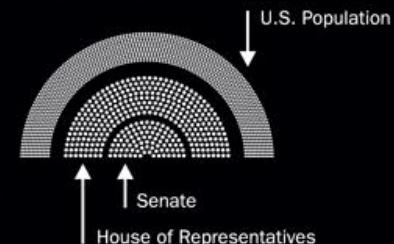
< High school	15%	0	0
High school grad.	58%	8%	1%
Bachelor's degree	18%	26%	24%
Professional/ law degree	2%	38%	55%
Other advanced degree	8%	28%	20%



## Average Age

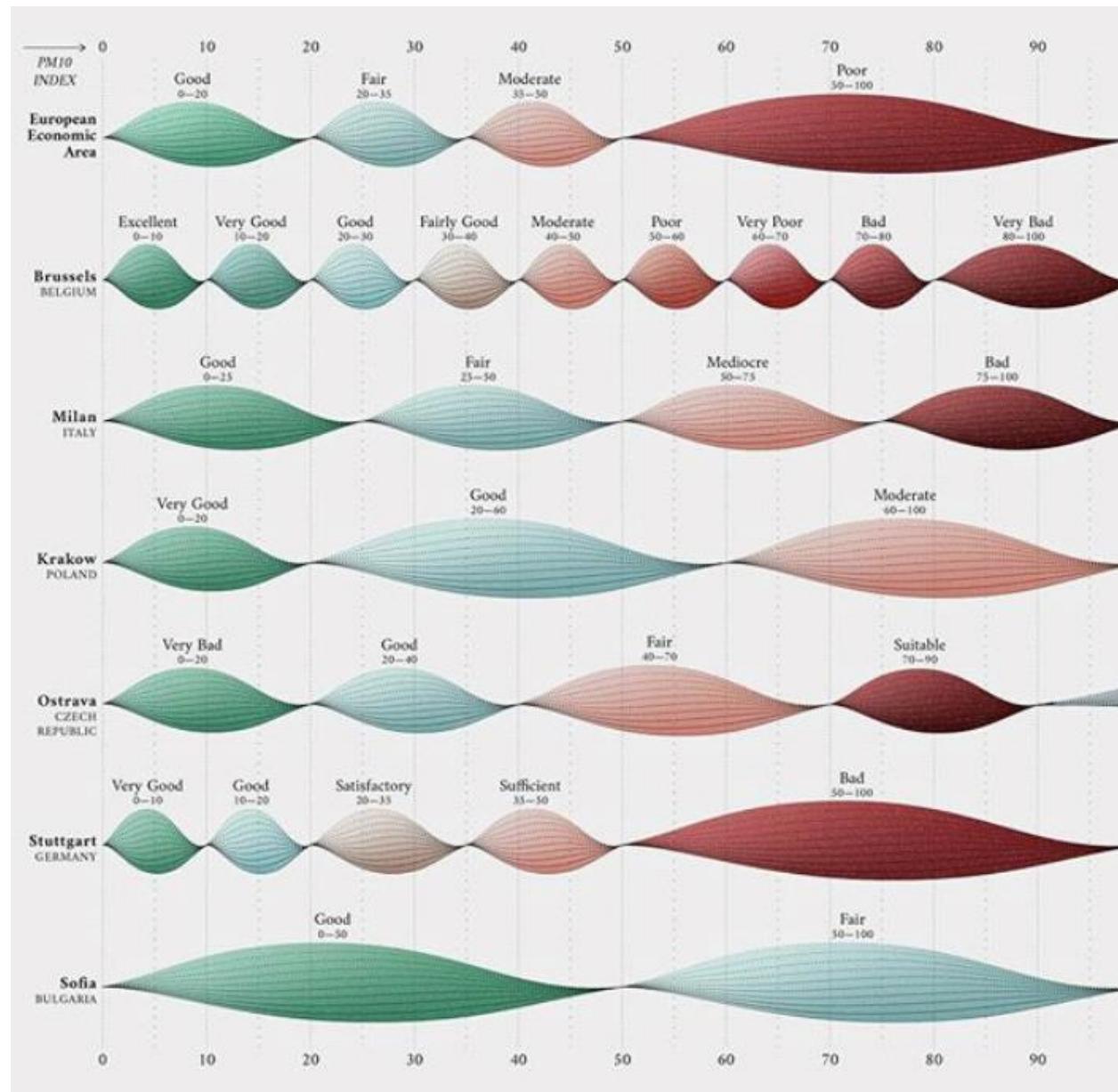
U.S. Pop. 37 House 57 Senate 62

SOURCE: Jennifer E. Manning, "Membership of the 112th Congress: A Profile," CRS Report R41647, March 1, 2011, [www.senate.gov](http://www.senate.gov) (accessed 8/15/12).



Graphic design by kiss me I'm polish for the textbook:  
*We the People: An Introduction to American Politics*, 9th edition  
by Benjamin Ginsburg, Theodore Lowi, Margaret Weir and  
Catherine Tolbert. New York: W. W. Norton.

