

# Data Literacy as a Compound Competence

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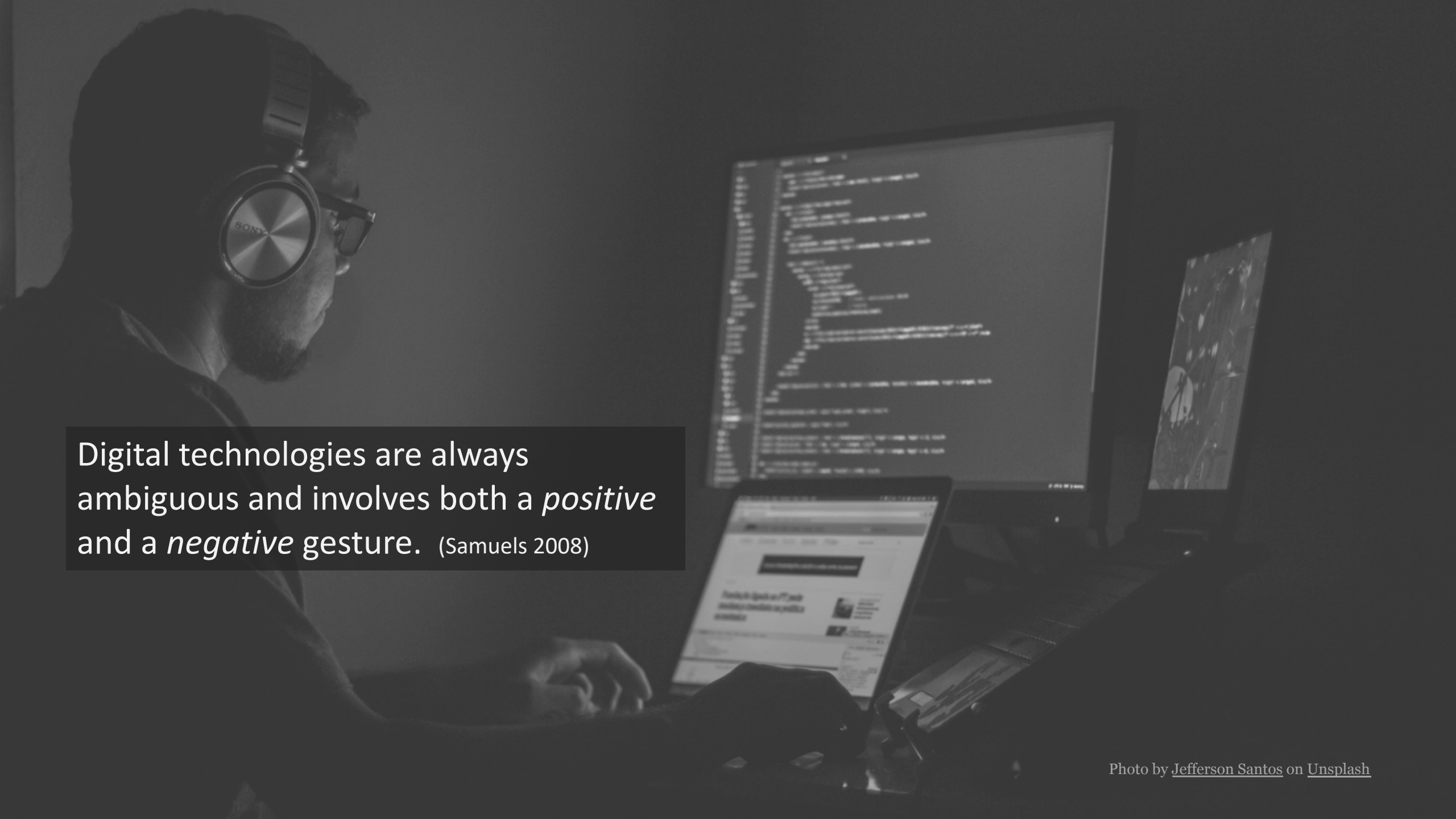
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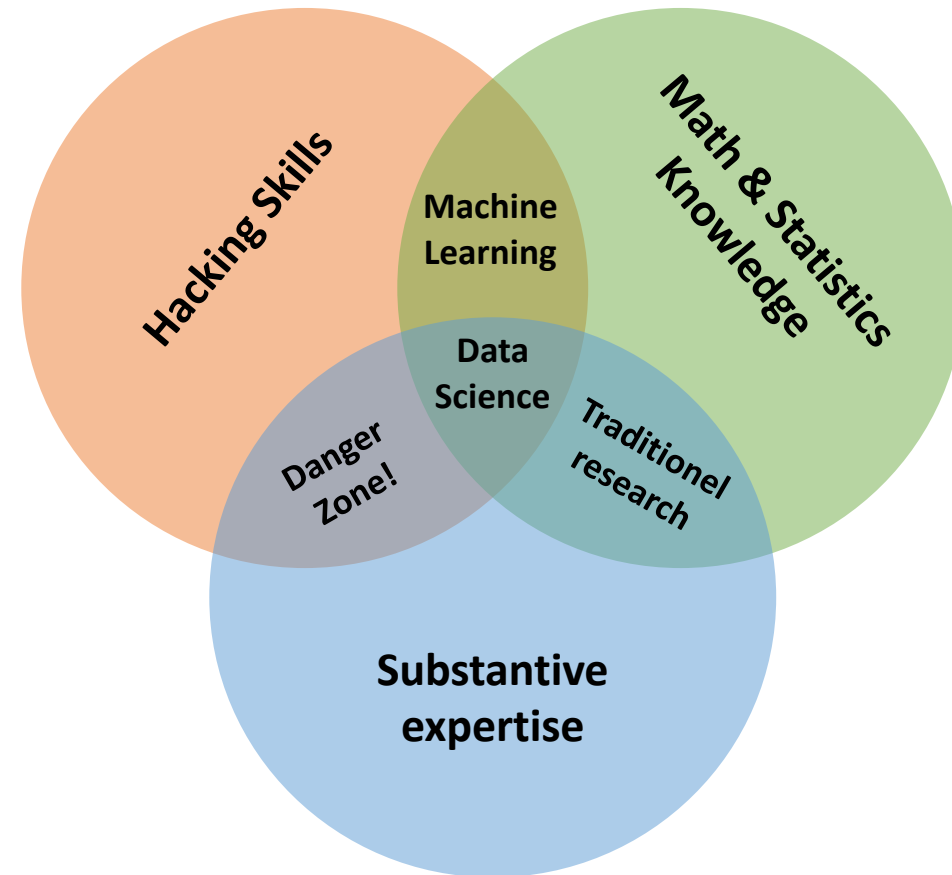


