## Cognitive load theory and Rosenshine's principles of direct instruction

#### 1.9 Dual coding

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### Combined formats: The combined use of visual and auditory channels (e.g. images and words together)

•Words:

Written or spoken

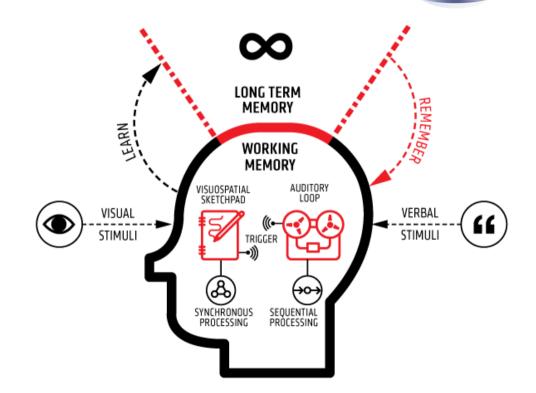
•Visuals:

Pictures, graphs, charts, photos, maps, animations, videos, interactive illustrations.

#### **Conjoint Retention**

'Studying maps first made students better readers of text about the same terrain'

Oliver Caglioli







#### Example:

# What's the difference between raster maps and vector maps?

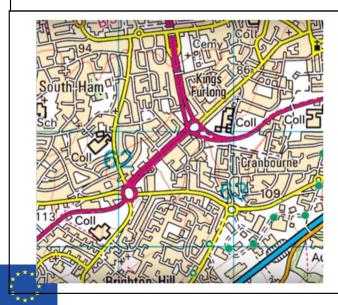


#### **Raster maps**

- A 'dumb' electronic map image (like a digital photo)
- Made up of a set number of pixels
- Can't manipulate the information or move items around
- When zooming, quickly becomes pixelated and unreadable

#### **Vector maps**

- A database of points, lines, polygons and text (like architect's software drawing)
- Features can carry extra information/data
- Can be manipulated, edited or analysed using GIS
- When zooming, features remain clear





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