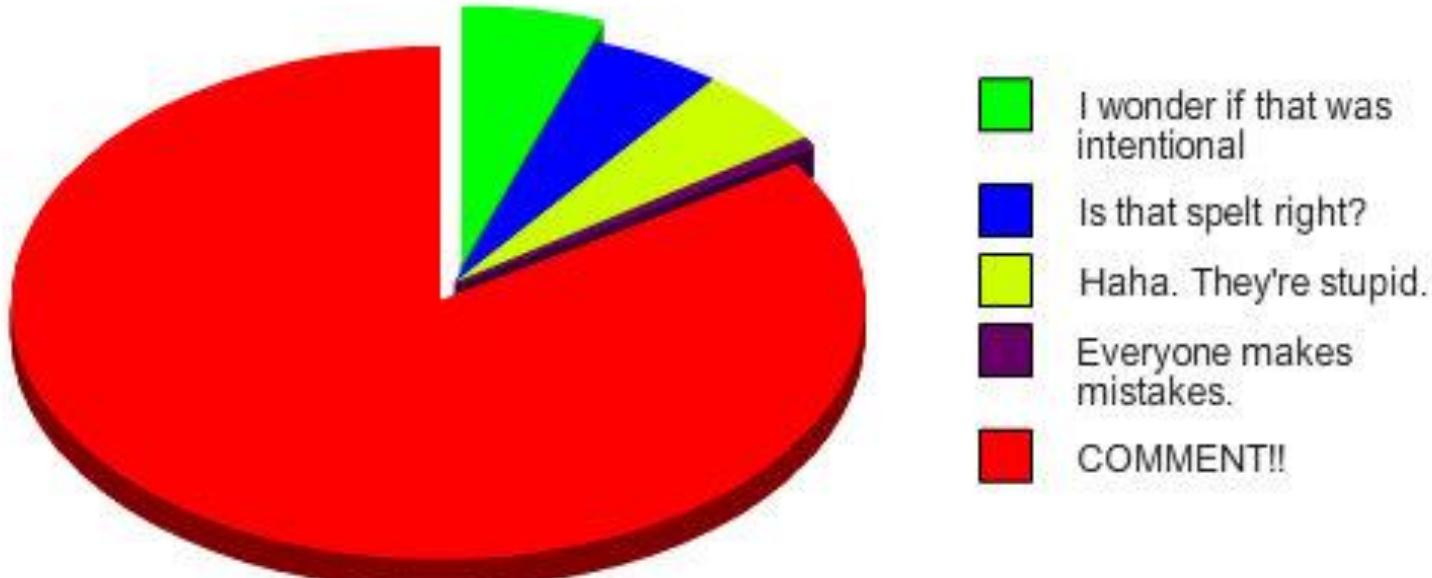
# Contaminación atmosférica en países de la Unión Europea



(Federica  
Fragapane;  
2018)