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A man with a beard and glasses is shown in profile, wearing large Sony headphones. He is sitting at a desk with multiple computer monitors. The main monitor displays a complex diagram or code structure. A tablet in the foreground shows a website with a search bar and various content blocks. The scene is dimly lit, with the primary light source being the screens.

Digital technologies are always ambiguous and involves both a *positive* and a *negative* gesture. (Samuels 2008)

# Data science








The formation of data literate  
citizens begin in schools...

Photo: pan xiaozhen on Unsplash





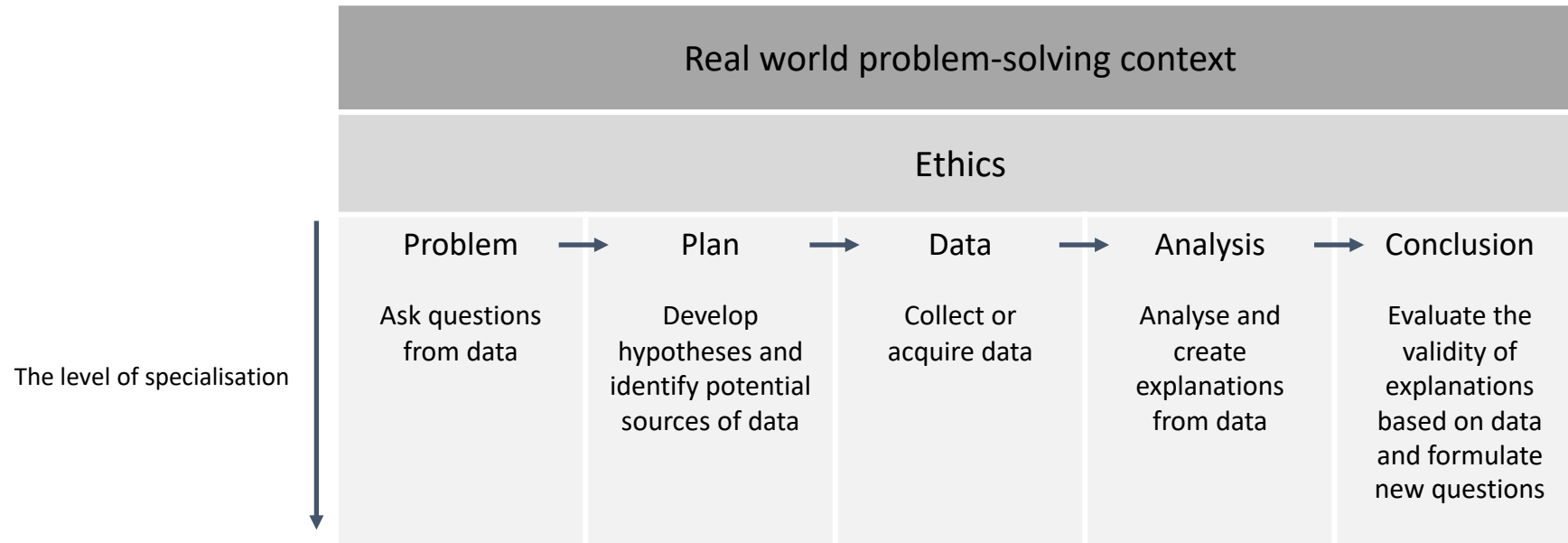
BUT data literacy requires  
lifelong learning



“the ability of non-specialists to  
make use of data” (Frank et. al, 2016)

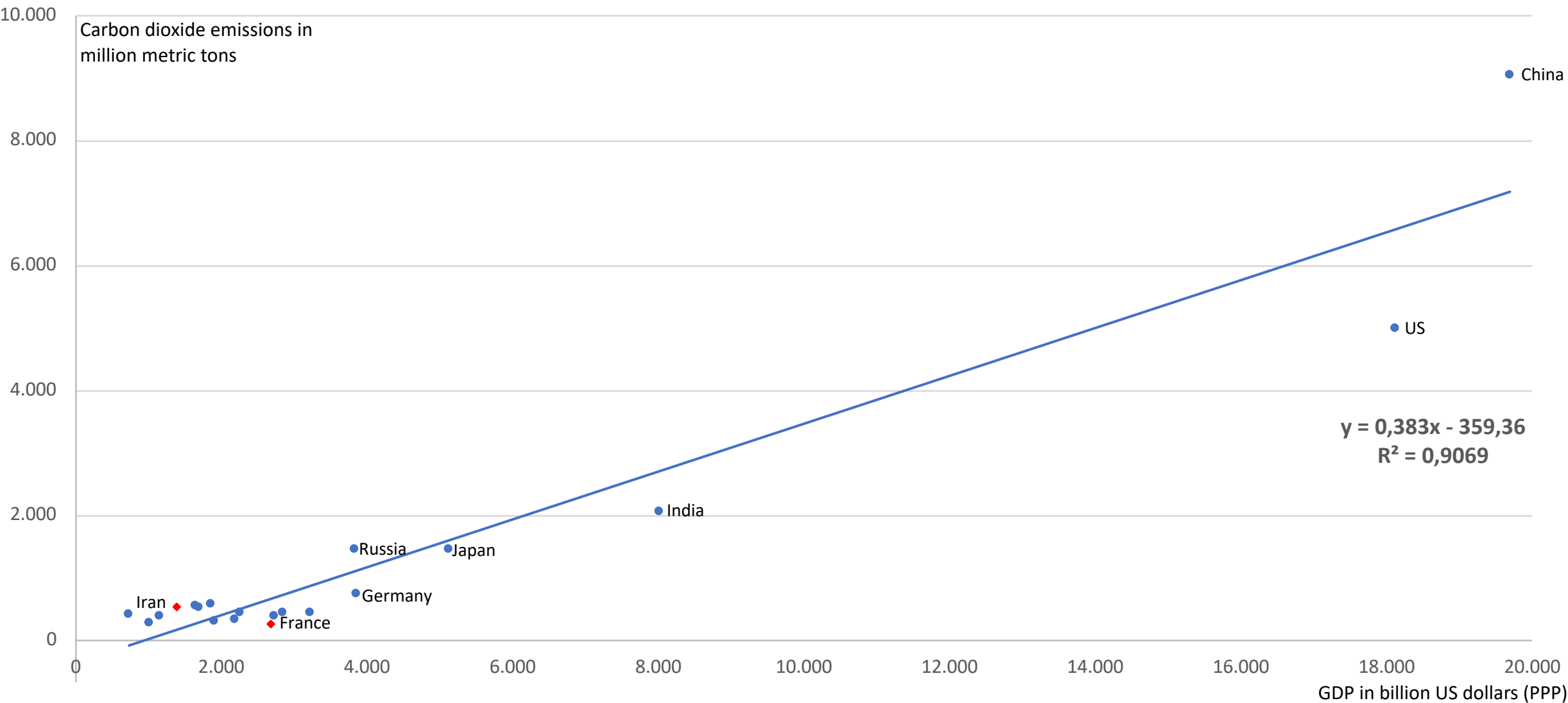
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# PPDAC-framework