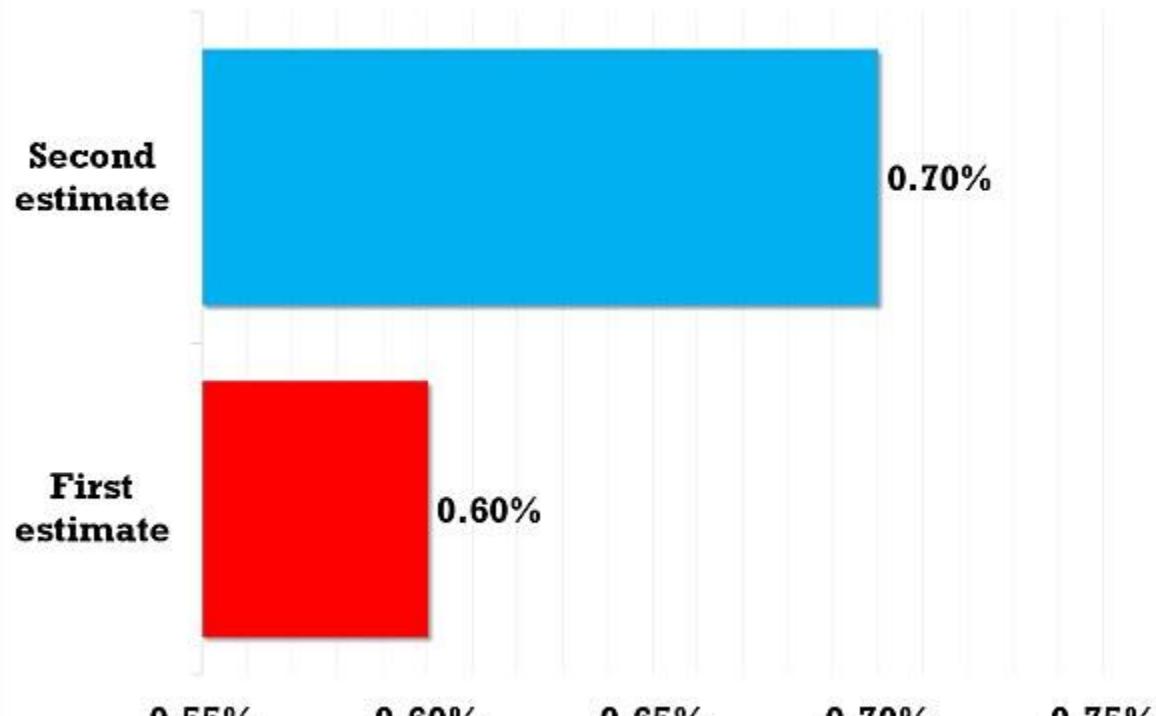
# Cuidado con errores

## What People Think When They See a Typo Online



# Manipulación

## 2016 Q4 GROWTH UPGRADED



Source: ONS

# ETHOS

*Credibility*



# PATHOS

*Emotion*



# LOGOS

*Logic*



"Un narrador de historias tiene el deber de ser bueno, no terrible; certero, no falso; animado, no aburrido; preciso, no lleno de errores. Debe buscar elevar a las personas, no empequeñecerlas. No sólo reflejan e interpretan la vida, sino que informan y moldean la vida".

(E.B. White)

# Recapitulando ...

1. Conoce a tu audiencia
2. Define el mensaje
3. Crea la historia
4. Humaniza la información
5. Cautiva y mantén la atención



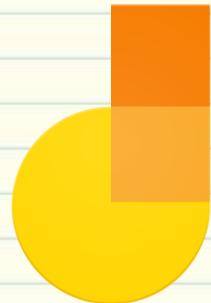
# Practiquemos



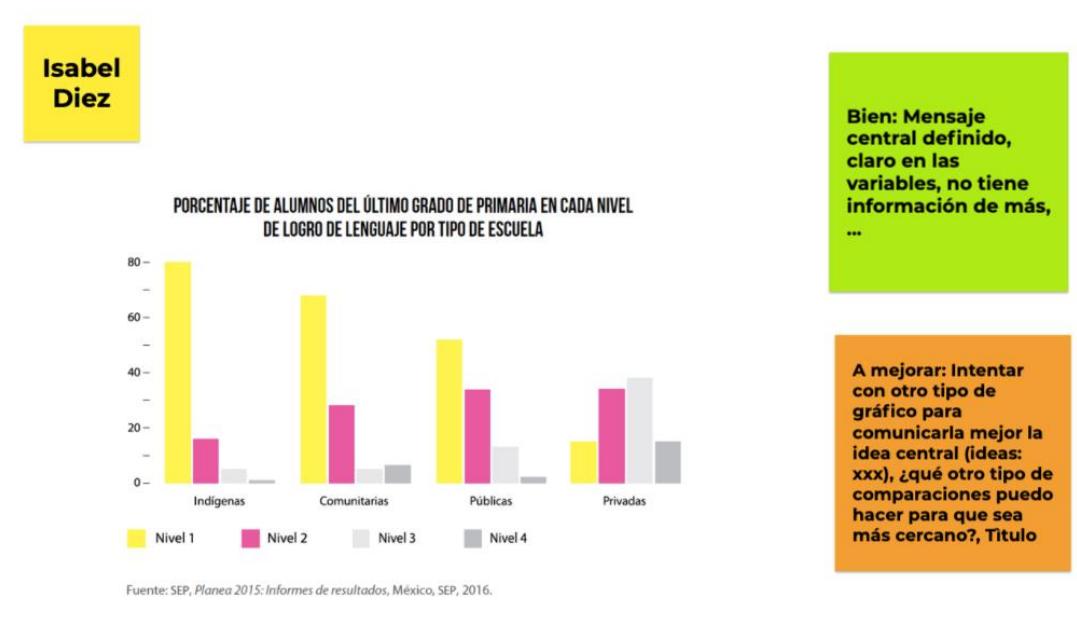
1. Elige una gráfica sobre la que quieras trabajar.
2. Identifica: audiencia, tema, objetivo, idea o pregunta central, contexto.
3. Identifica fortalezas y áreas de oportunidad: ¿Cómo la puedes rediseñar?

#### 4. Discusión en grupos: (30 minutos)

- Entren a la liga que les llegó.
- Asignen a:
  - Un encargado del tiempo
  - Un representante
- Abran un JamBoard del equipo y compártanlo también con León ([lpalafox@up.edu.mx](mailto:lpalafox@up.edu.mx)) e Isabel ([idiez@up.edu.mx](mailto:idiez@up.edu.mx))



- Un marco o diapositiva por persona (4 en total en su Jamboard)



- 5 minutos por persona para presentar su gráfica e ideas + escuchar retroalimentación. Tomen notas.

- En los últimos 5 minutos, acuerden lo que el representante compartirá:
  - Una aprendizaje clave
  - Una duda con la que se quedan
- Al terminar el tiempo en la hora acordada, regresen a la sesión general.



My character  
in the first  
draft.



My character  
after 20  
rewrites.

Para la próxima  
sesión...

1. Realizar la  
lectura que se  
les enviará en  
la semana

2. Explorar más  
bases de datos  
para definir  
sobre cuál  
trabajarán.

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