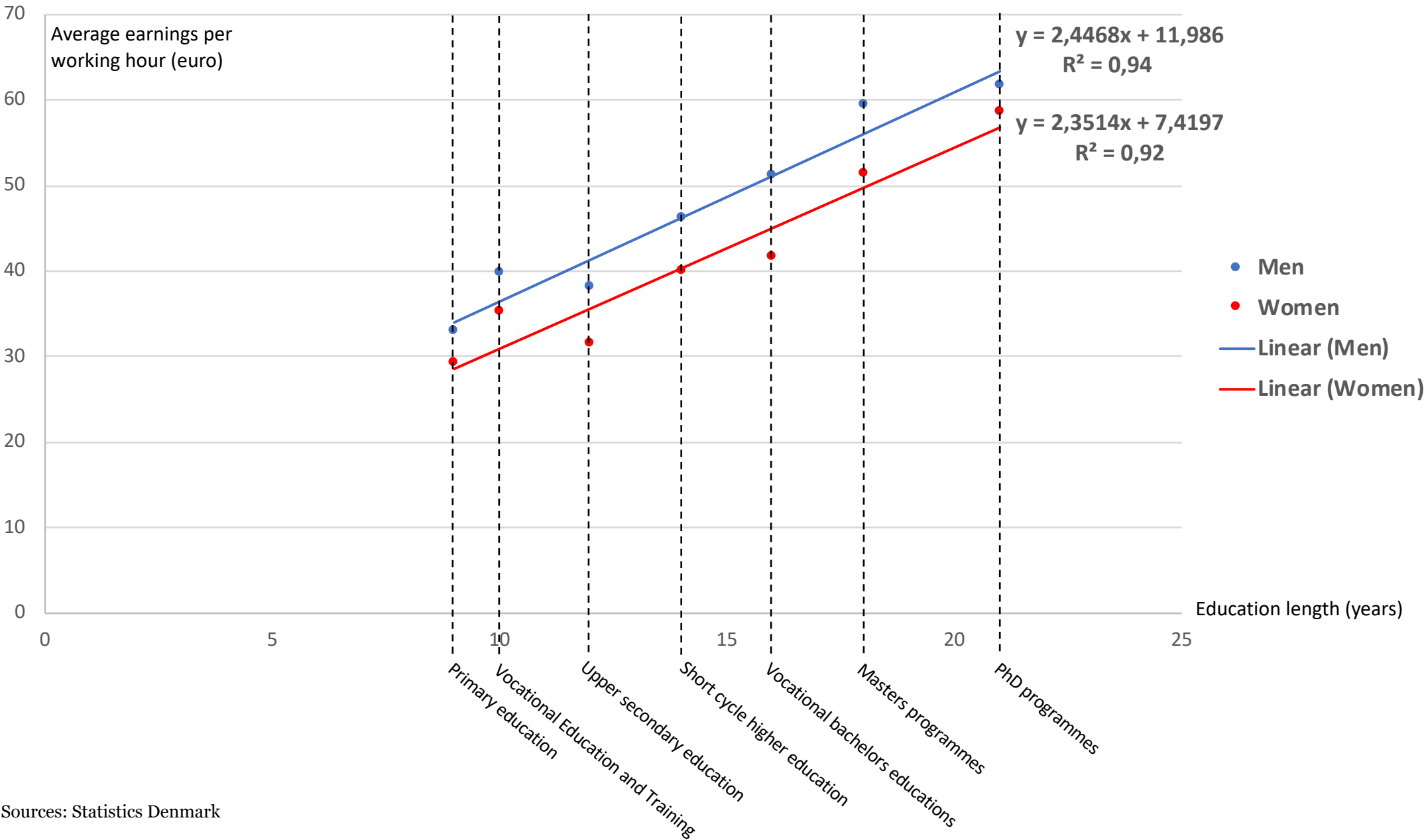


Total GDP in billion US dollars (PPP)\* and total carbon dioxide emissions from fuel combustion (million metric tons), selected countries, 2015

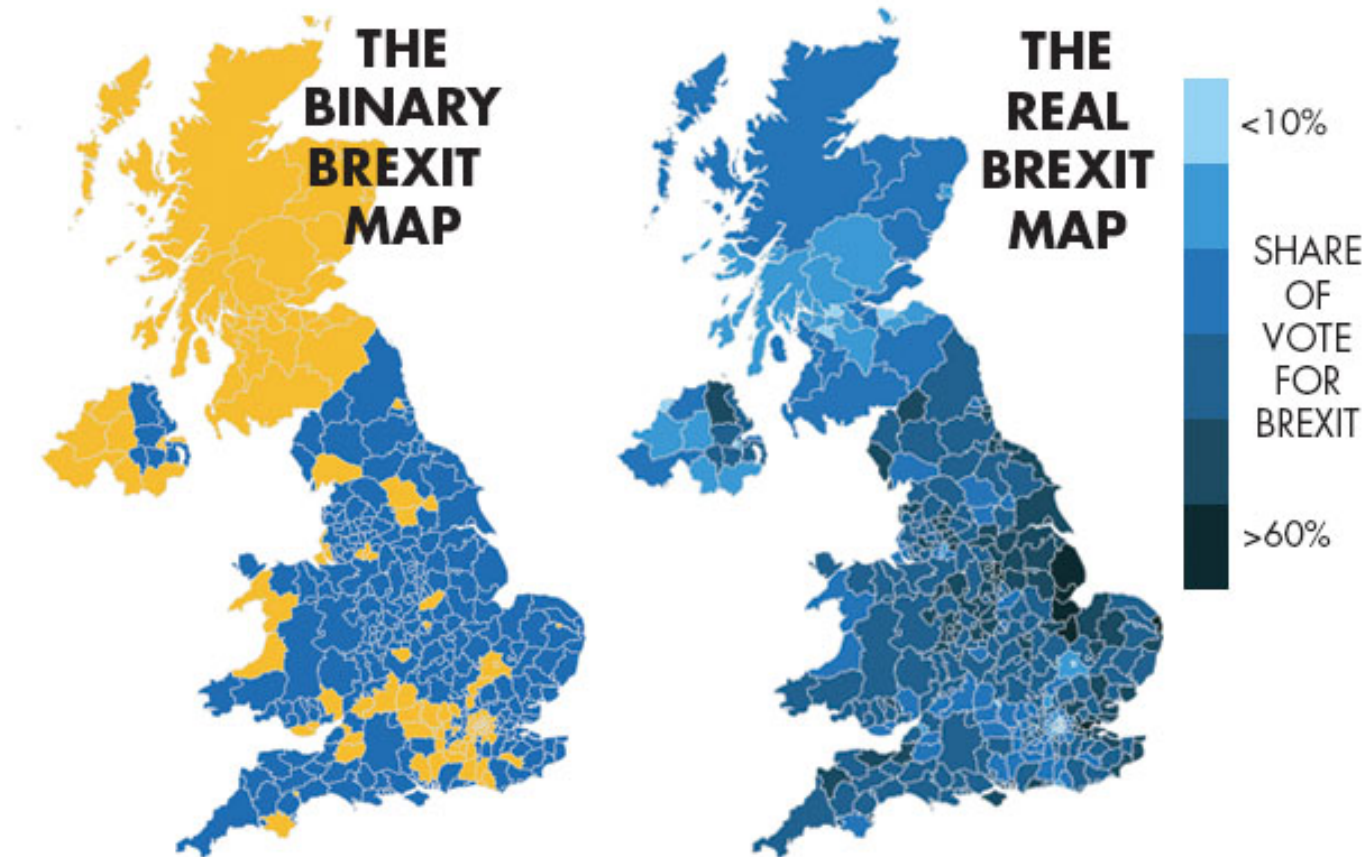


Sources: International Energy Agency & IMF World Economic Outlook  
\* = Purchasing Power Parities

# Education length and average earnings per working hour by gender in Denmark, all sectors, 2017 (€)



The same data can be displayed in many ways

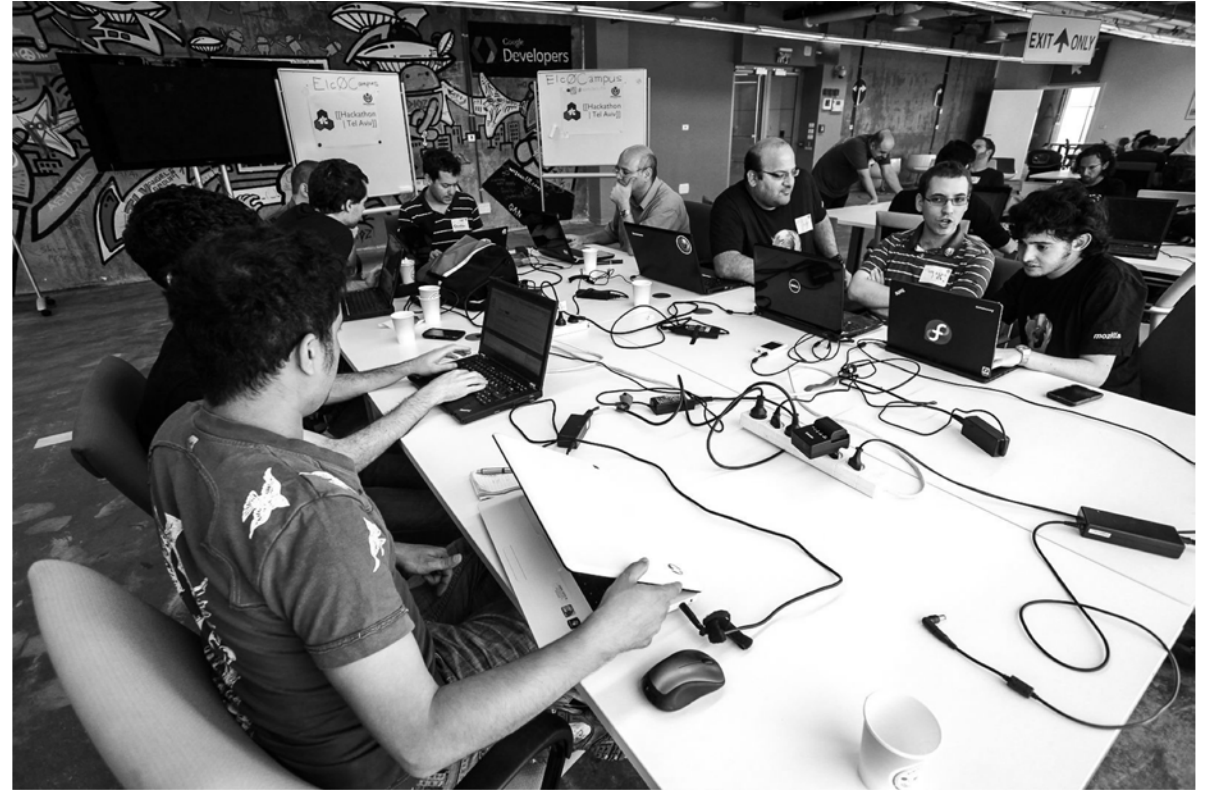





# Two exemplars




Photo by [Hello I'm Nik](#) on [Unsplash](#)



Liran Mimon: Wikimedia Israel



Data literacy is emergent.



# Data literacy needs brokers

(Hou & Wang, 2017)

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# Good Data Won't Guarantee Good Decisions



“Although hiring managers typically put a premium on analysts’ quantitative skills, *outstanding coaching skills are more valuable*. Instead of simply answering questions as they arise, *people-oriented data experts* can provide informal, ongoing training to employees in departments outside their own, increasing the organization’s overall Insight IQ\*.” (Shah et. al, 2012)

\* Insight IQ assesses the ability to find and analyze relevant information.



“a property of a community as opposed to an individual, with members of the community making different contributions”

(Wolff et al, 2016)

Data literacy in education needs strong communities of teachers.



“You can use all the quantitative data you can get, but you still have to distrust it and use your own intelligence and judgment.”

– Alvin Toffler



# References / photos / contact

## References

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